



# Monthly Report

A Report by the  
New York Independent System Operator

**May 2023**

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



## ***May 2023 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 June 8, 2023.

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## May 2023 Operations Performance Highlights

Monthly Peak Load	Monthly Minimum Load	Summer 2023 Peak	All-time Summer Peak
05/31/2023 HB 18 19,777 MW	05/21/2023 HB 04 11,886 MW	05/31/2023 HB 18 19,777 MW	07/19/2013 HB 16 33,956 MW

- 0.0 hours of Thunderstorm Alerts were declared
- 0.0 hours of NERC TLR level 3 curtailment
- Princetown-New Scotland 345kV (#361) and Princetown-New Scotland 345kV (#362) transmission facilities associated with AC Transmission Public Policy Segment A were placed in-service on 05/02/2023.
- Knickerbocker-Pleasant Valley 345kV (#Y57) transmission facility associated with AC Transmission Public Policy Segment B was placed in-service on 05/06/2023.
- Rainey-Corona 345/138kV (#36188) PAR controlled local transmission upgrade by Con Edison was placed in-service on 05/01/2023.

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)
2,521 MW	4,606 MW	154 MW	40 MW

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

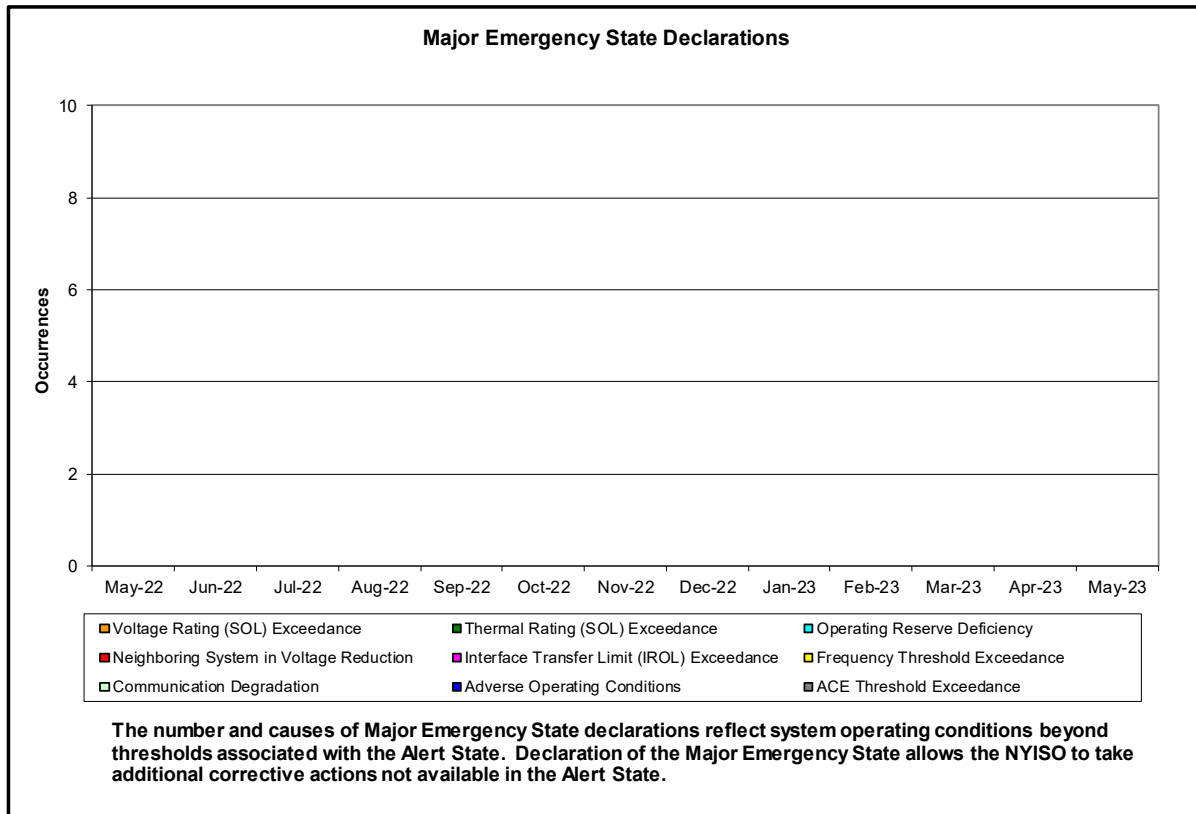
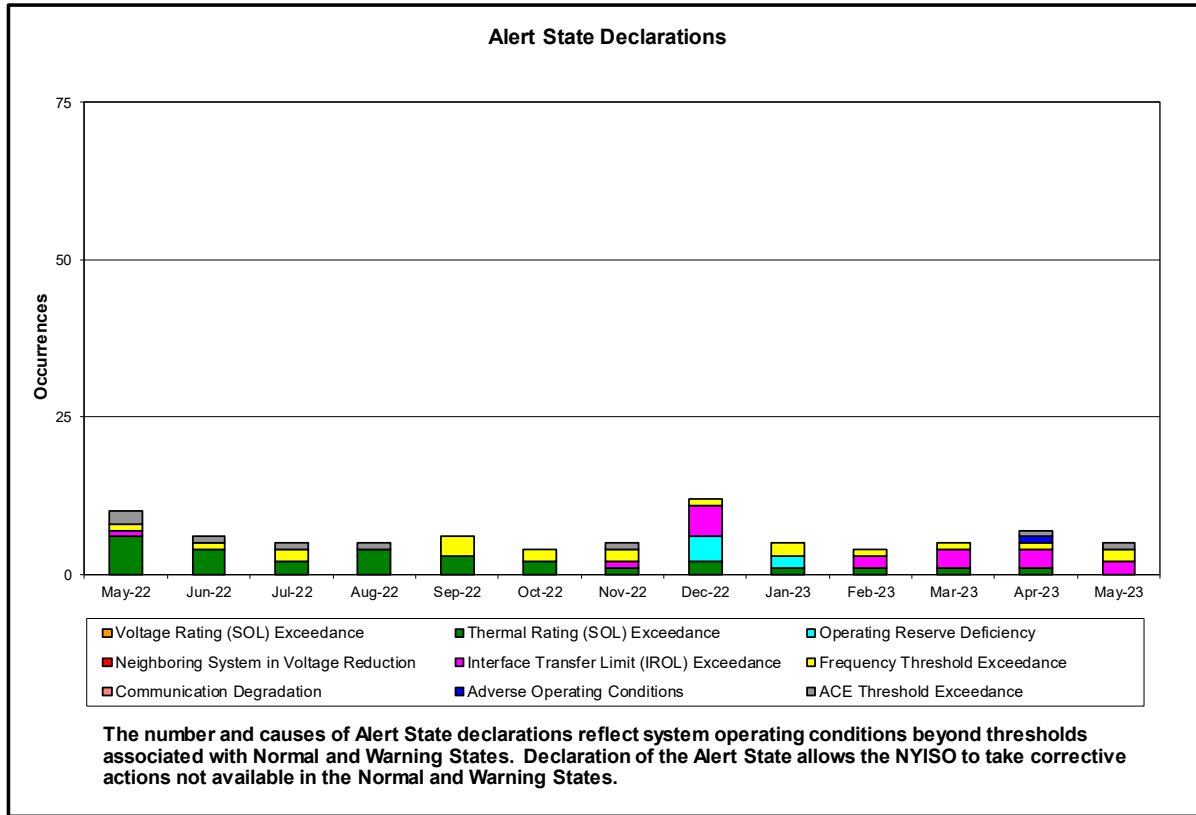
	Current Month Value (\$M)	Year-to-Date Value (\$M)
<b>NY Savings from PJM-NY Congestion Coordination</b>	\$0.88	\$13.65
<b>NY Savings from PJM-NY Coordinated Transaction Scheduling</b>	\$0.33	(\$0.12)
<b>NY Savings from NE-NY Coordinated Transaction Scheduling</b>	(\$0.29)	(\$1.11)
<b>Total NY Savings</b>	\$0.92	\$12.42
<b>Regional Savings from PJM-NY Coordinated Transaction Scheduling</b>	\$1.25	\$2.33
<b>Regional Savings from NE-NY Coordinated Transaction Scheduling</b>	\$0.04	\$0.42
<b>Total Regional Savings</b>	\$1.29	\$2.75

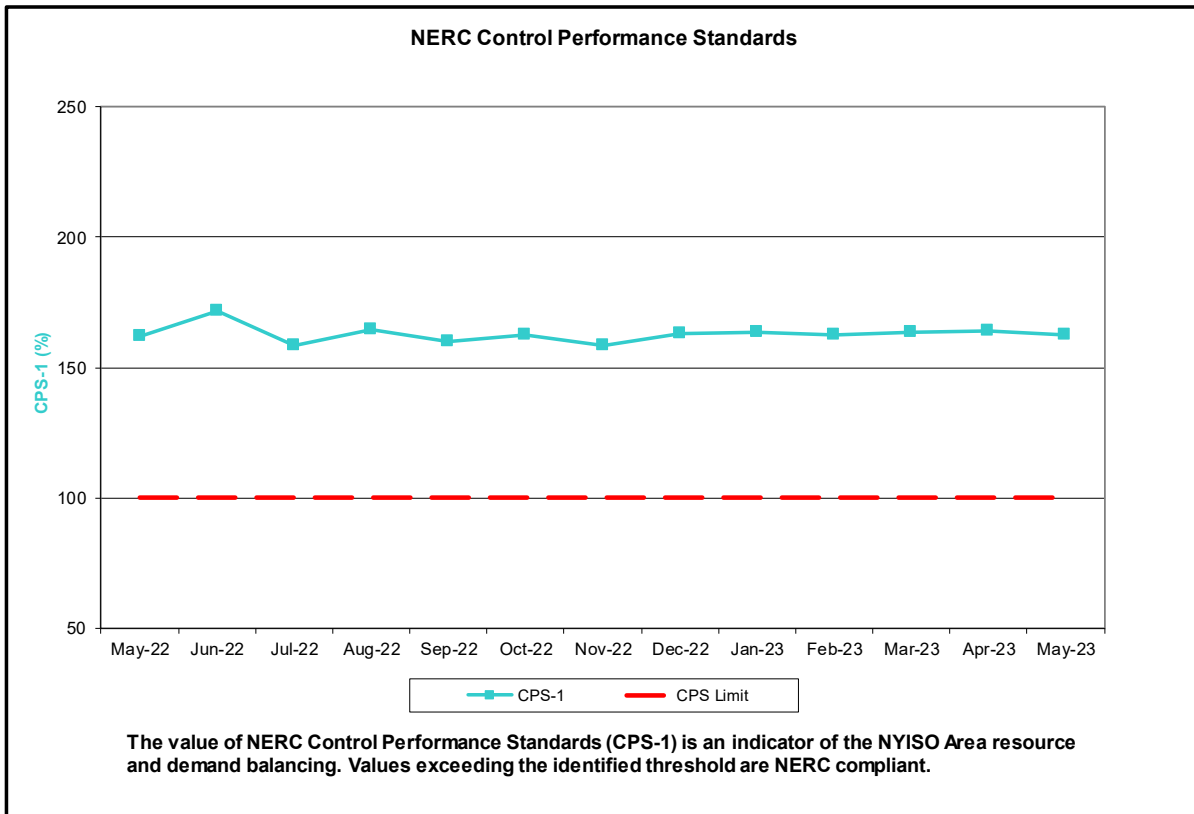
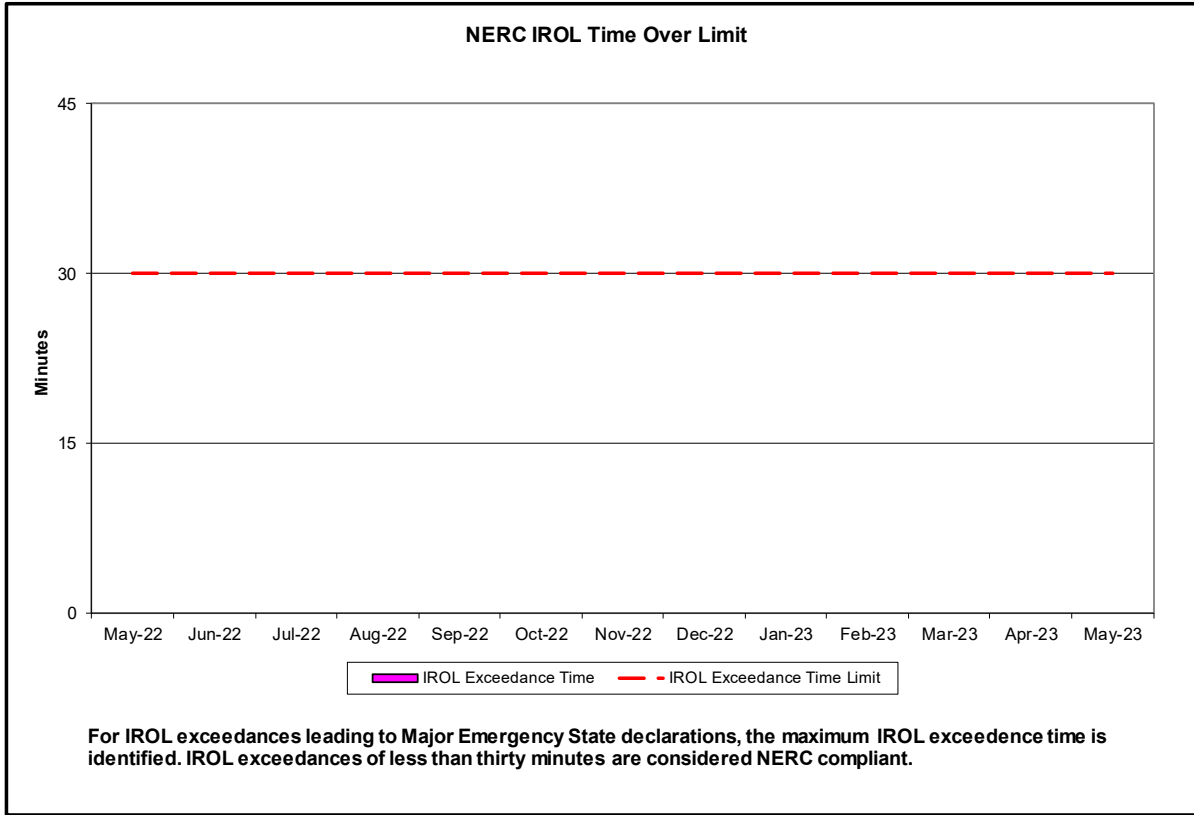
- Statewide uplift cost monthly average was (\$0.20)/MWh.
- The following table identifies the Monthly ICAP spot market prices and the price delta.

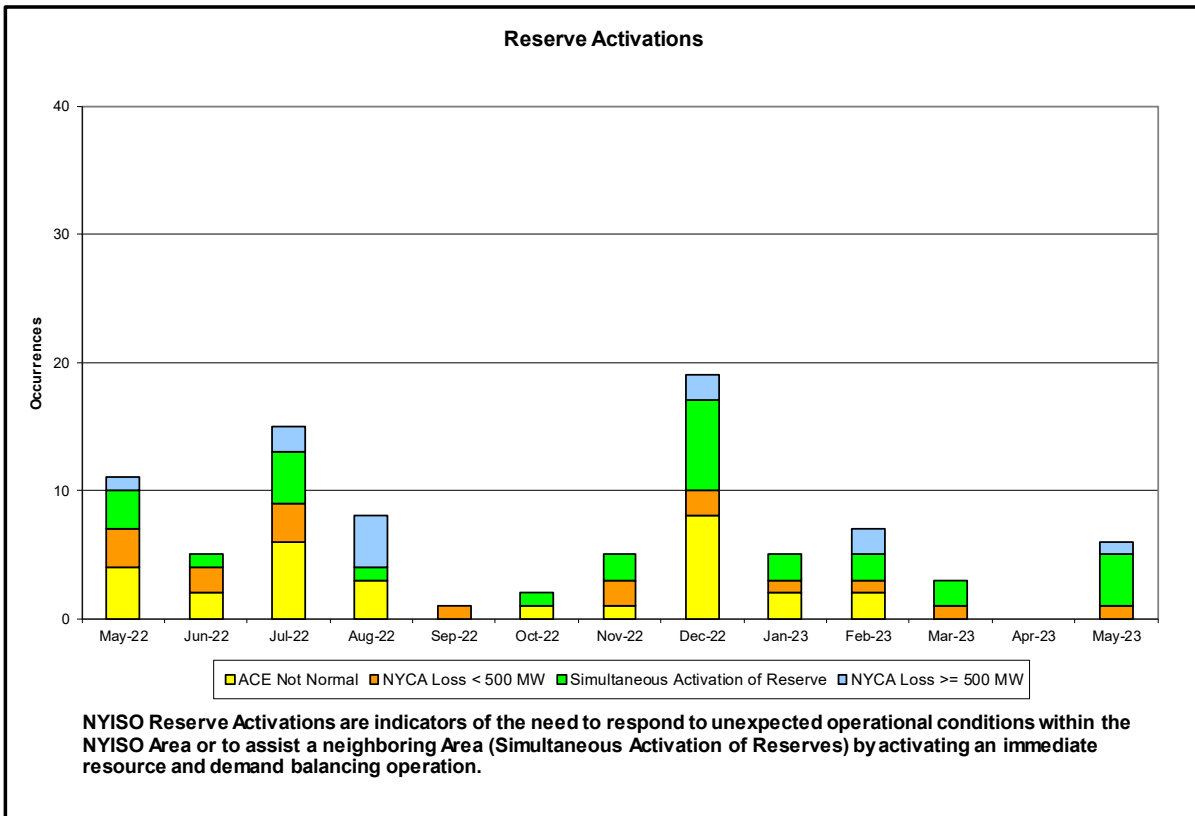
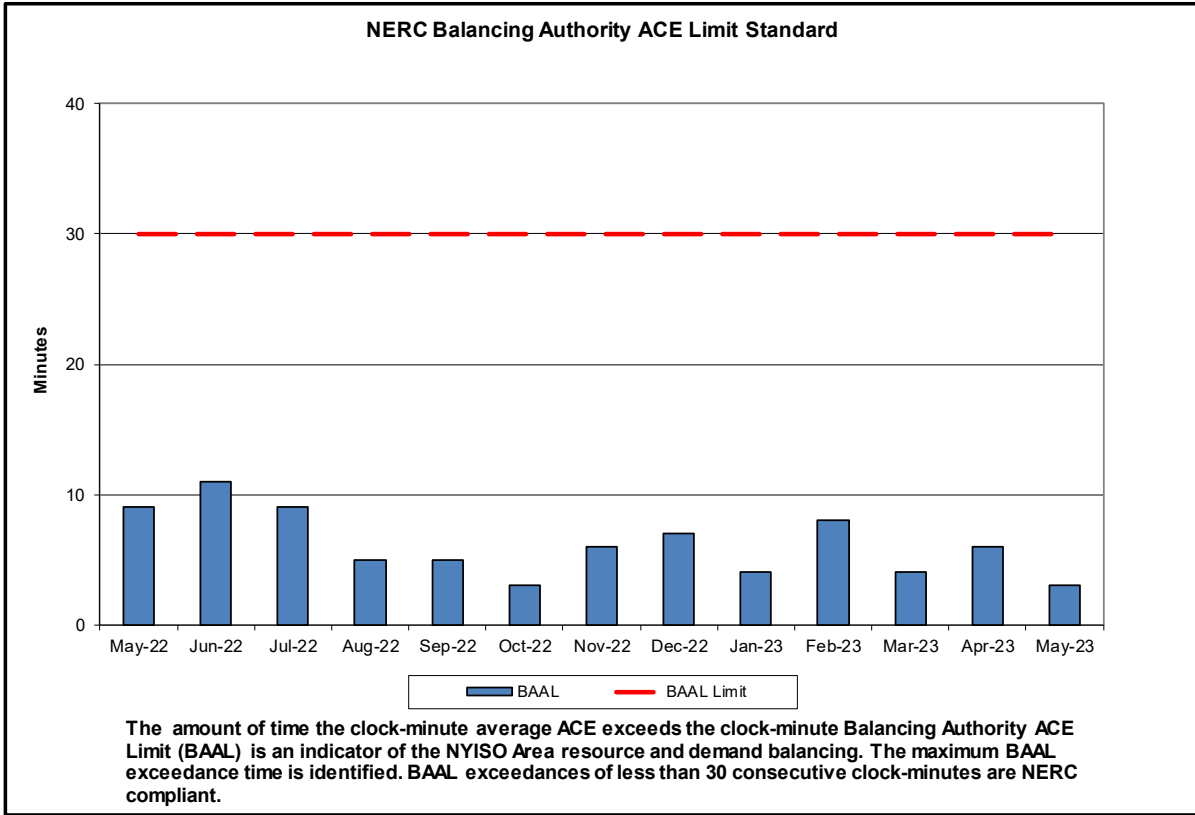
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
June 2023 Spot Price	\$5.70	\$5.70	\$18.58	\$5.70
May 2023 Spot Price	\$5.70	\$5.70	\$18.58	\$5.70
Delta	\$0.00	\$0.00	\$0.00	\$0.00

- No changes in ICAP market to cause variation in clearing price between May 2023 and June 2023.

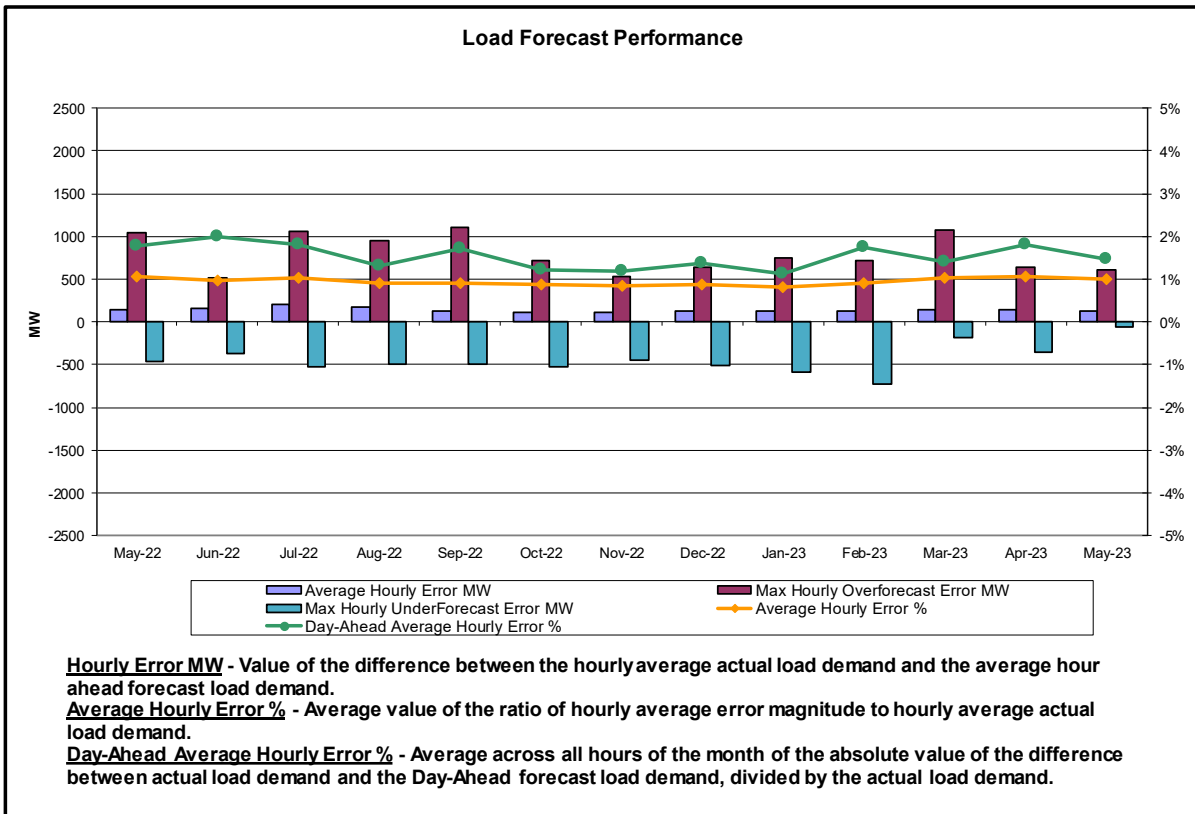
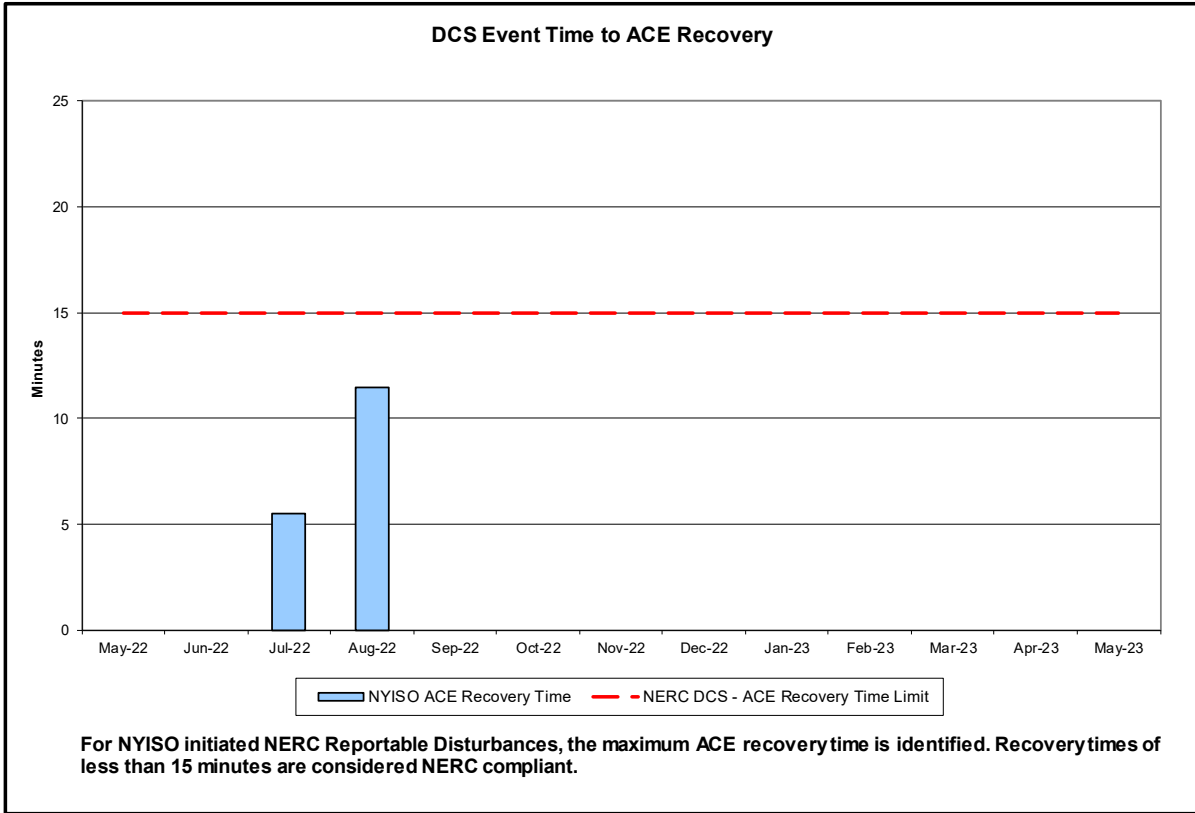
## Reliability Performance Metrics

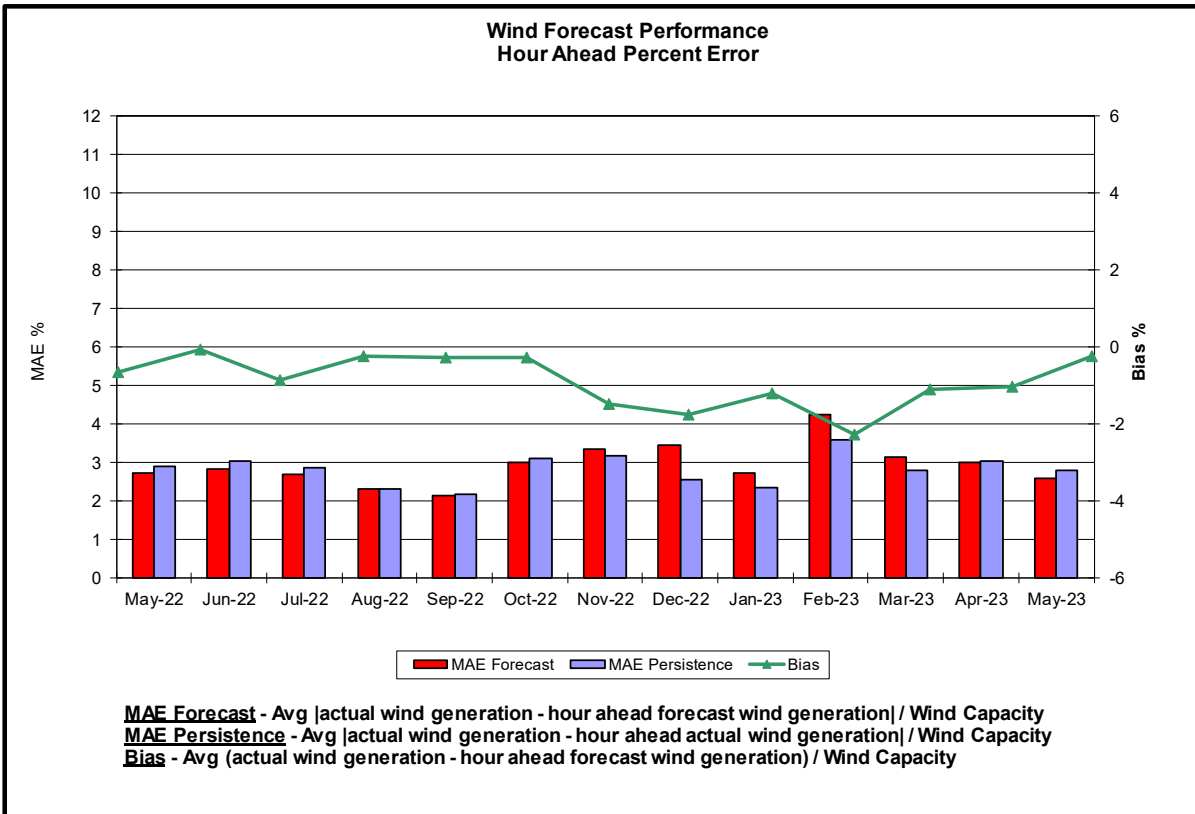
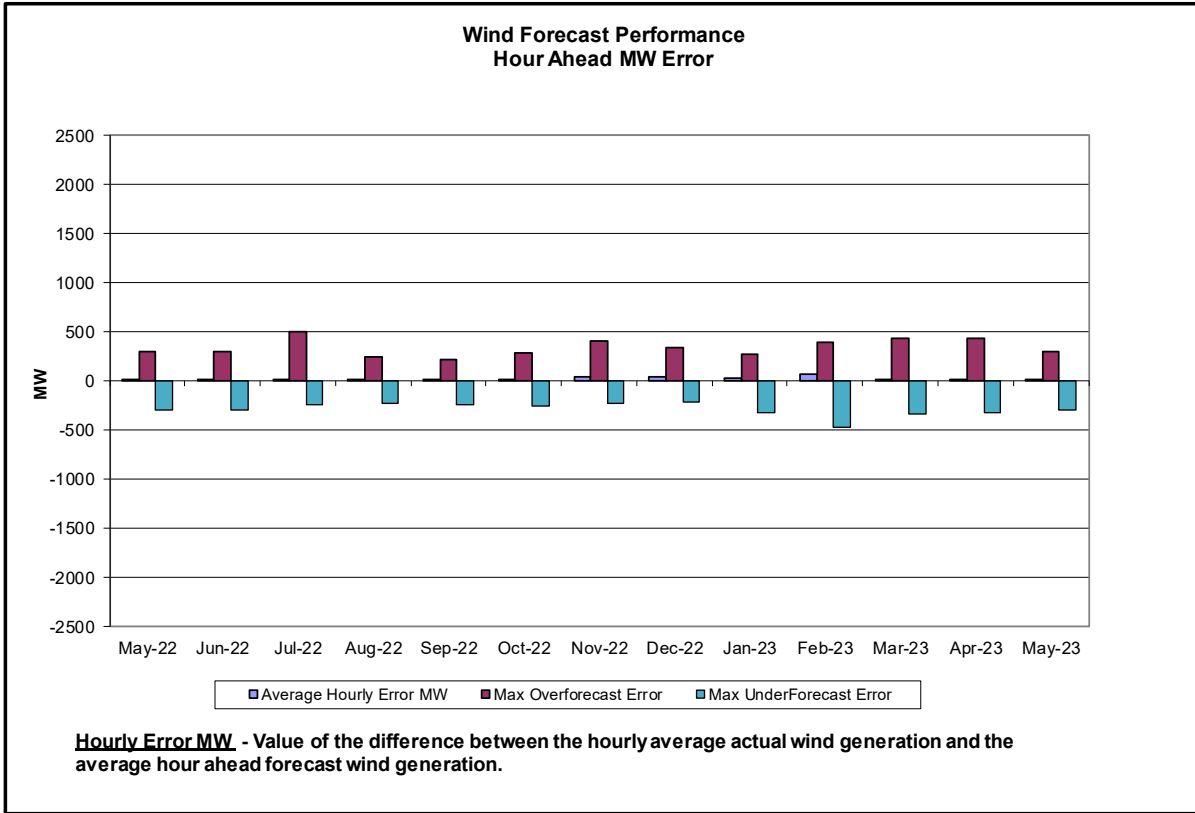


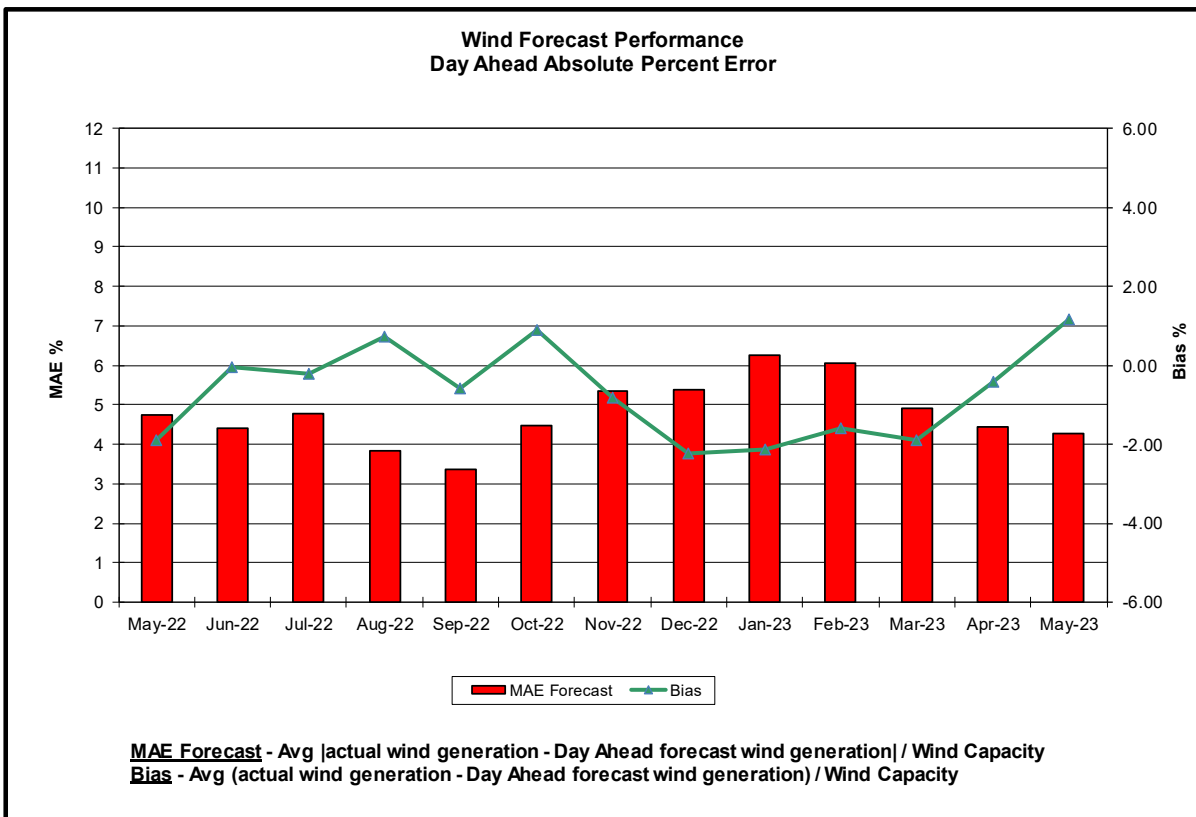
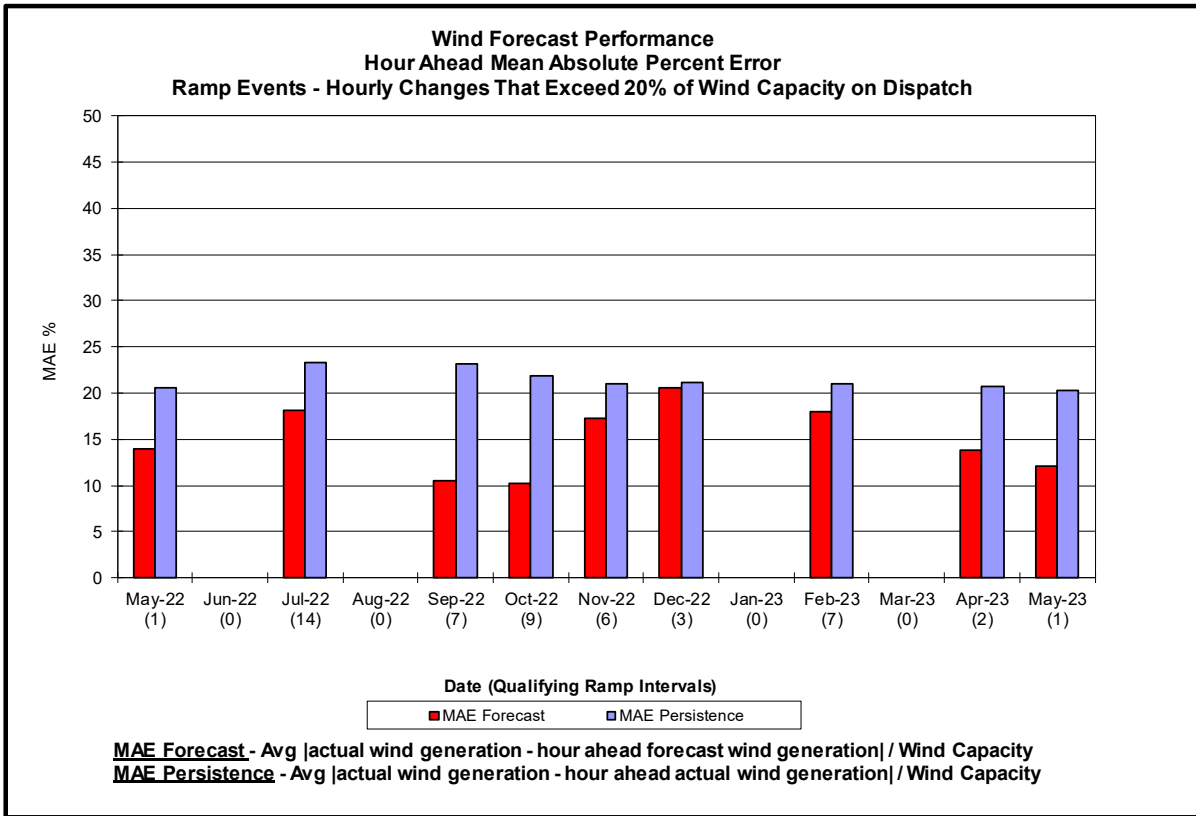


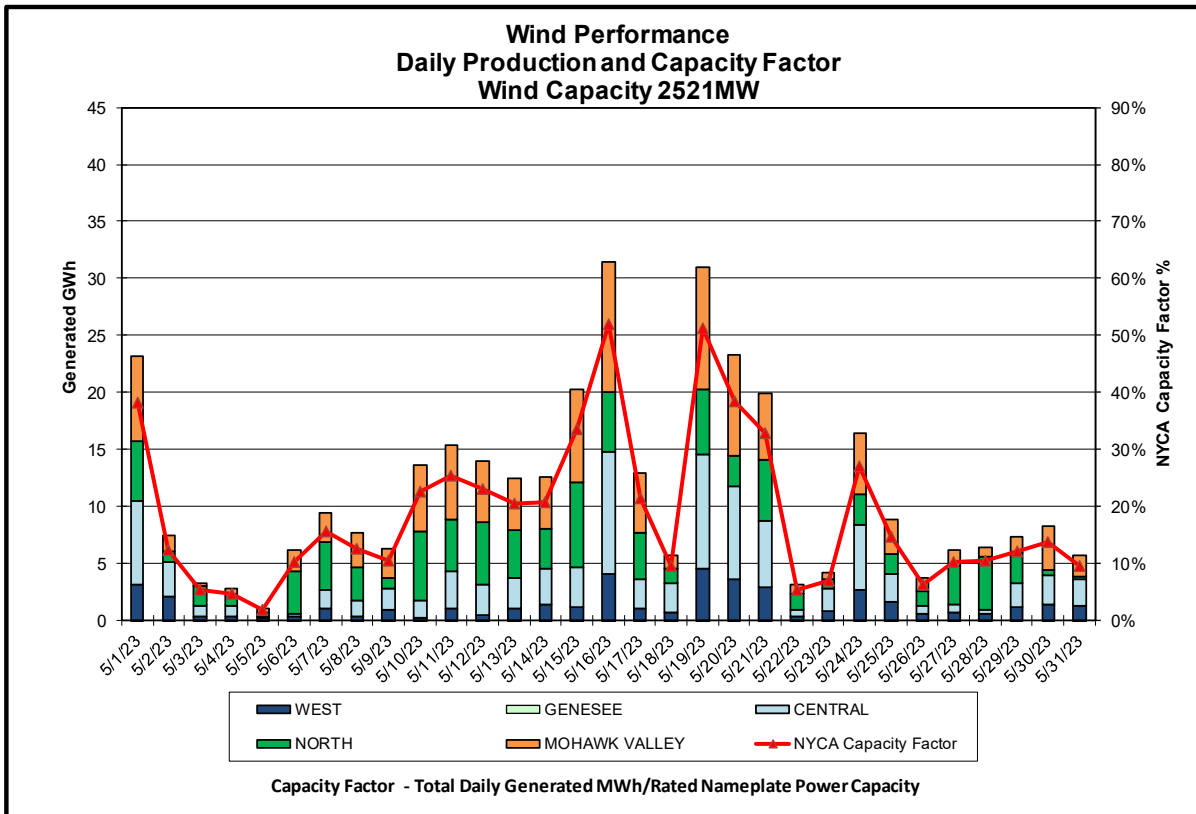
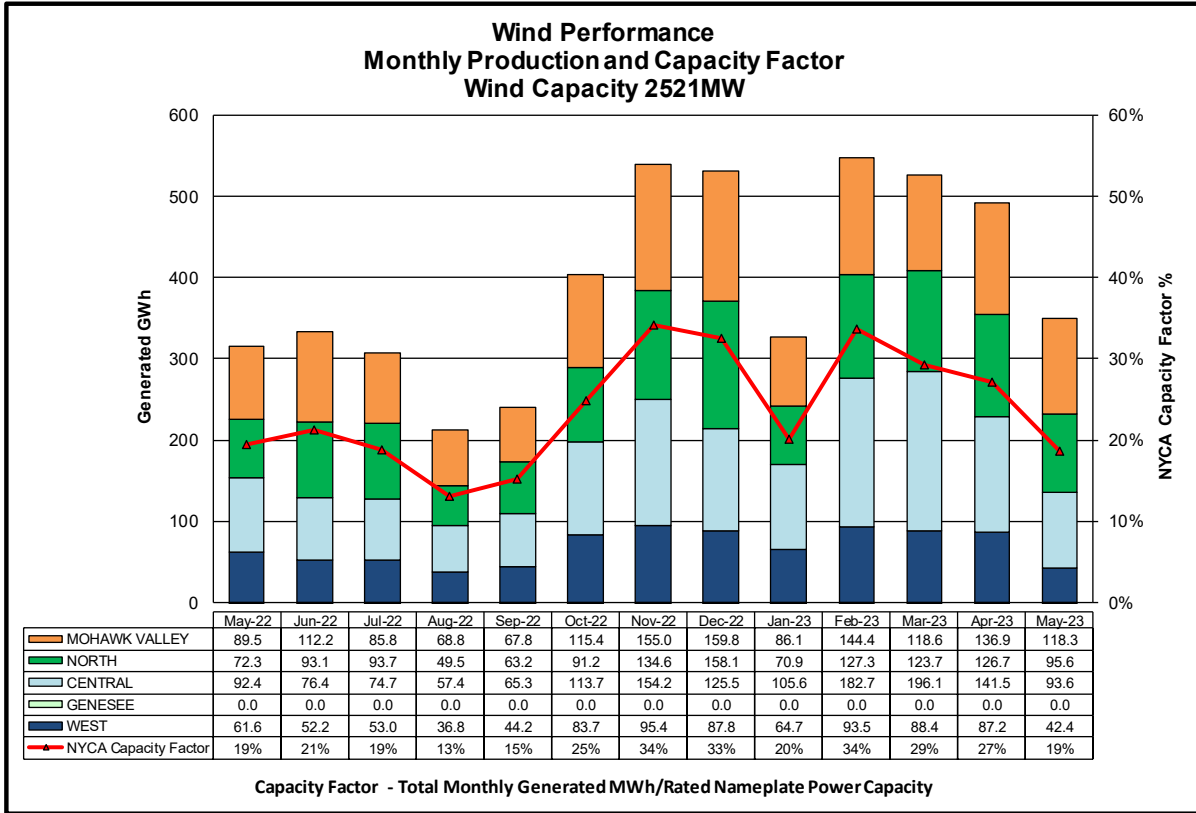


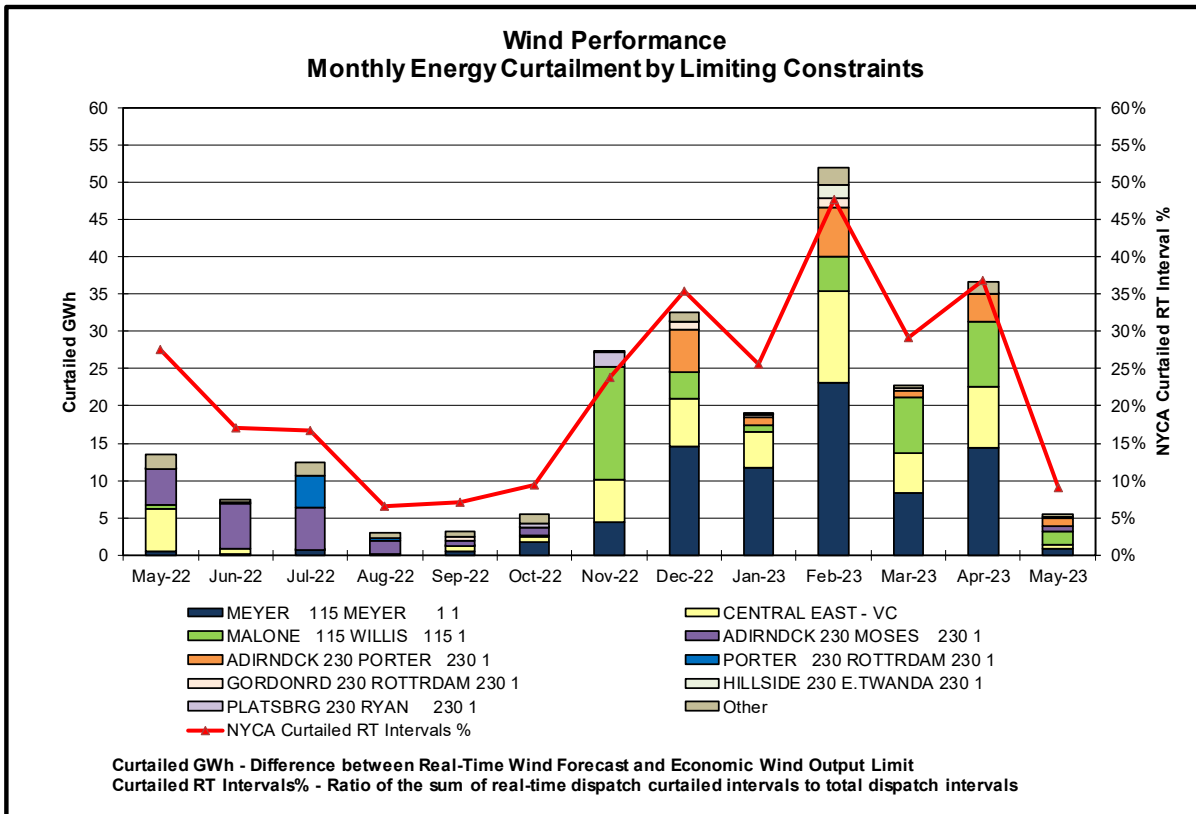
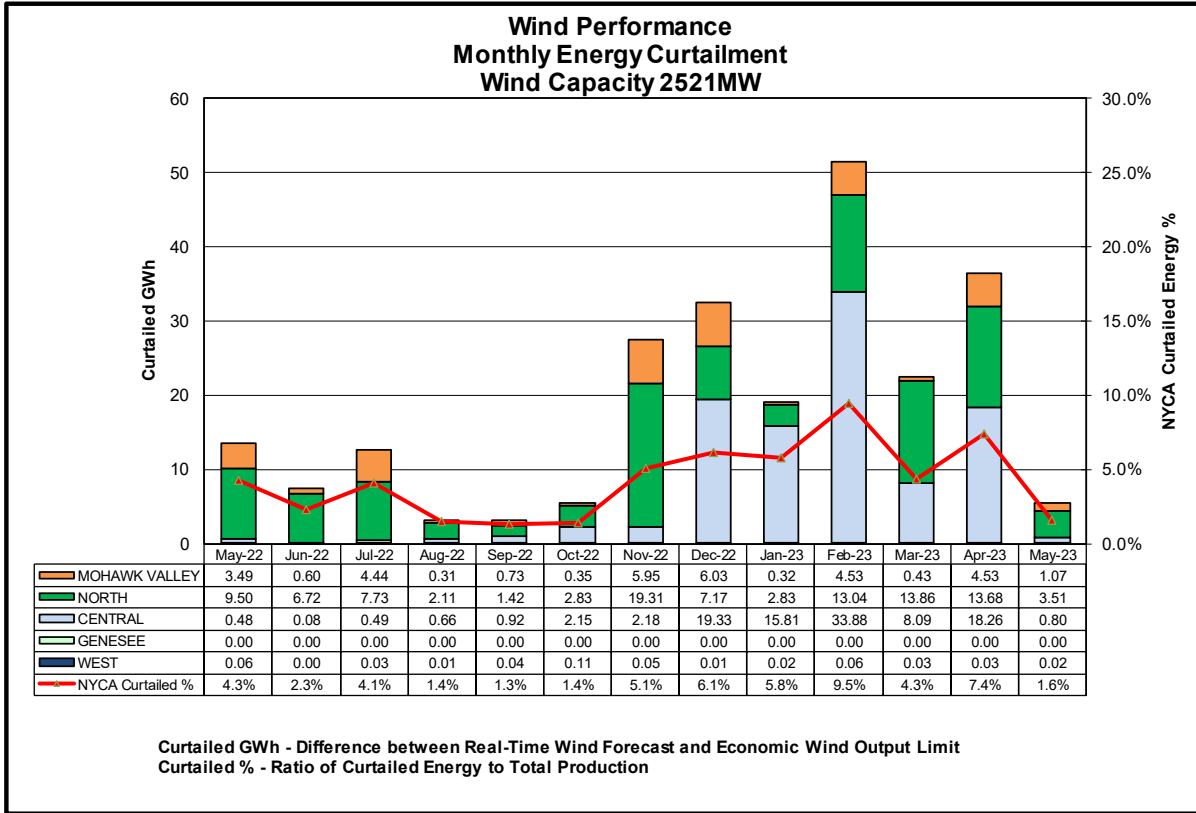


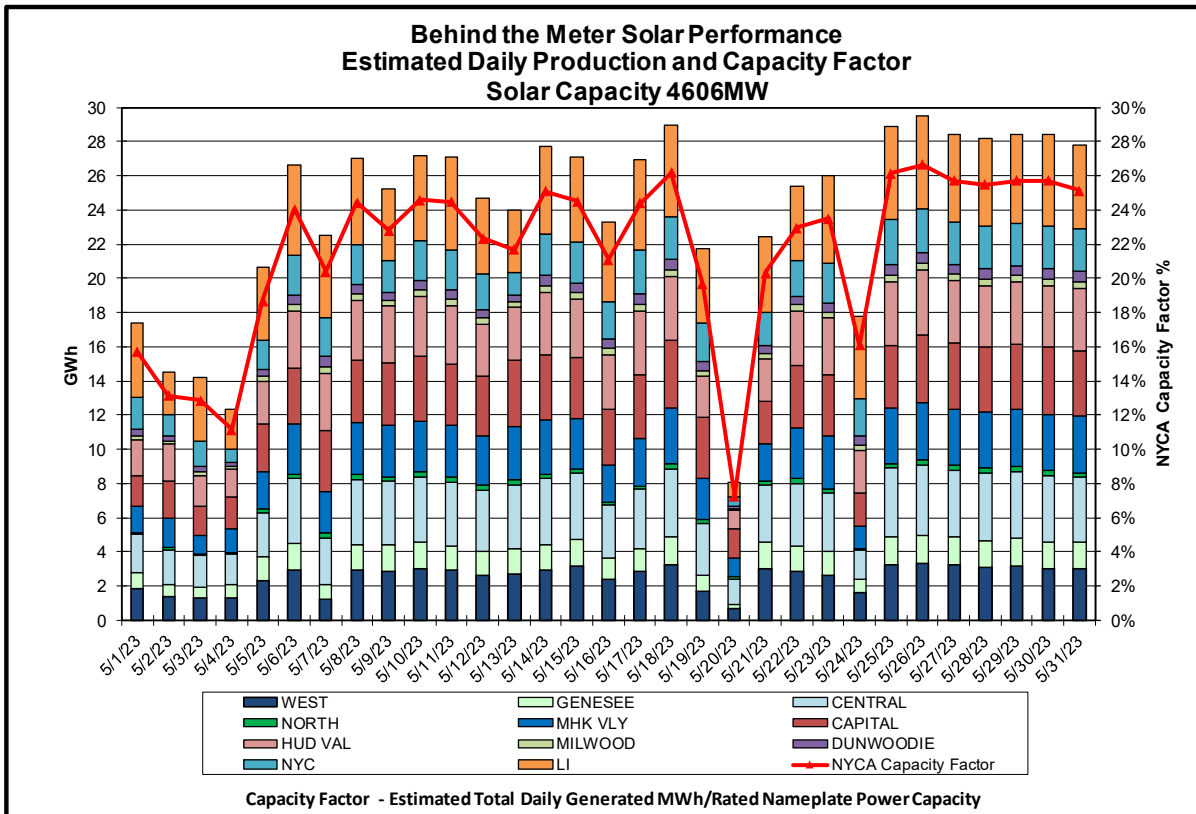
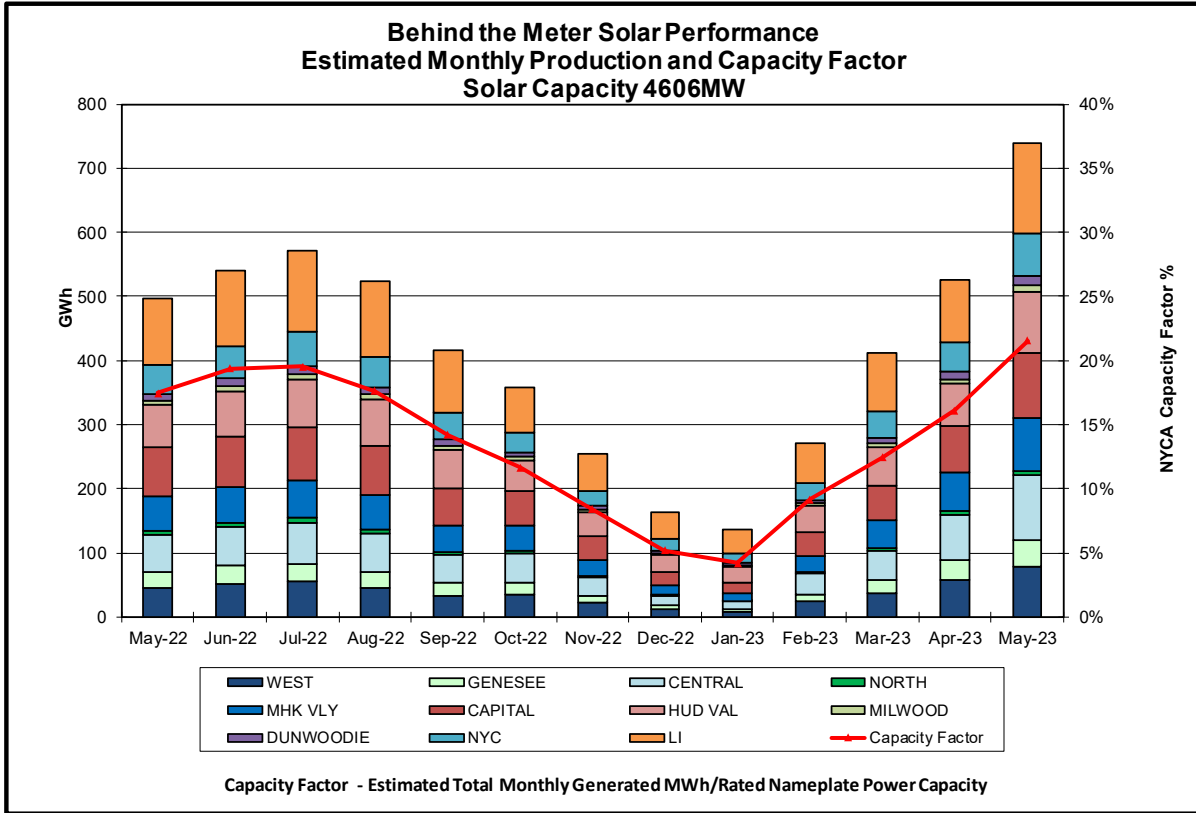


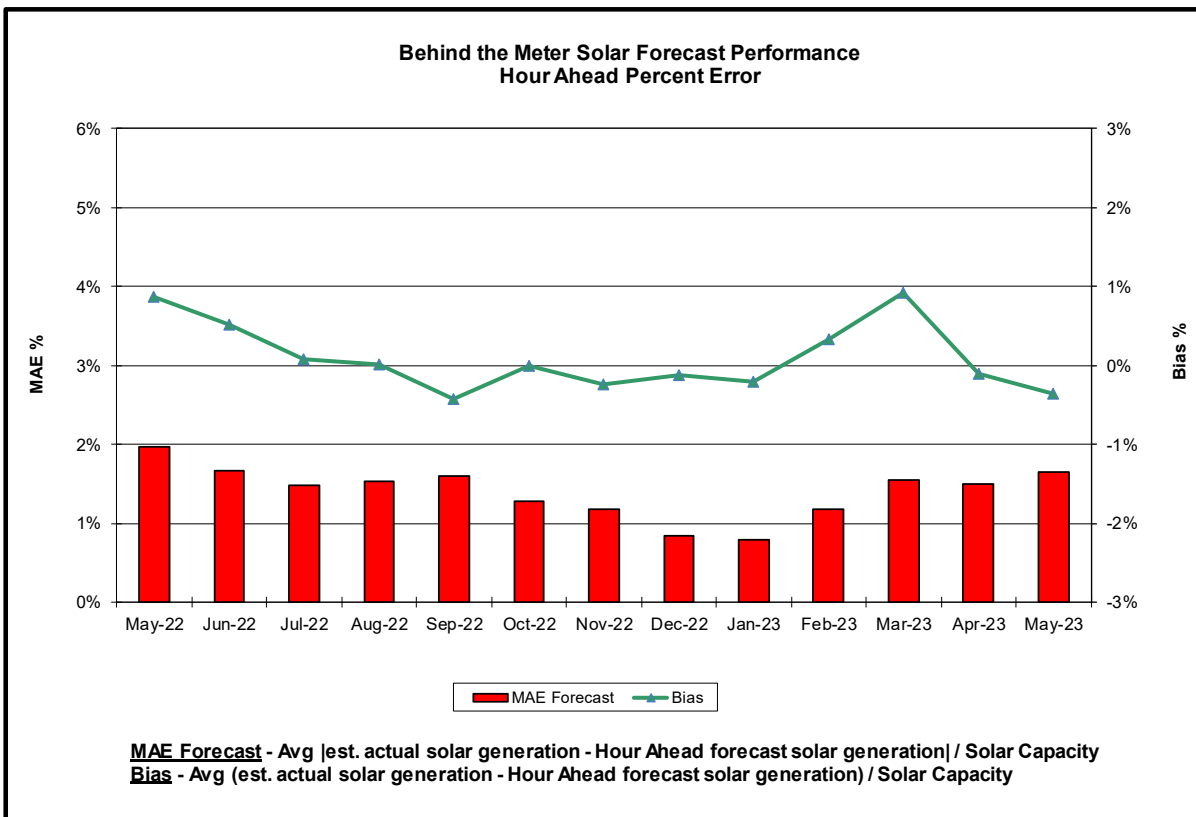
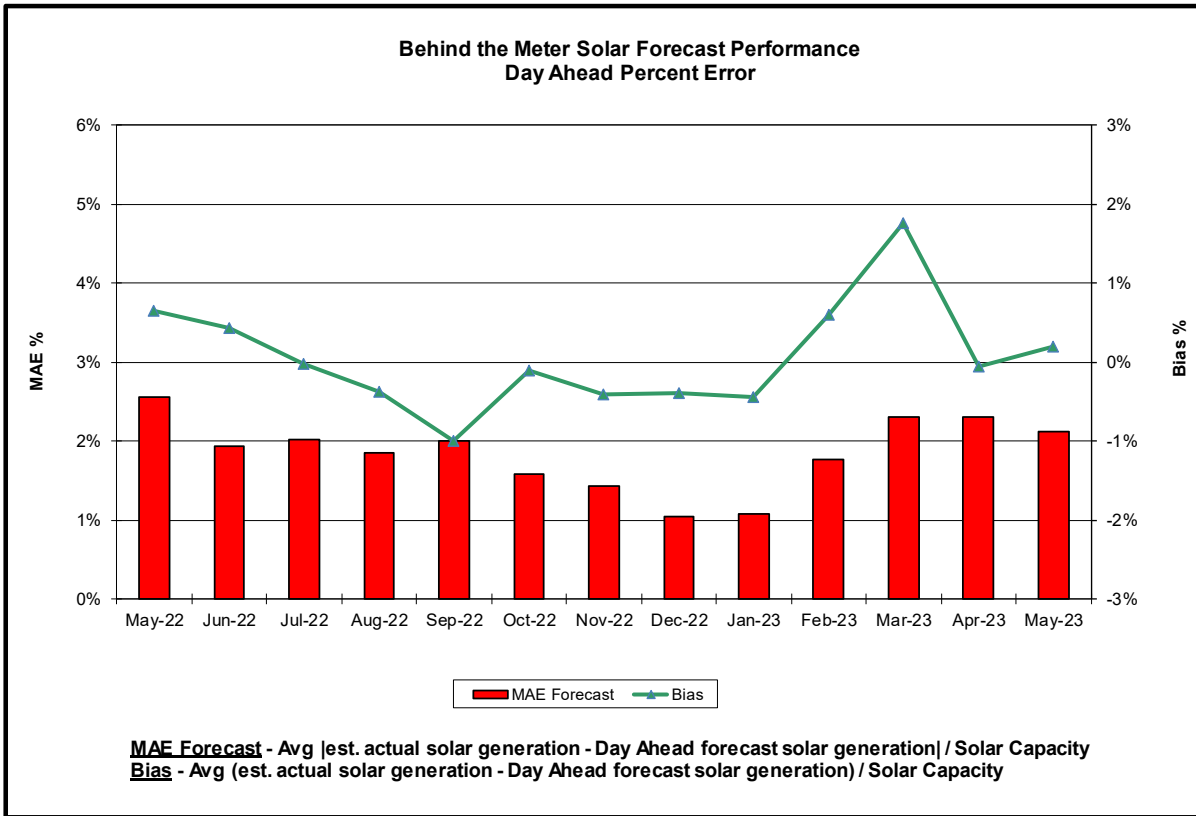


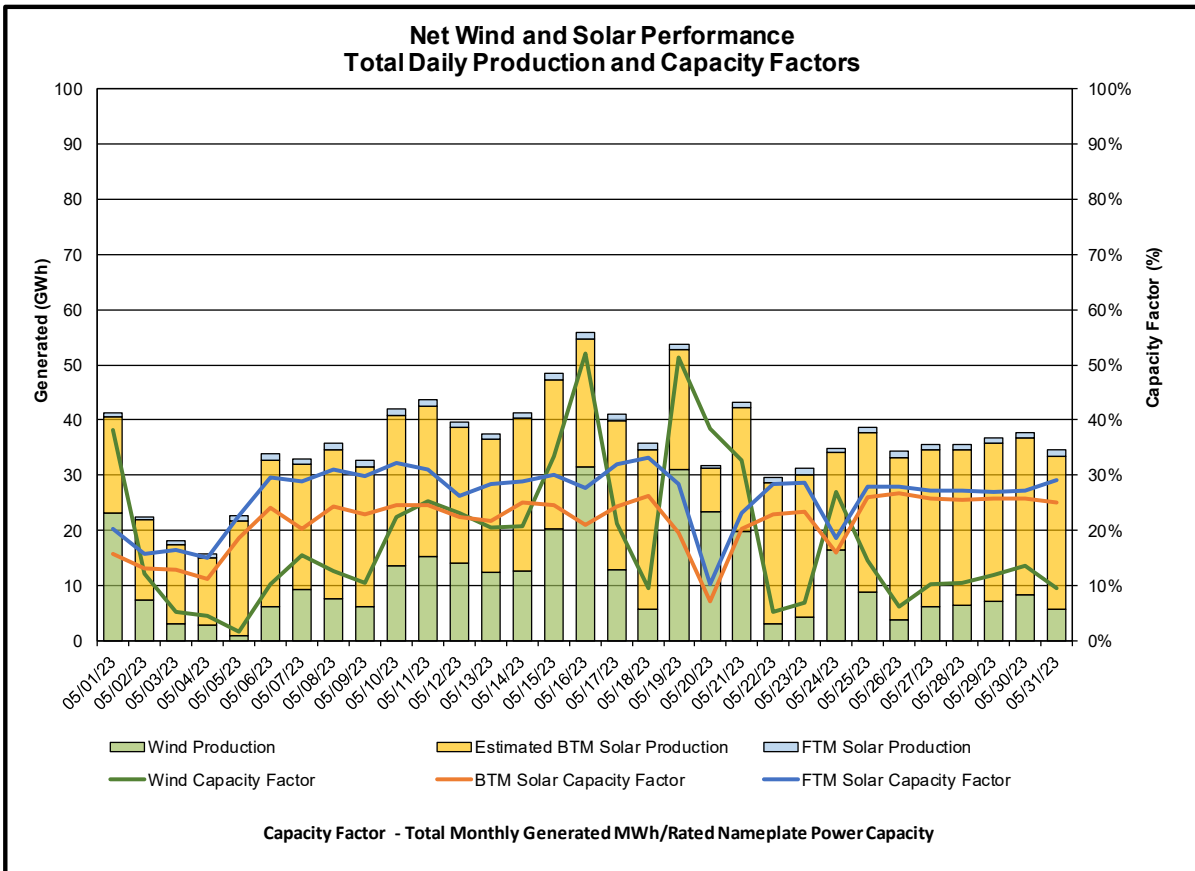
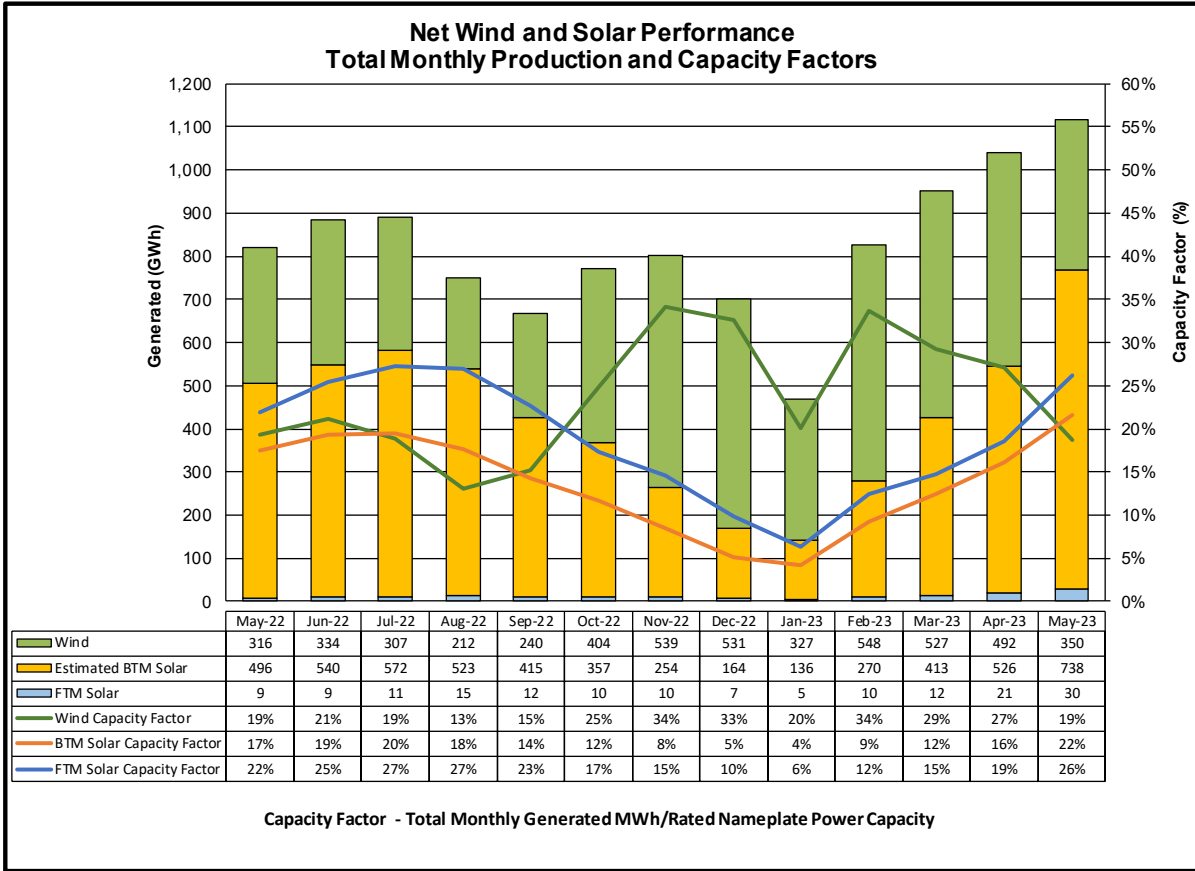




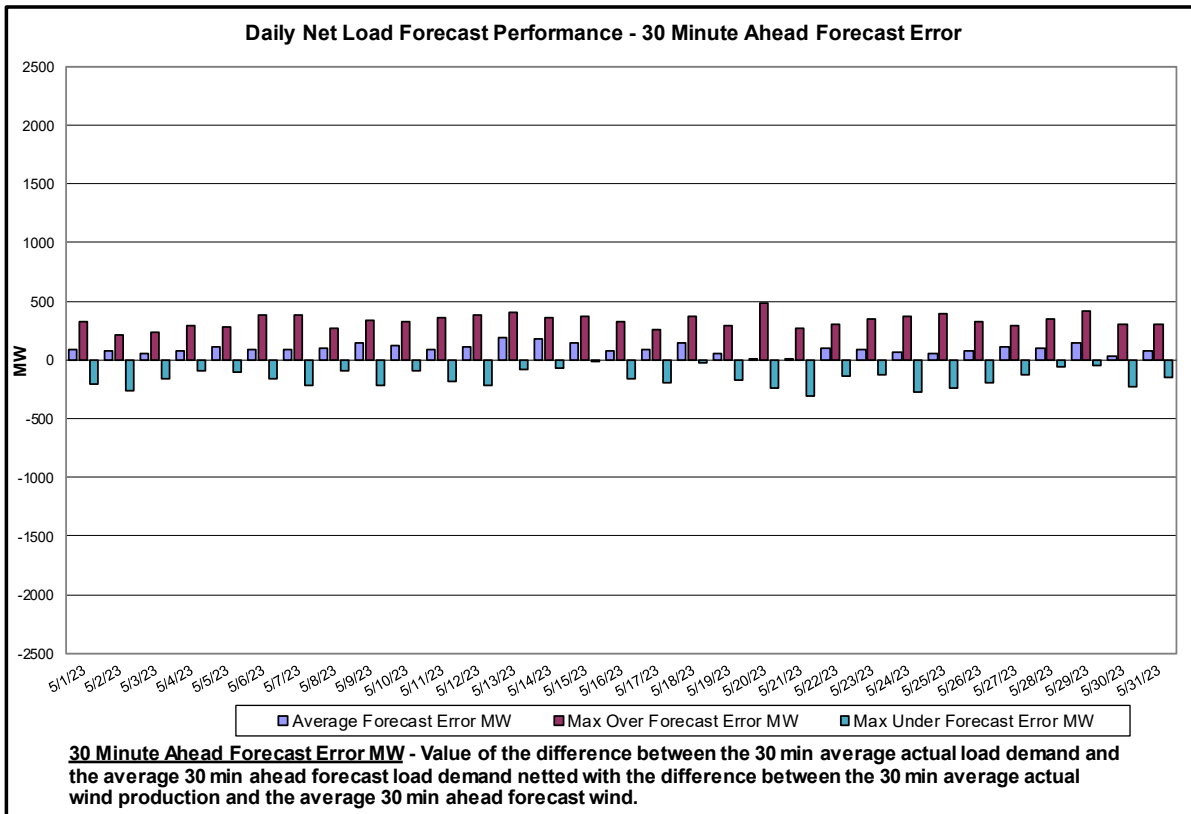
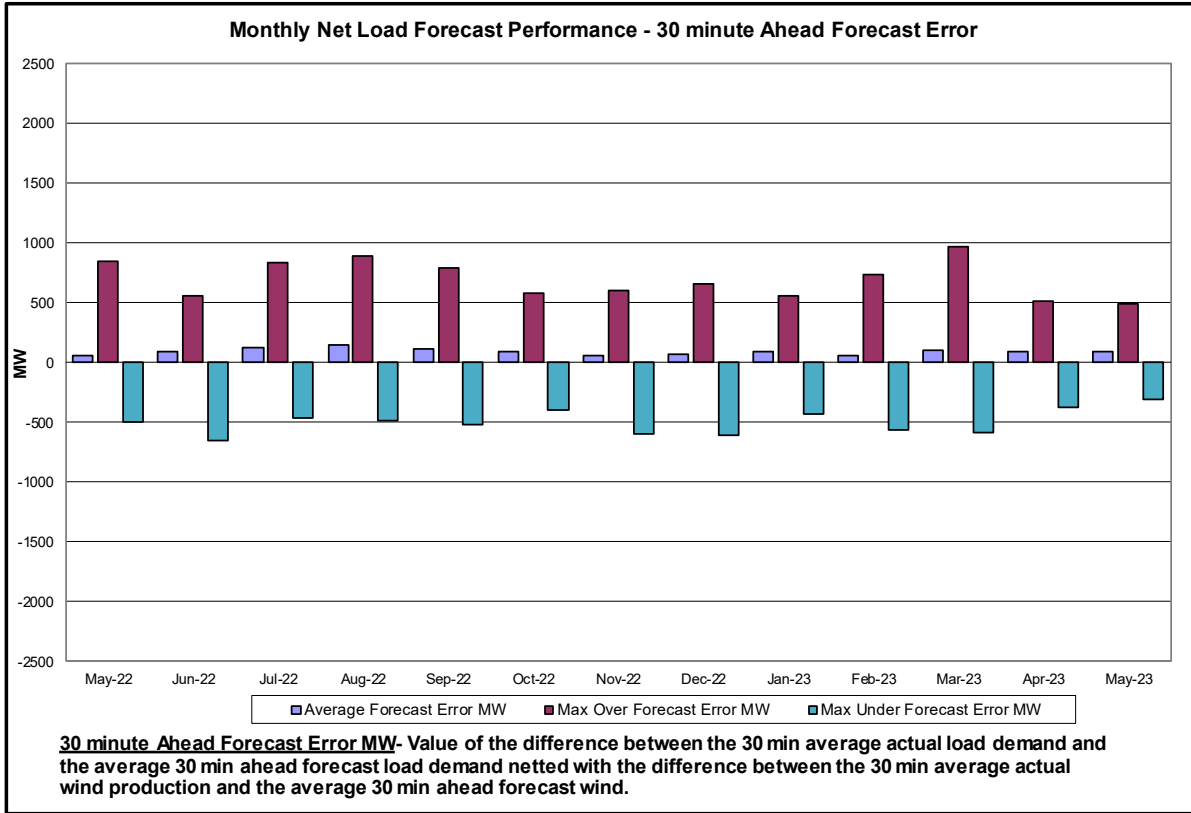


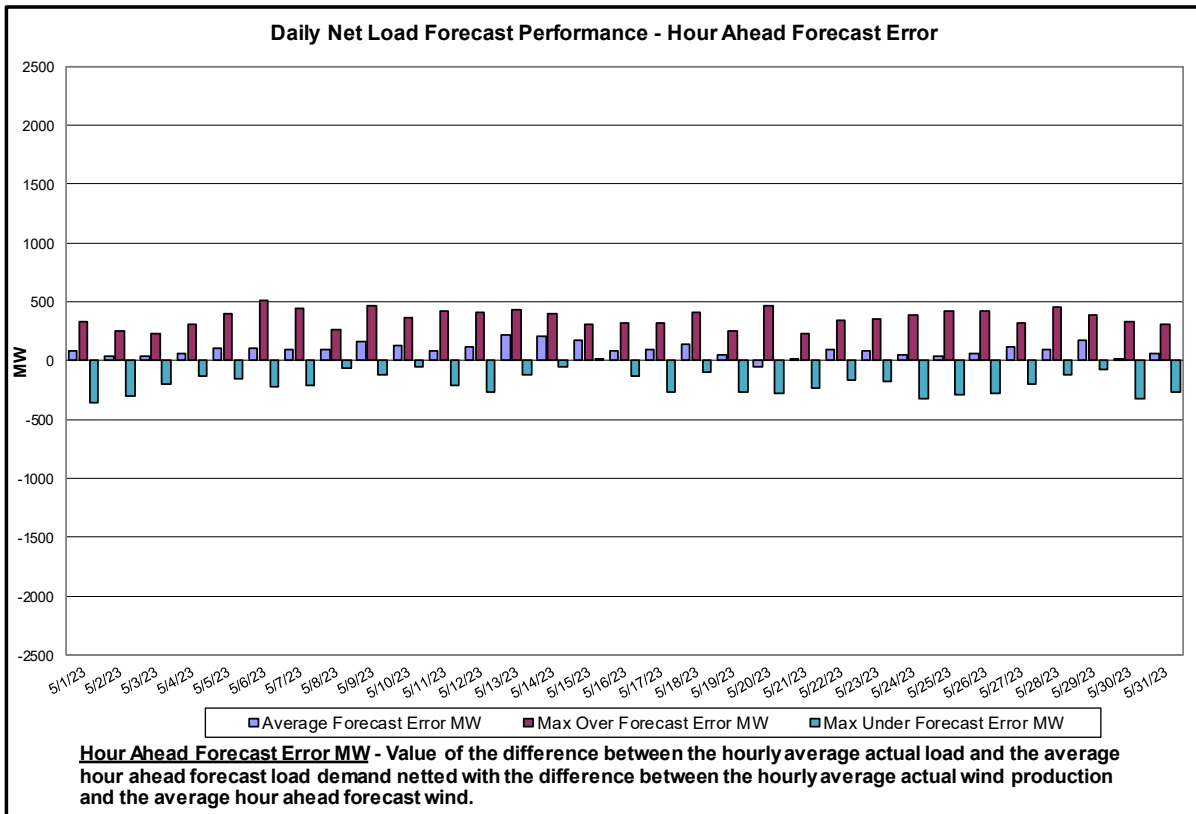
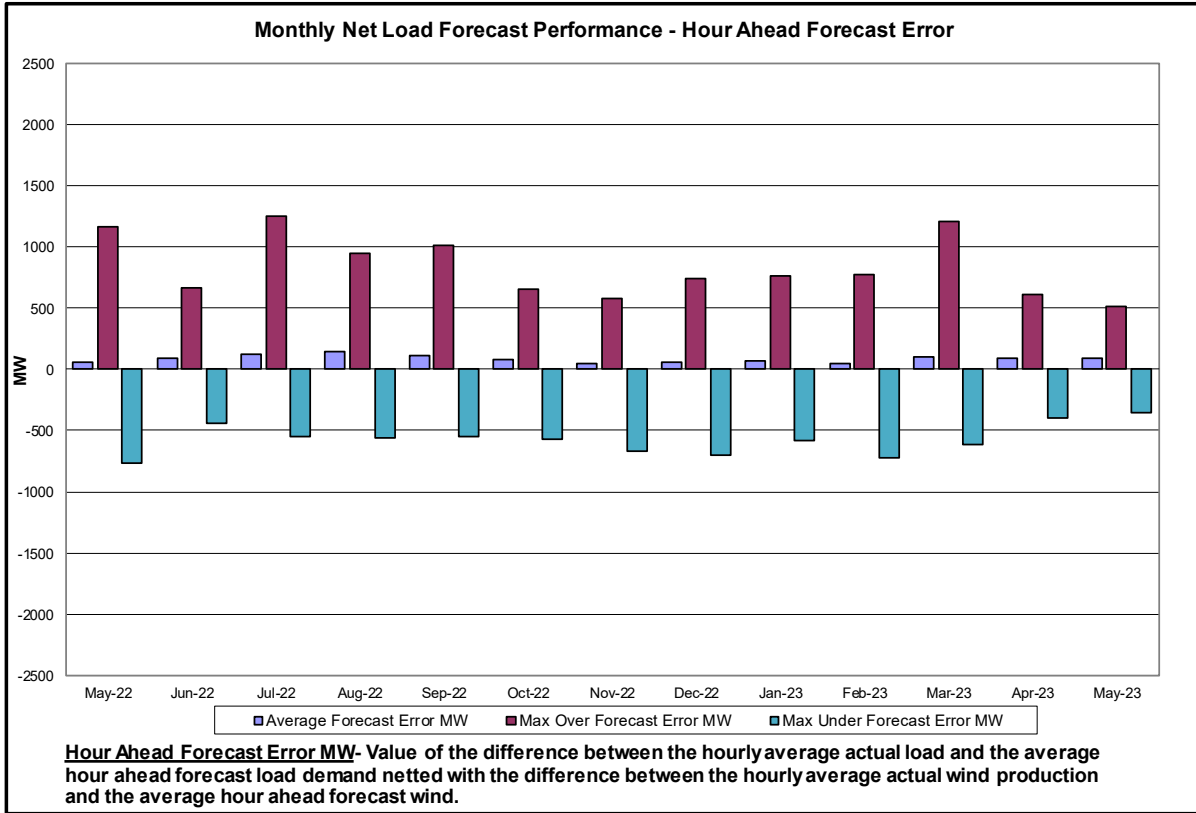


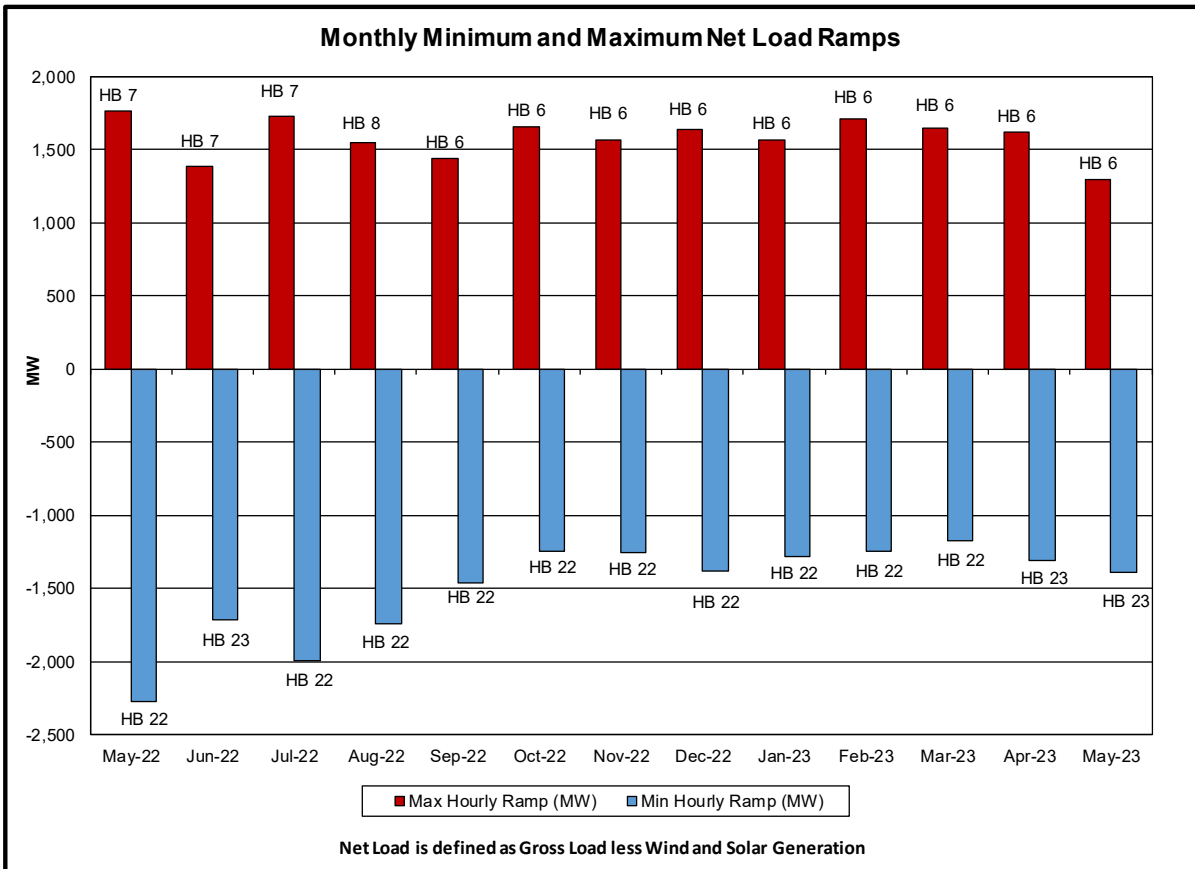
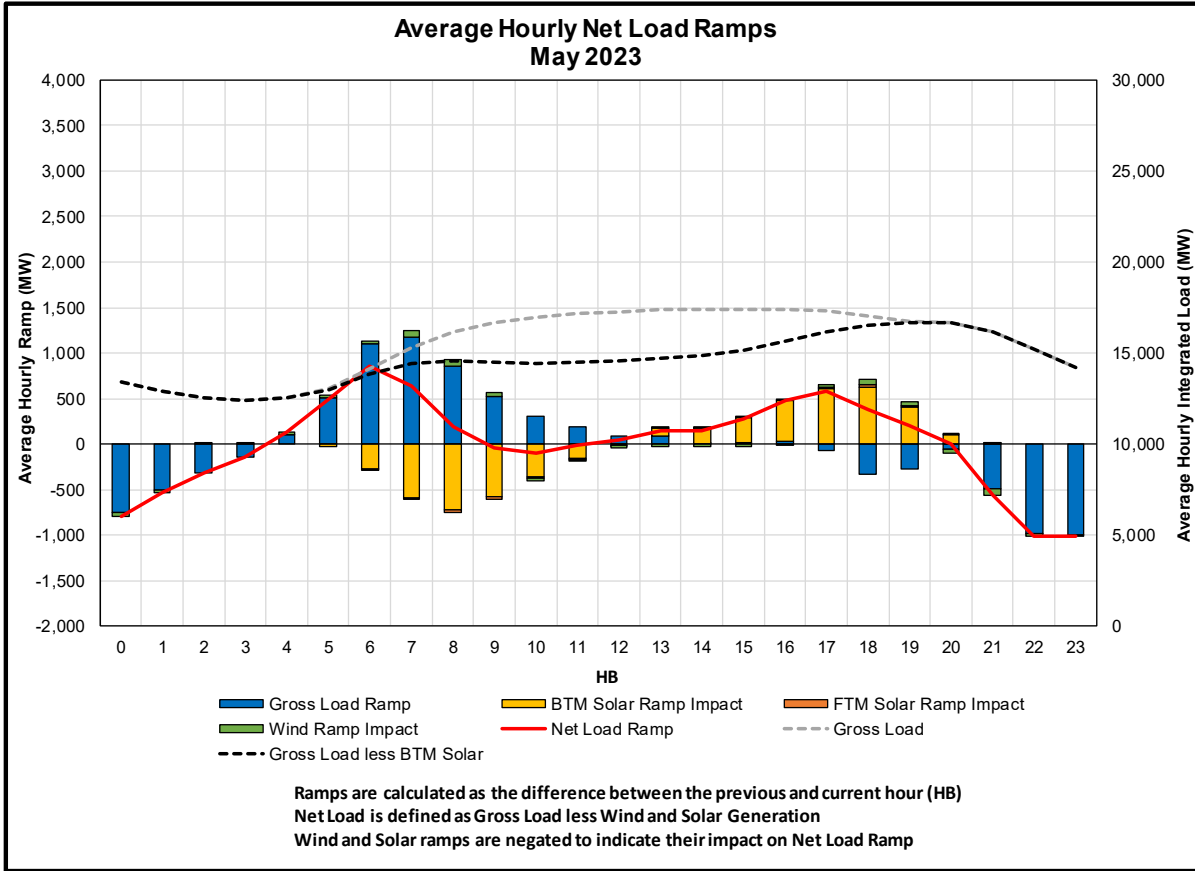


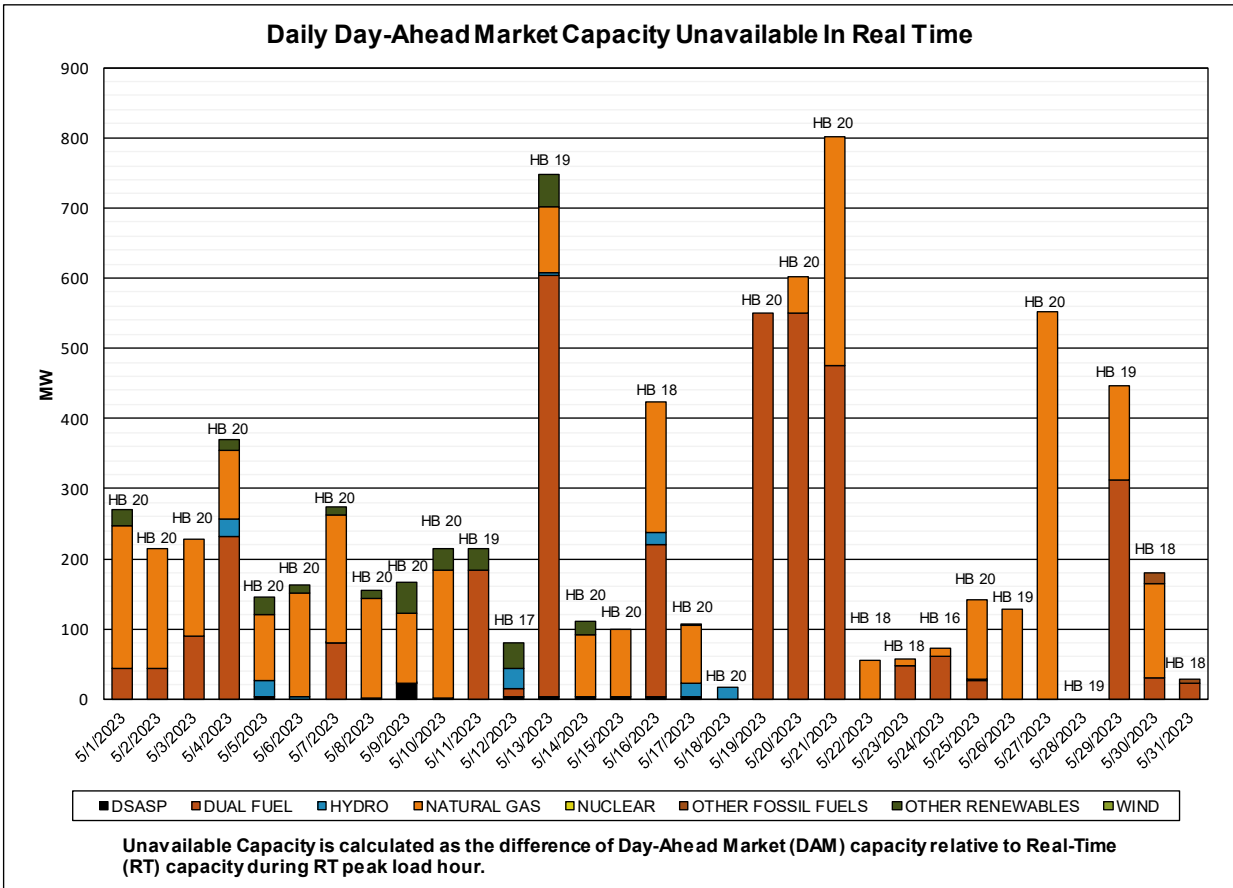
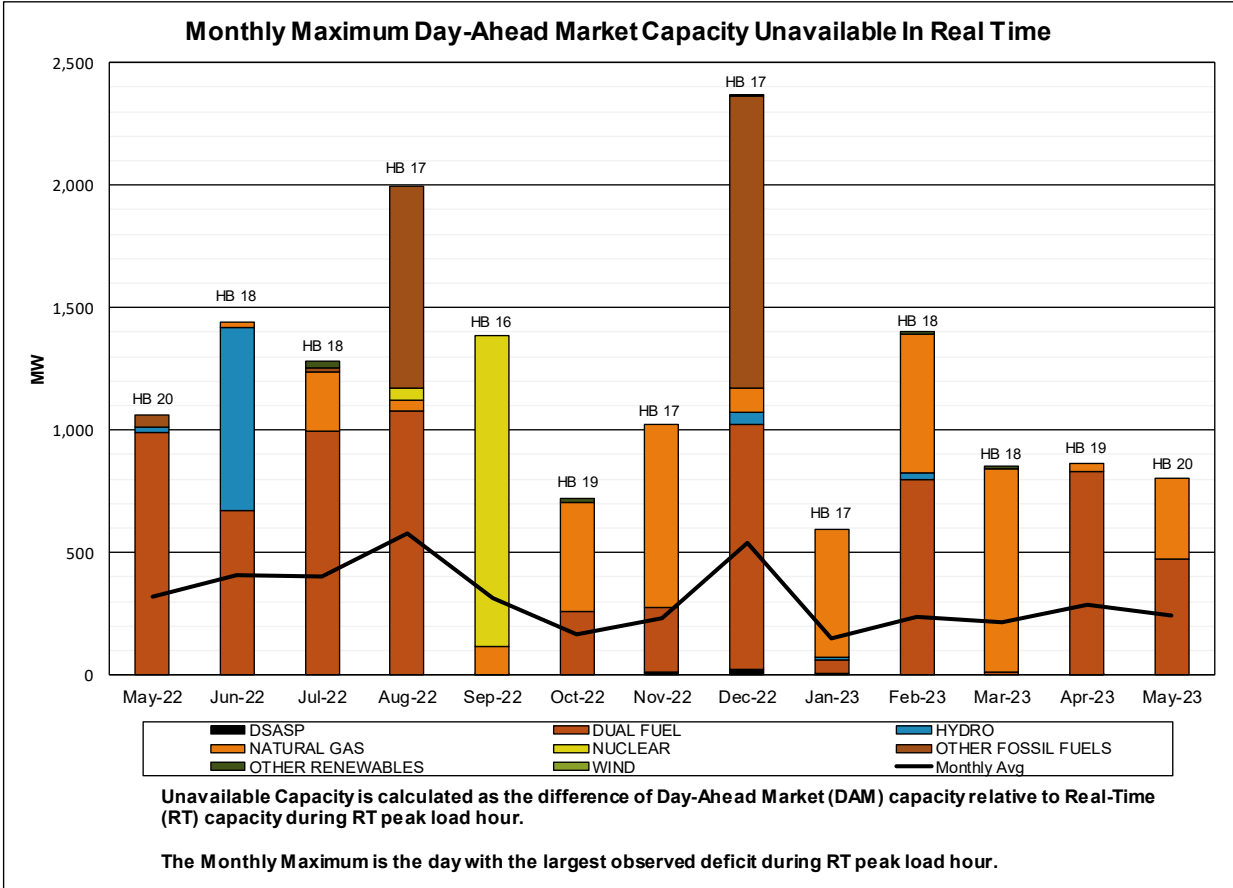


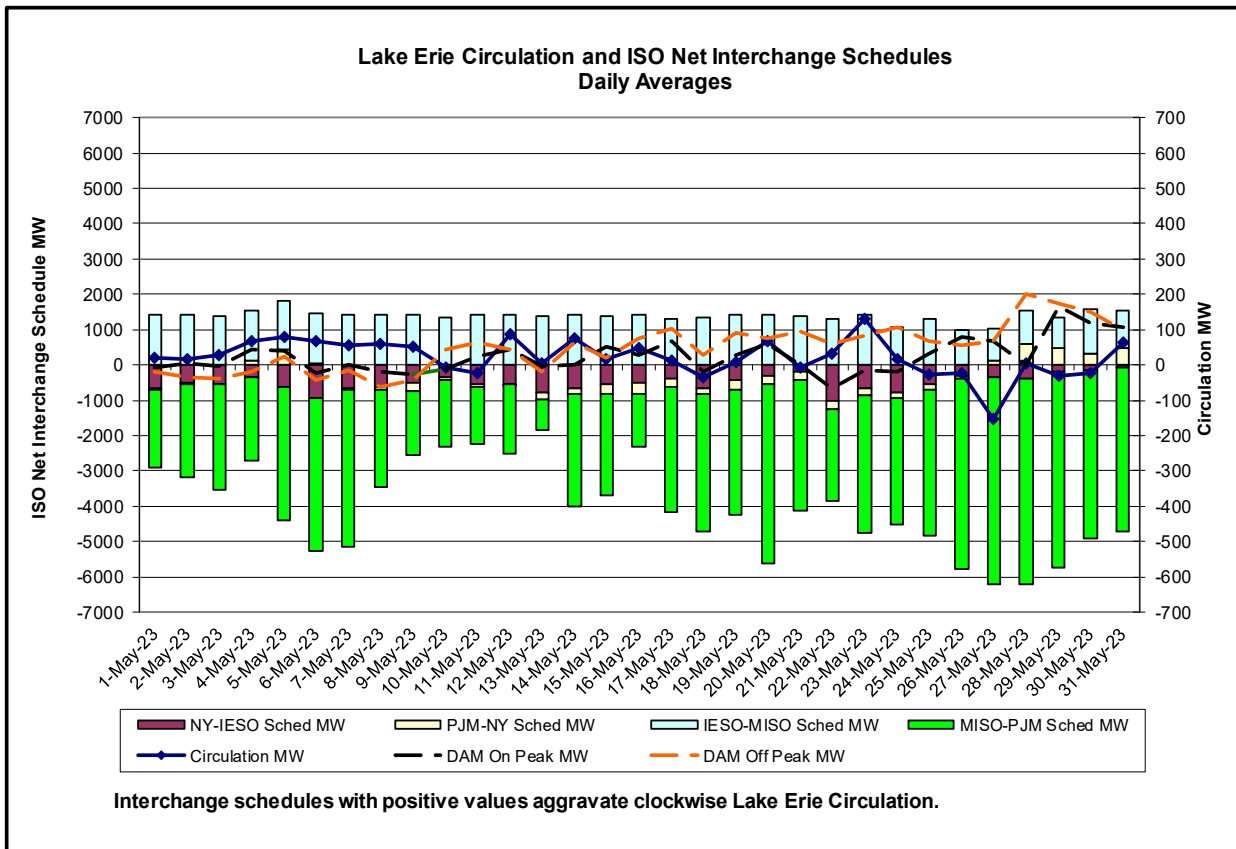
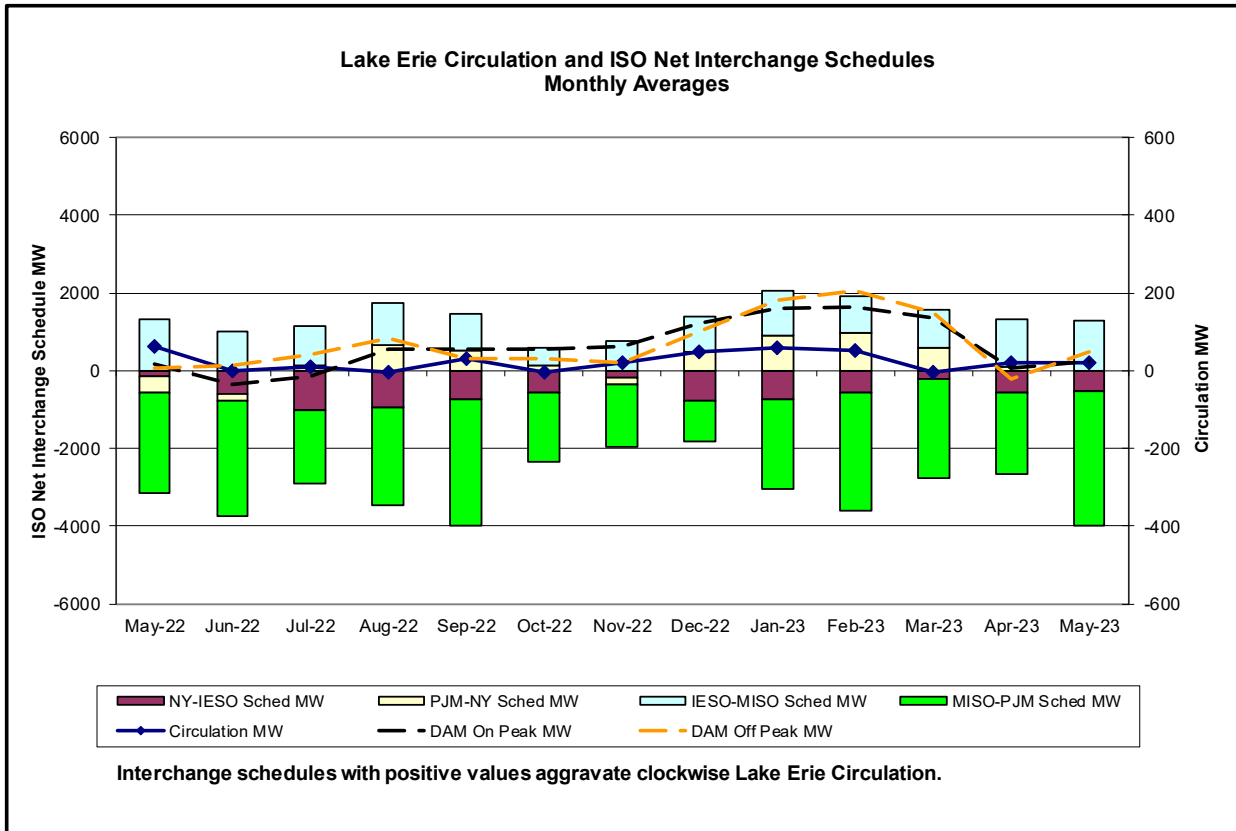




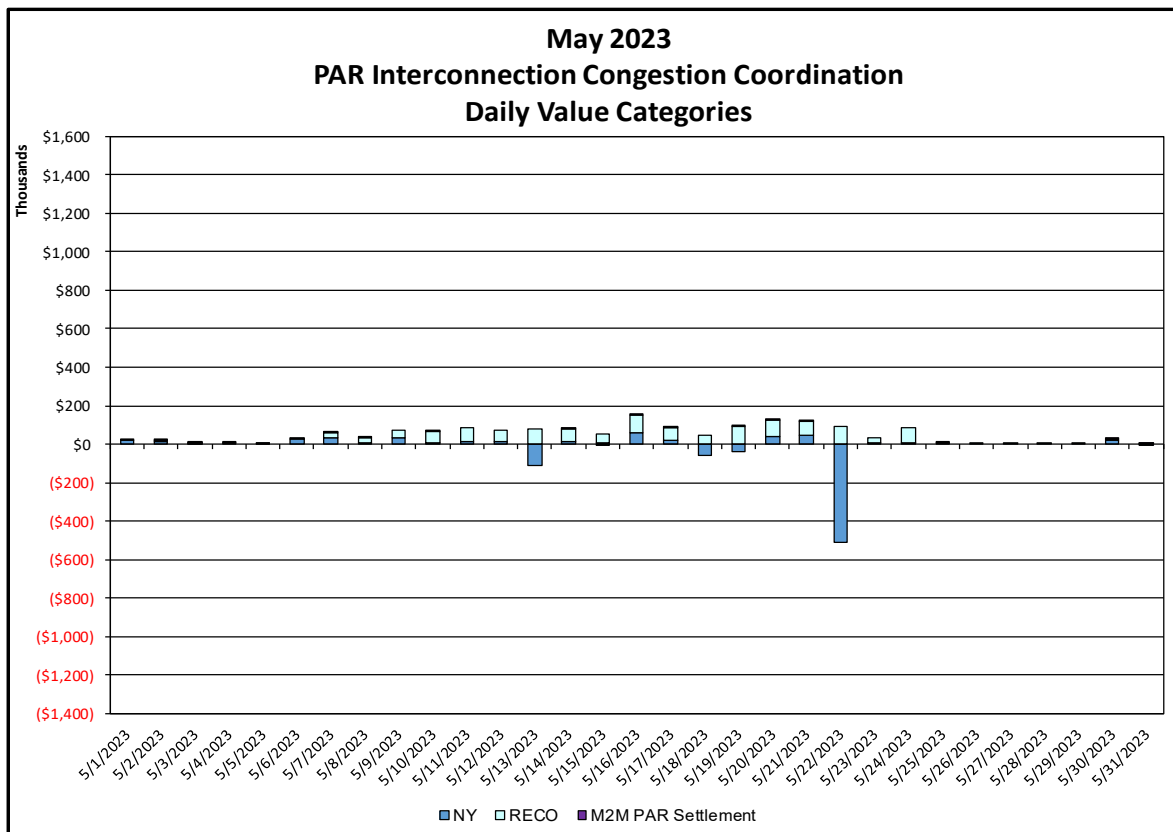
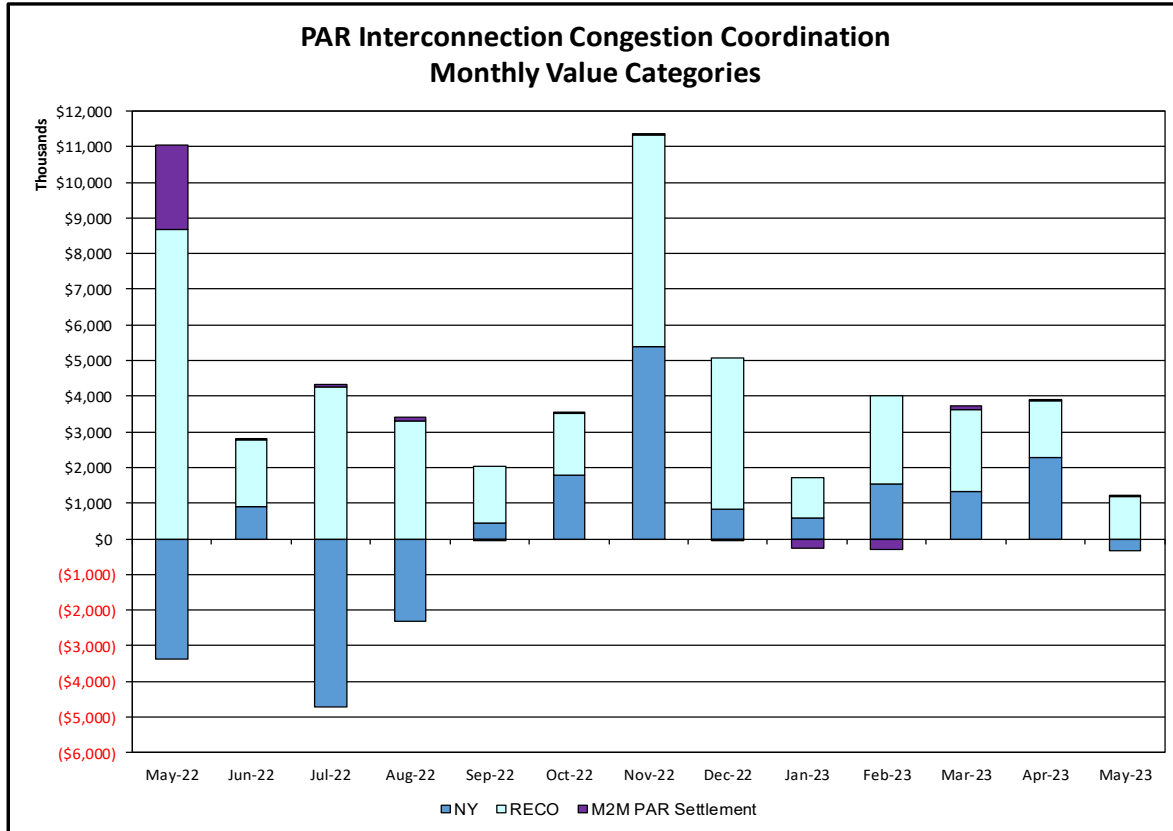






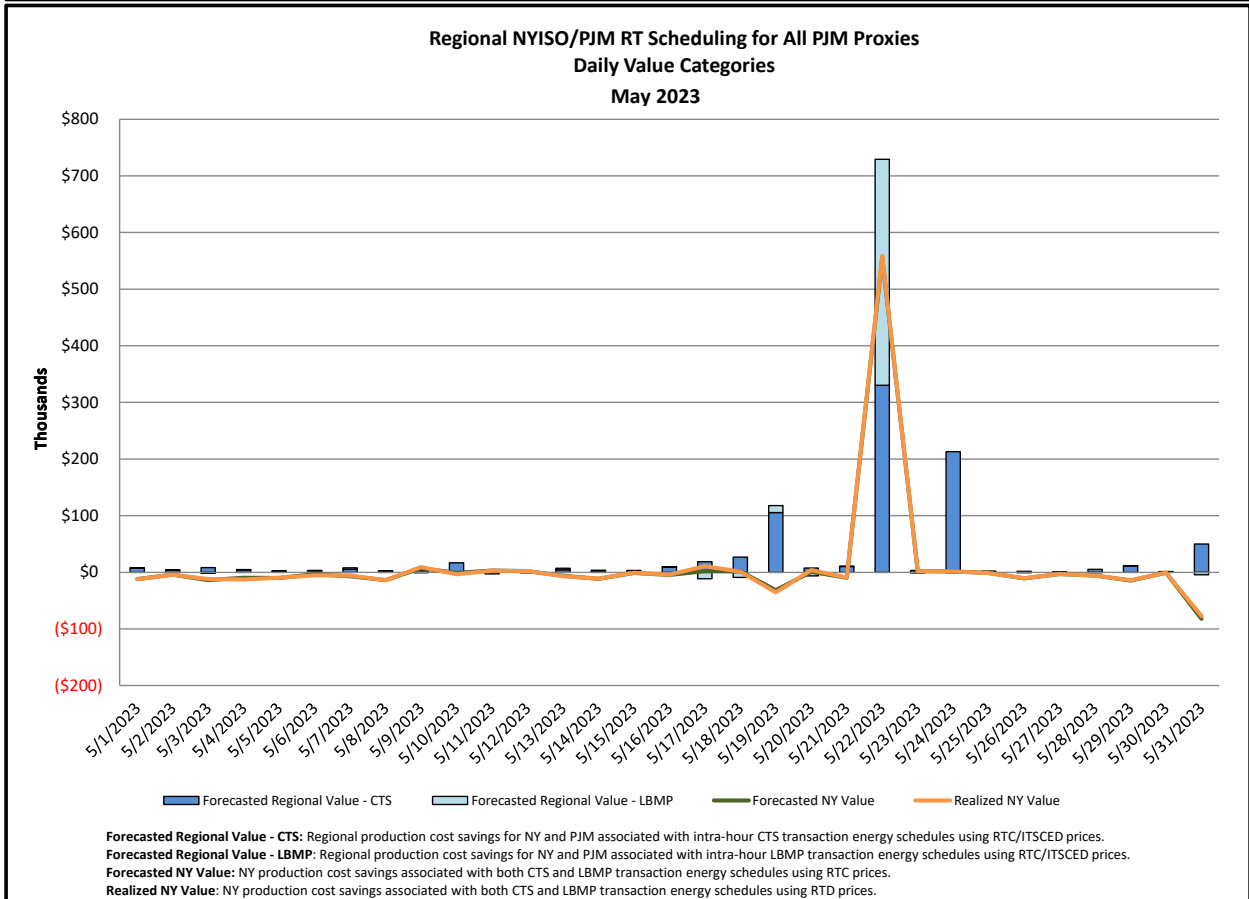
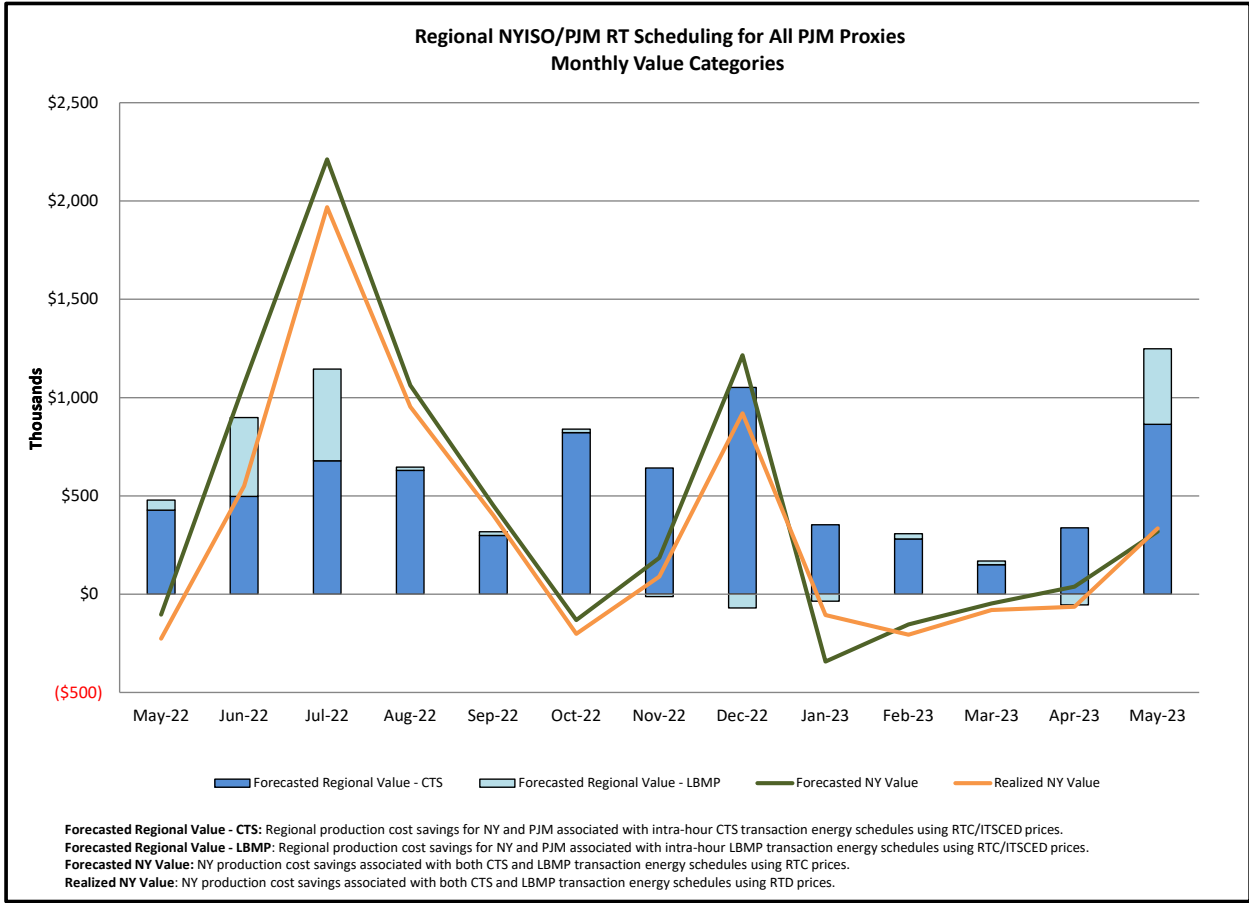


### Broader Regional Market Performance Metrics

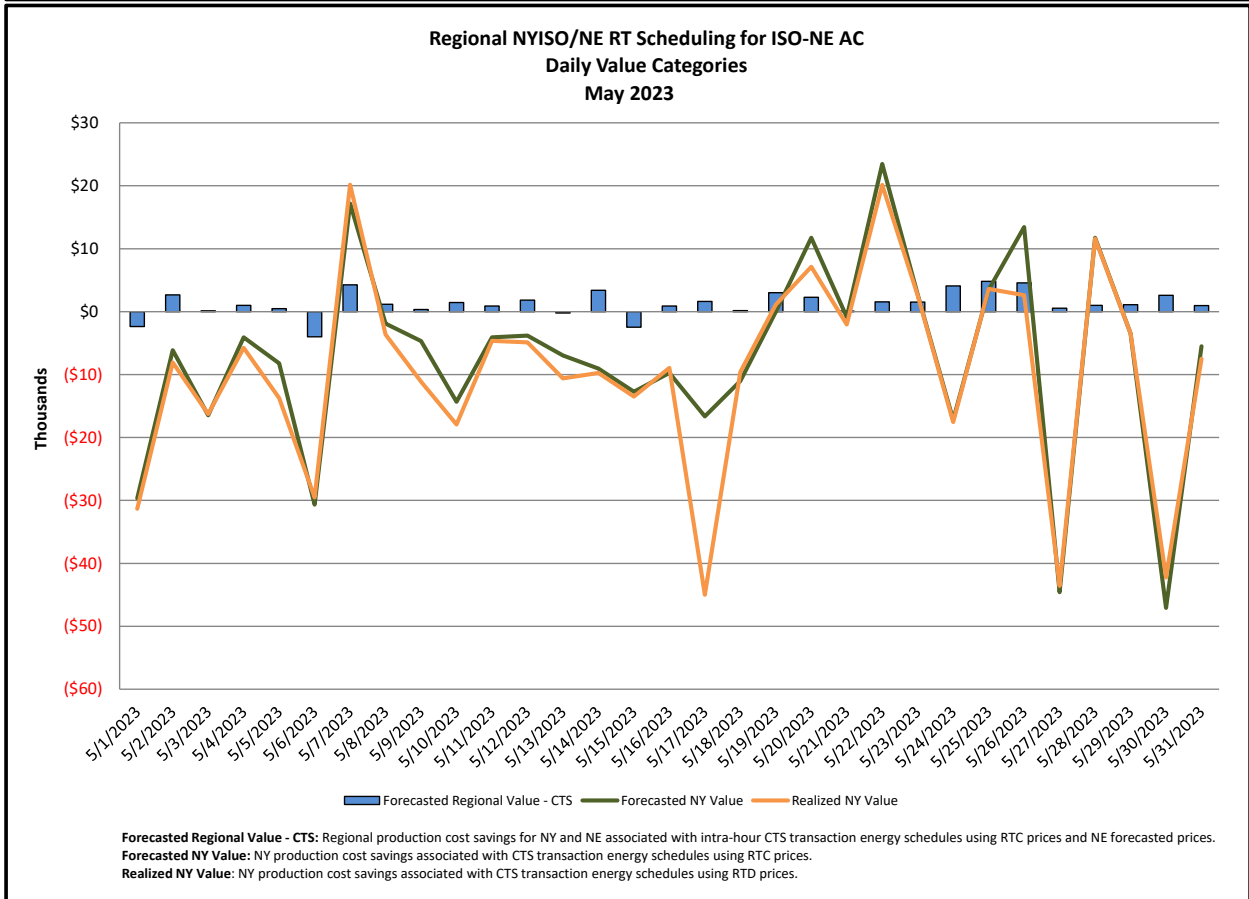
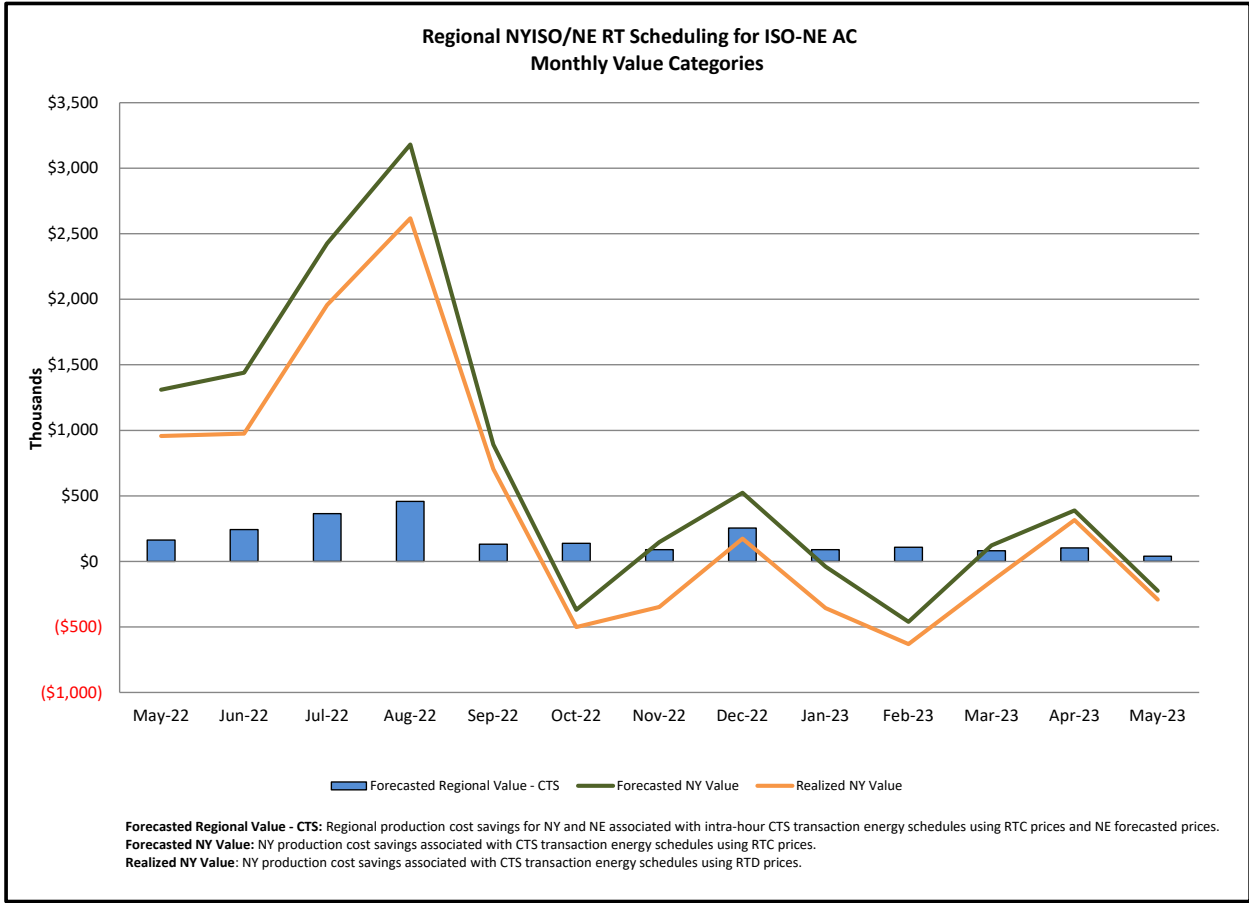


**PAR Interconnection Congestion Coordination**

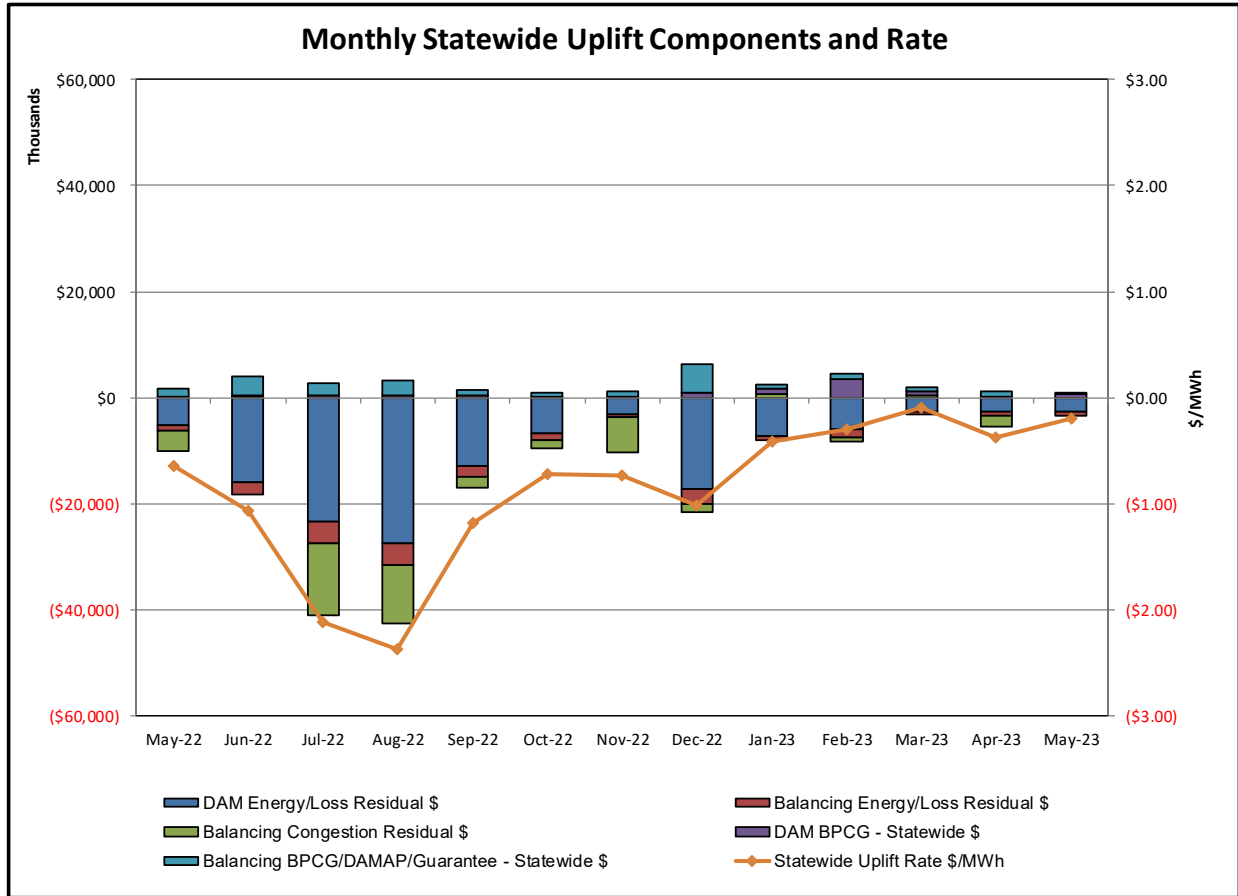
<b><u>Category</u></b>	<b><u>Description</u></b>
<b>NY</b>	Represents the value NY realizes from Market-to-Market PAR Coordination when experiencing congestion. This is the estimated savings to NY for additional deliveries into NY
<b>RECO</b>	Represents the value of PJM's obligation to deliver 80% of 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.

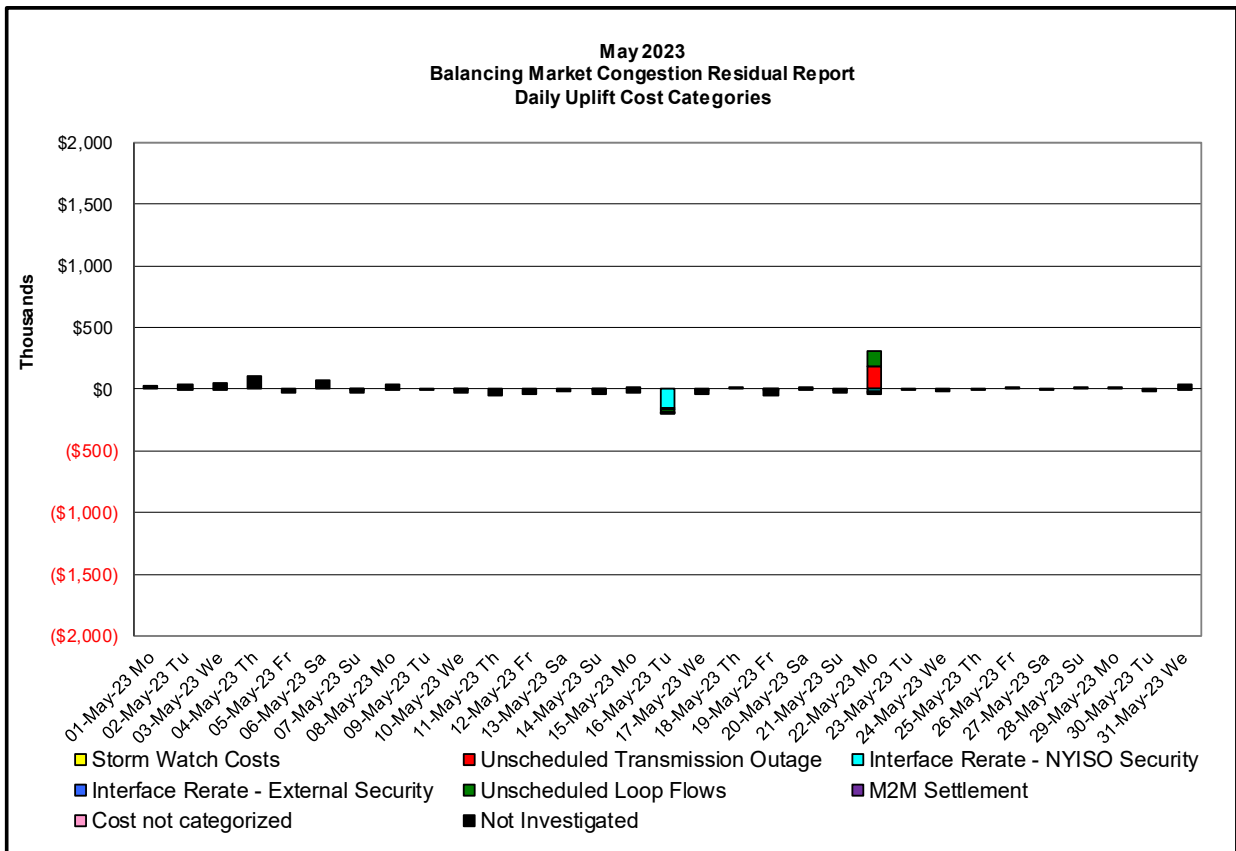
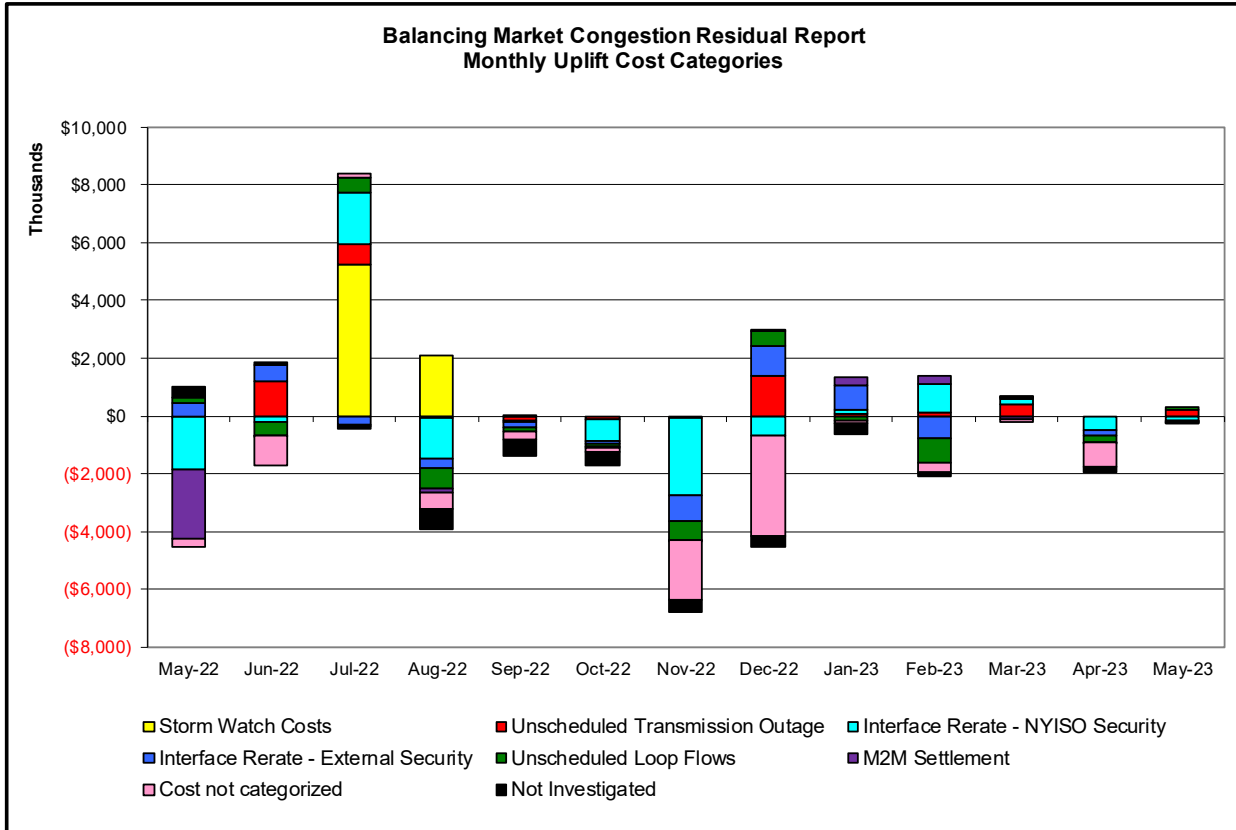






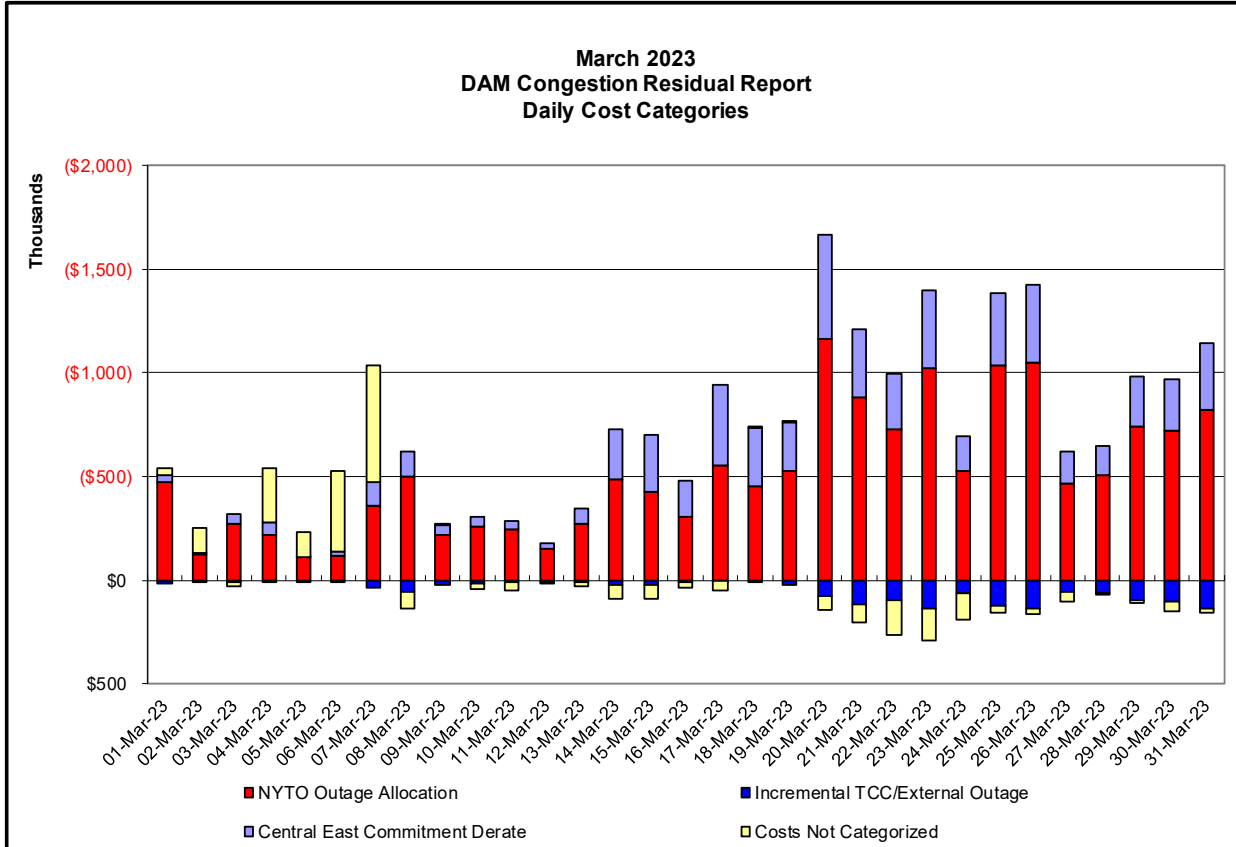
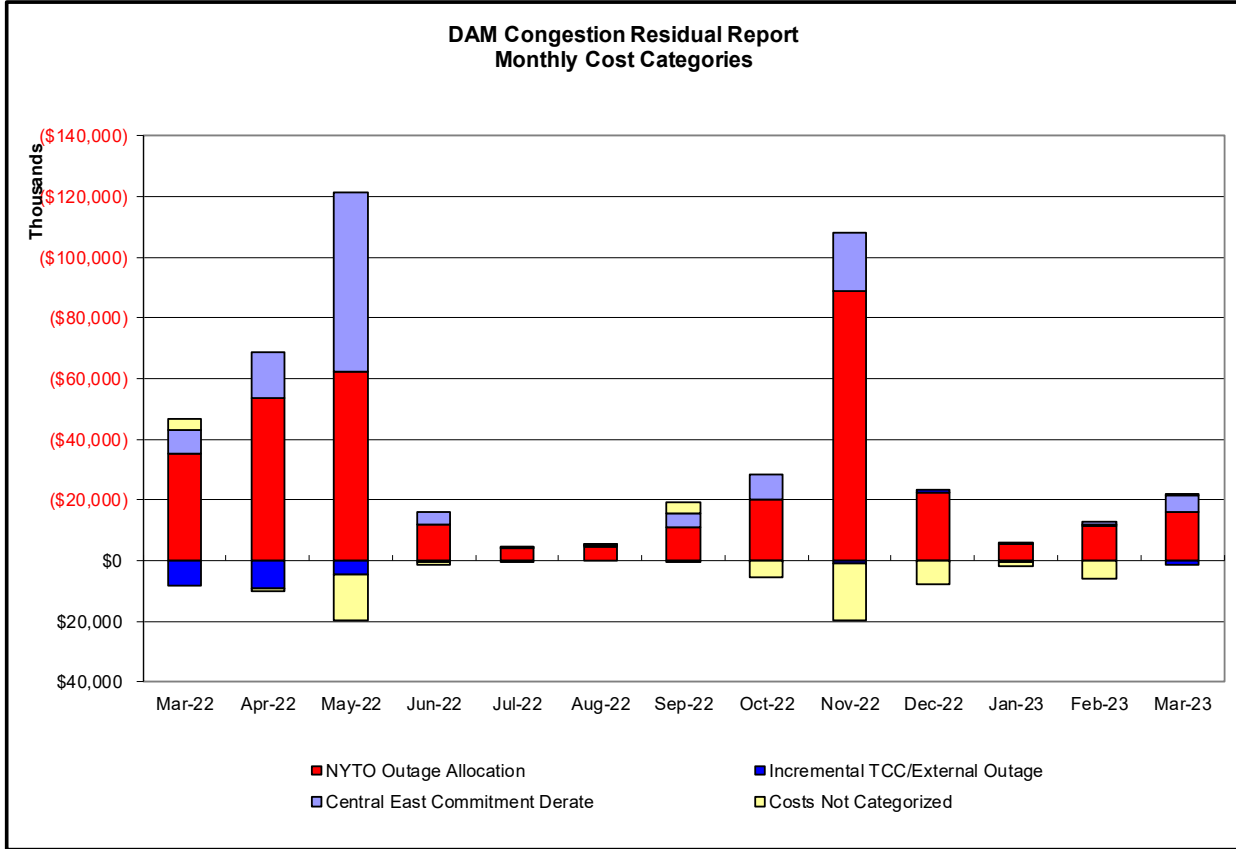
Market Performance Metrics





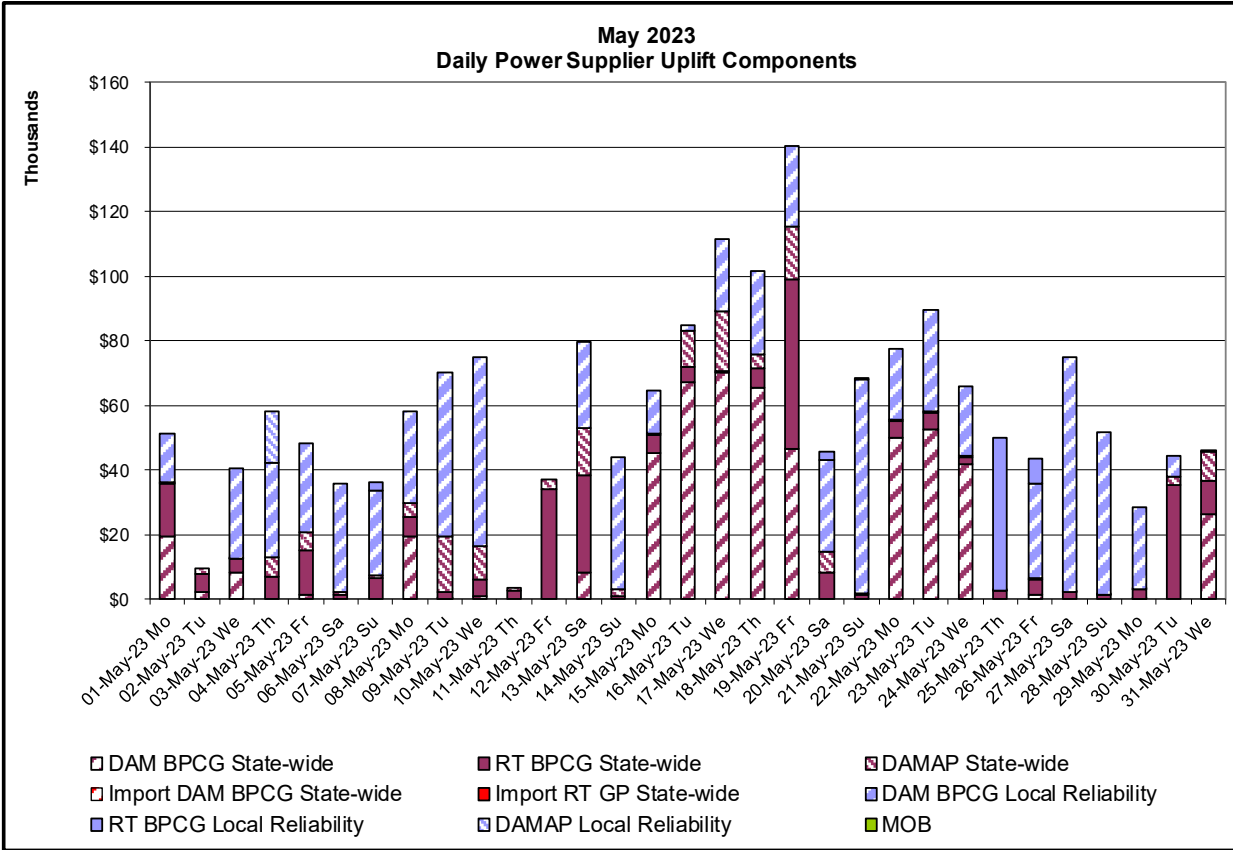
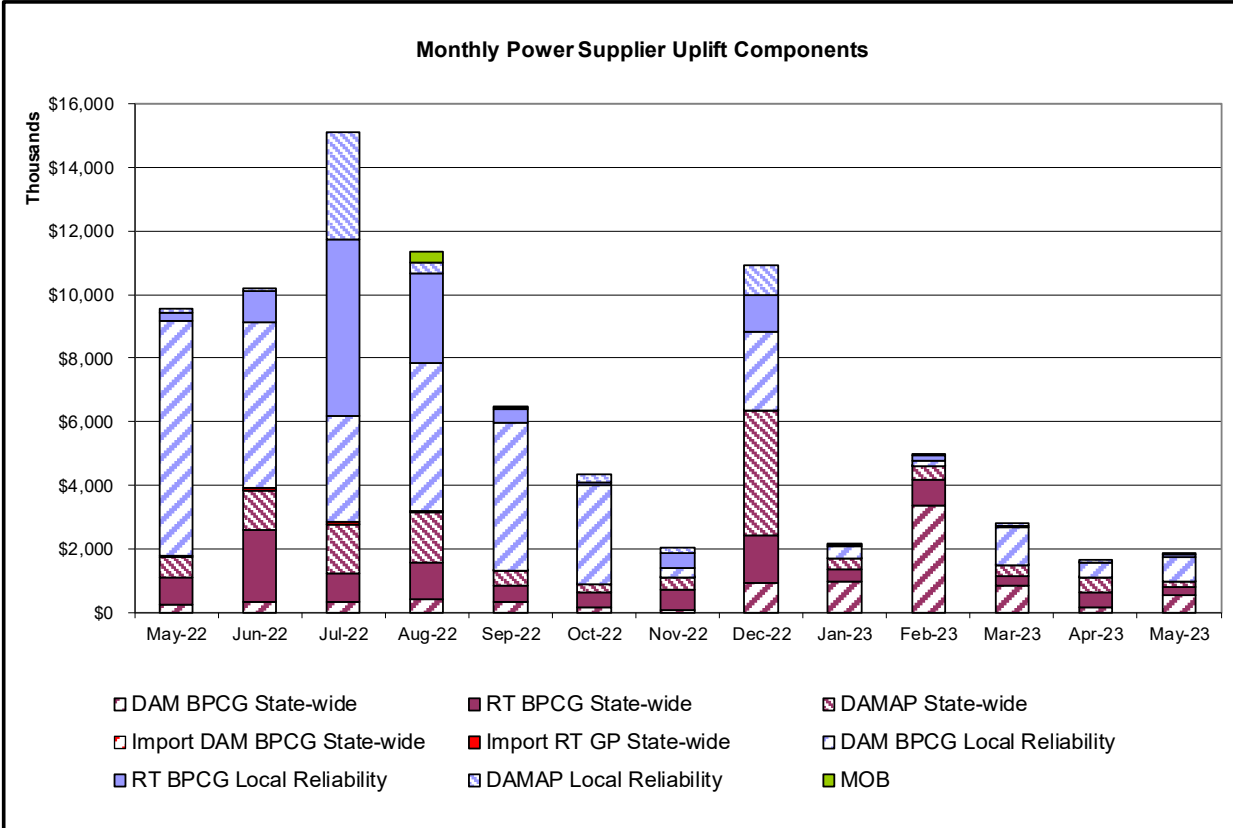
Day's investigated in May: 16,22			
Event	Date (yyyymmdd)	Hours	Description
	5/16/2023	7,16,23	NYCA DNI Ramp Limit
	5/16/2023	0-4,6-8,10-16,19,20,23	Uprate Central East
	5/16/2023	11-14	Uprate Dunwoodie-Shore Rd 345kV (#Y50) I/o NEPTUNE HVDC TIE LINE
	5/16/2023	10,23	NE_AC-NY DNI Ramp Limit
	5/16/2023	8,10,12,19	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East
	5/22/2023	16-18	Forced Outage of Homer City-Mainsburg 345kV (#47)
	5/22/2023	10,11	NYCA DNI Ramp Limit
	5/22/2023	13	Uprate East 179th St.-Hellgate 138kV (#15055)
	5/22/2023	13	Uprate Elwood-Pulaski 69kV (#670) I/o TWR:HOLTSVILLE 881 & 882
	5/22/2023	11	PJM_AC-NY Scheduling Limit
	5/22/2023	16	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East

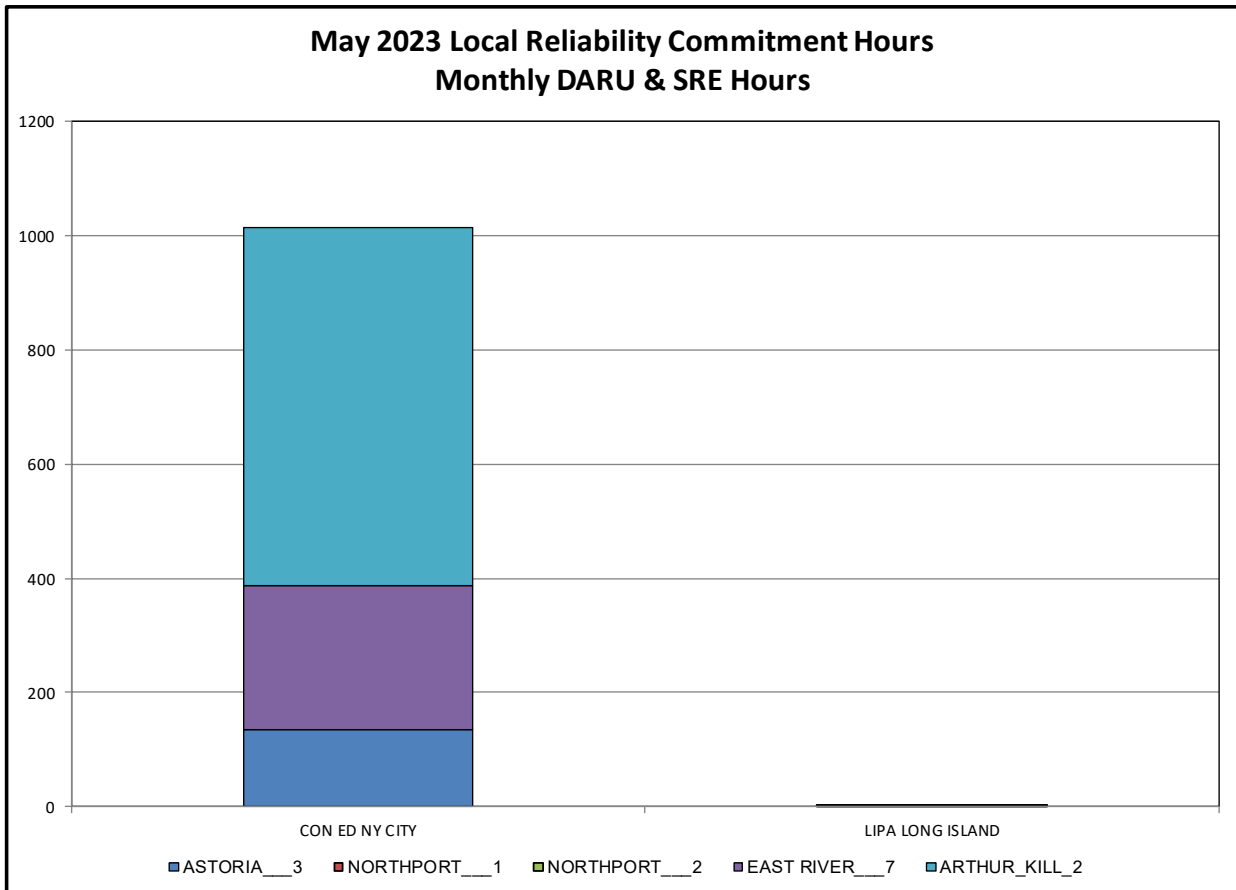
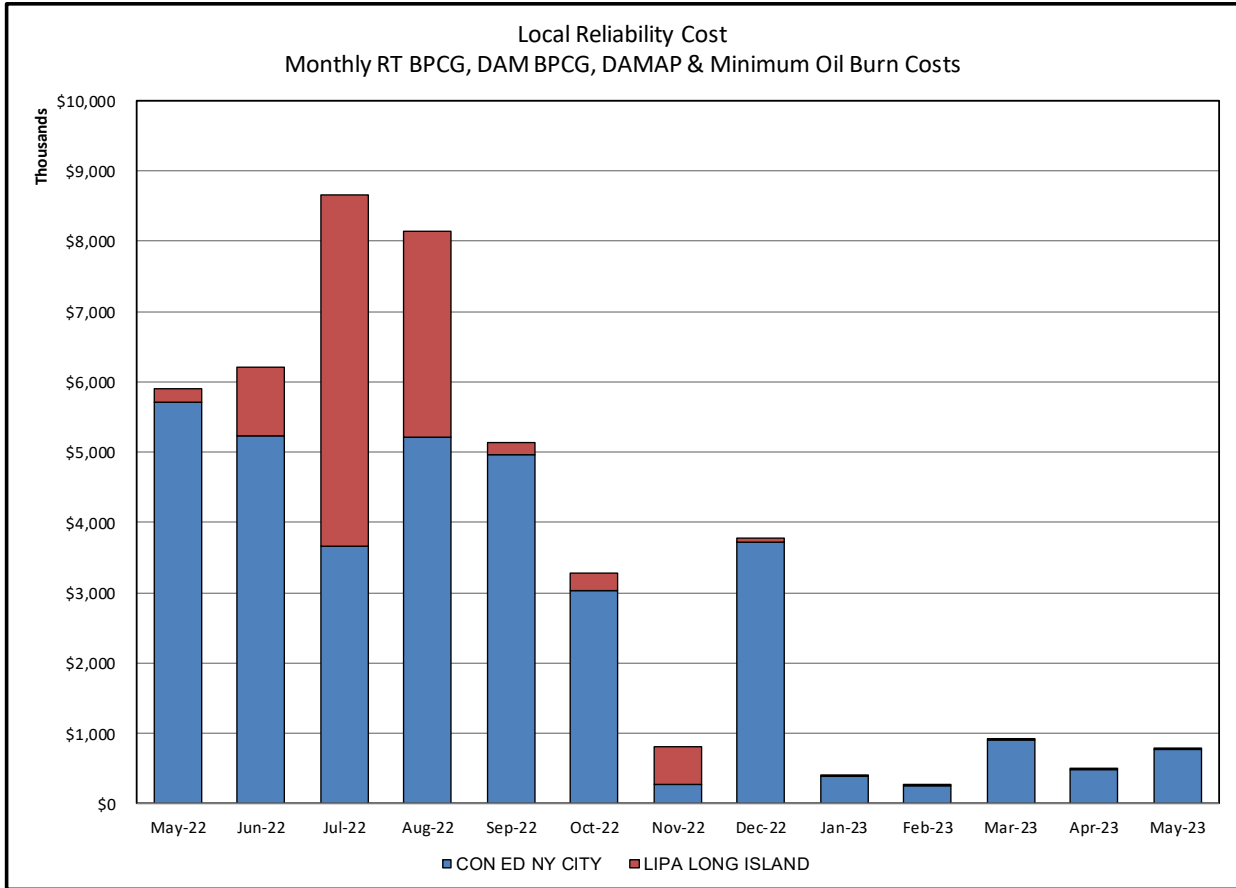
<b>Real-Time Balancing Market Congestion Residual (Uplift Cost) Categories</b>				
<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>	
<b>Storm Watch</b>	<b>Zone J</b>	<b>Thunderstorm Alert (TSA)</b>	<b>TSA Activations</b>	
<b>Transmission Outage Mismatch</b>	<b>Market-wide</b>	<b>Changes in DAM to RTM transfers related to transmission outage mismatch</b>	<b>Forced Line Outage, Unit AVR Outages, Early Line Return from Outage</b>	
<b>Interface/Facility Rerate - NYISO Security</b>	<b>Market-wide</b>	<b>Changes in DAM to RTM transfers not related to transmission outage</b>	<b>Interface/Facility Rerates due to RTM voltages</b>	
<b>Interface Rerate - External Security</b>	<b>Market-wide</b>	<b>Changes in DAM to RTM transfers related to External Control Area Security Events</b>	<b>TLR Events, External Transaction Curtailments</b>	
<b>Unscheduled Loop Flows</b>	<b>Market-wide</b>	<b>Changes in DAM to RTM unscheduled loop flows impacting NYISO Interface transmission constraints</b>	<b>DAM to RTM Lake Erie Loop Flows exceeding +/- 125 MW</b>	
<b>M2M Settlement</b>	<b>Market-wide</b>	<b>Settlement result inclusive of coordinated redispatch and Ramapo flowgates</b>		
<b><u>Monthly Balancing Market Congestion Report Assumptions/Notes</u></b>				
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				



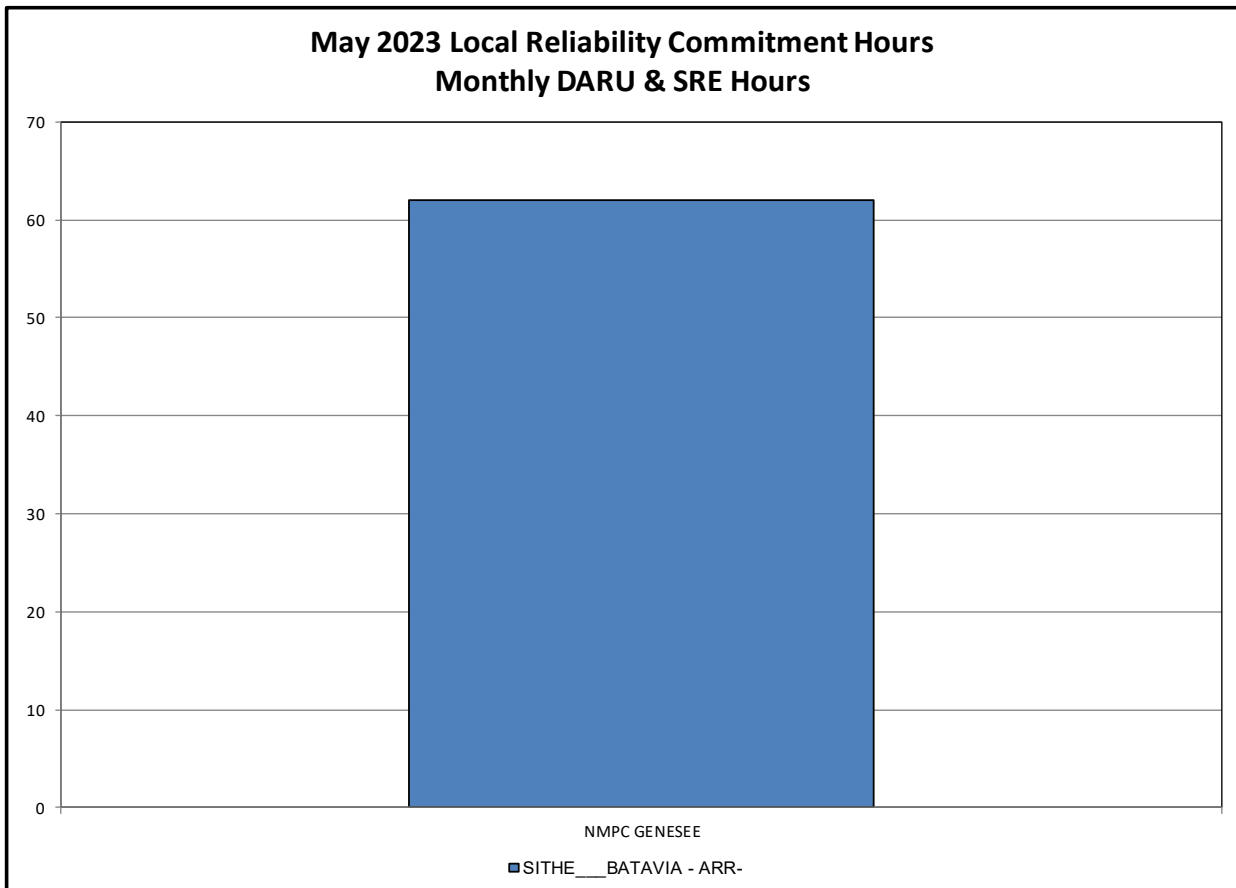
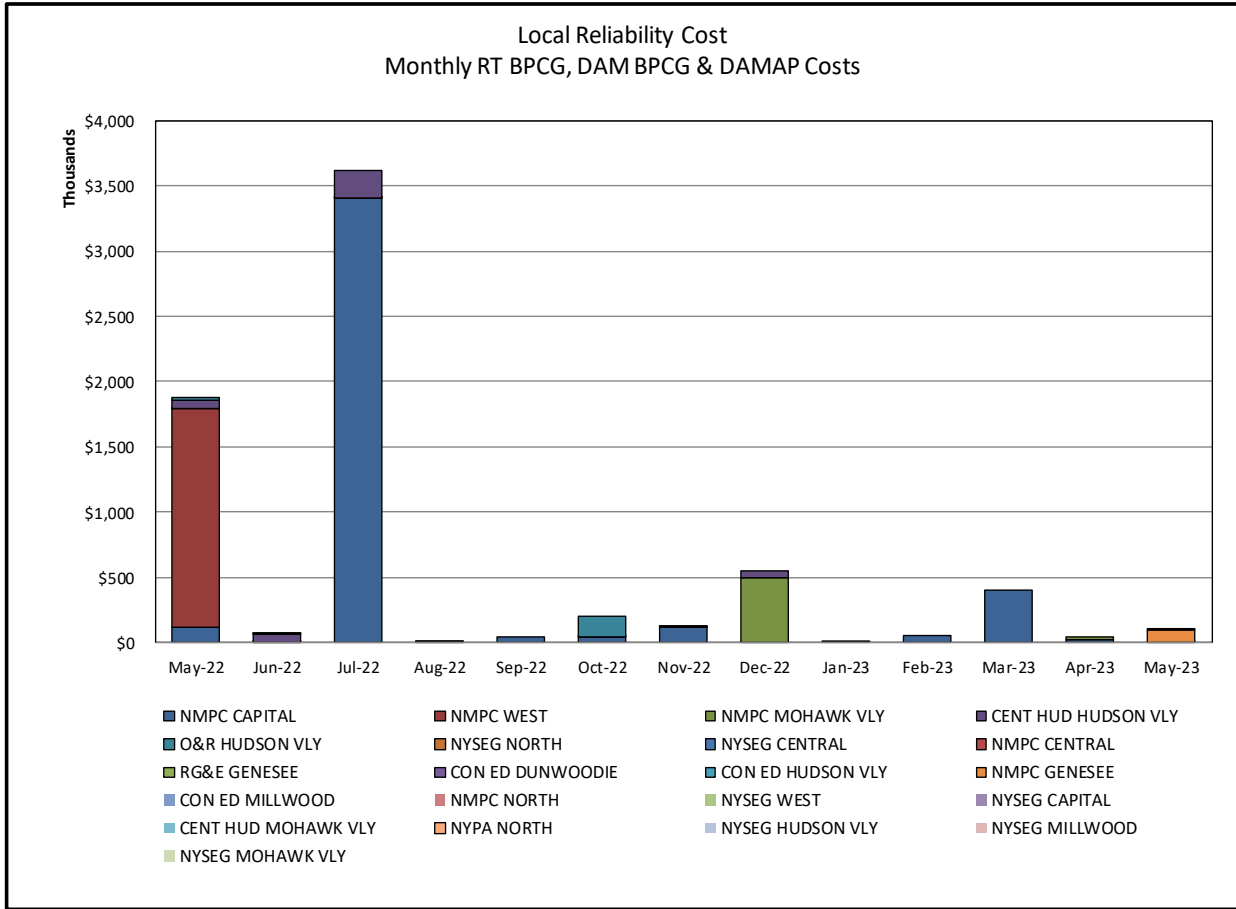
**Day-Ahead Market Congestion Residual Categories**

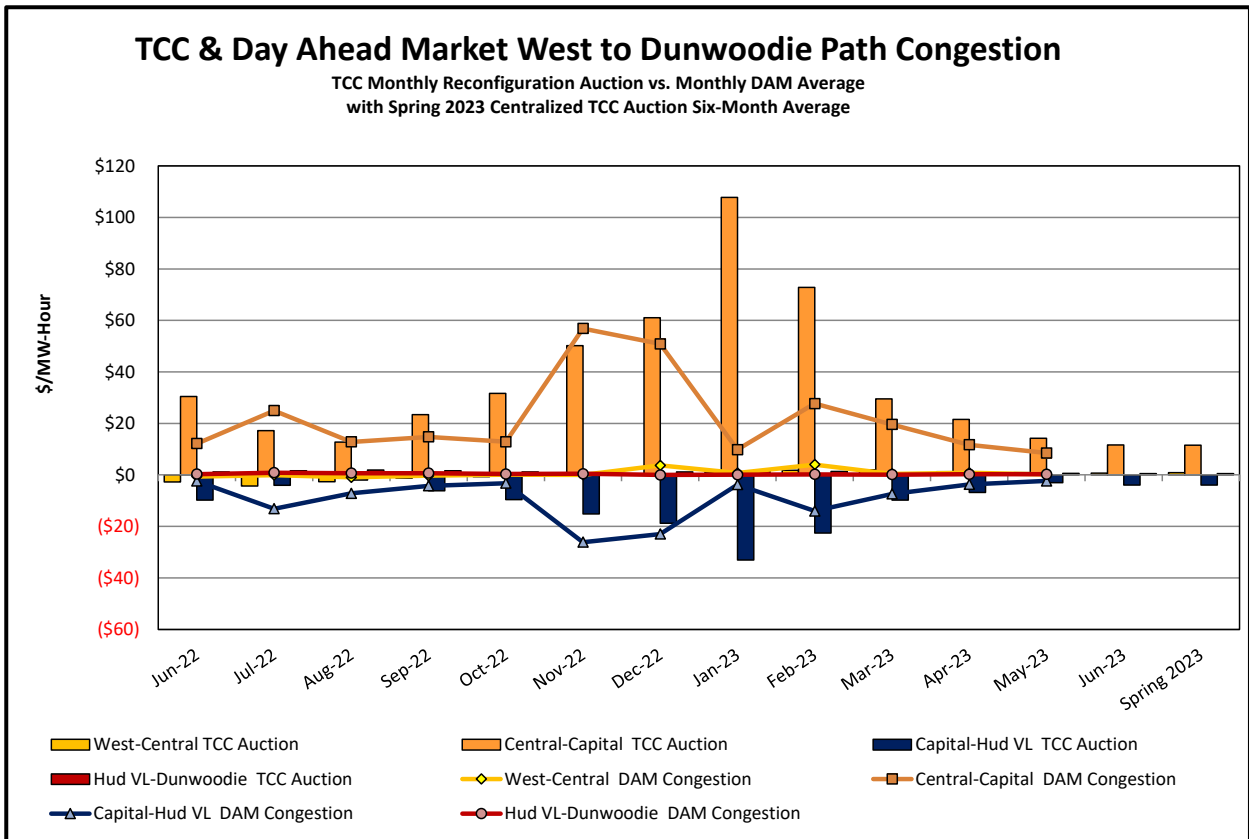
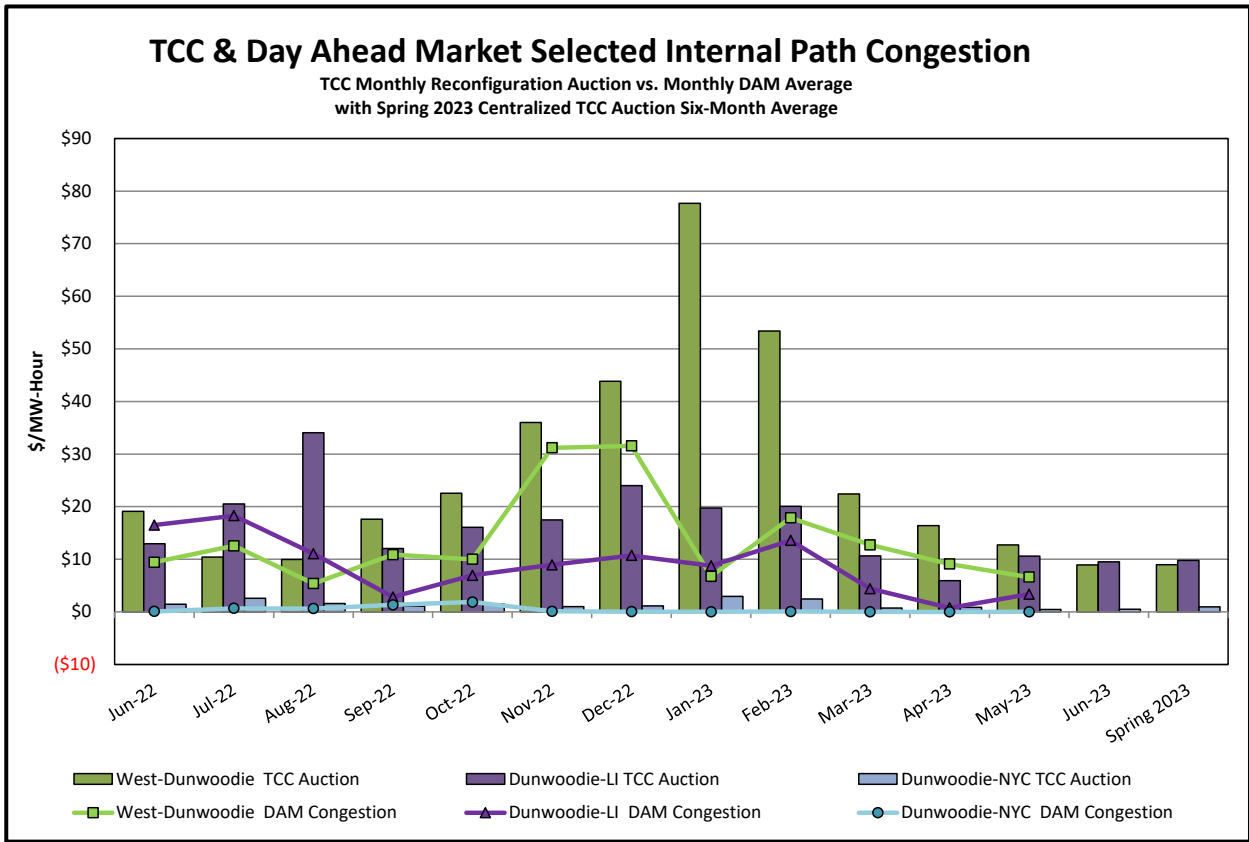
<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
NYTO Outage Allocation	Responsible TO	Direct allocation to NYTO's responsible for transmission equipment status change.	DAM scheduled outage for equipment modeled in-service for the TCC Auction.
Incremental TCC/External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

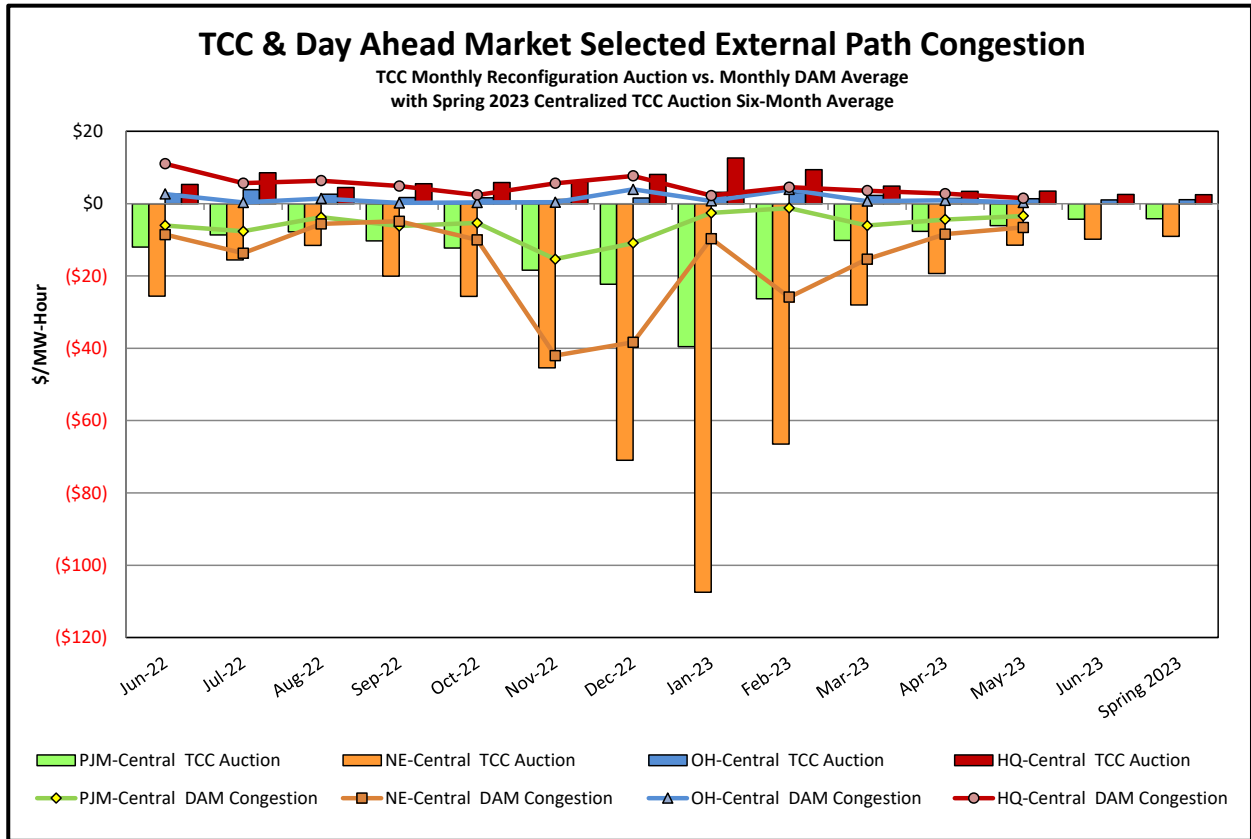


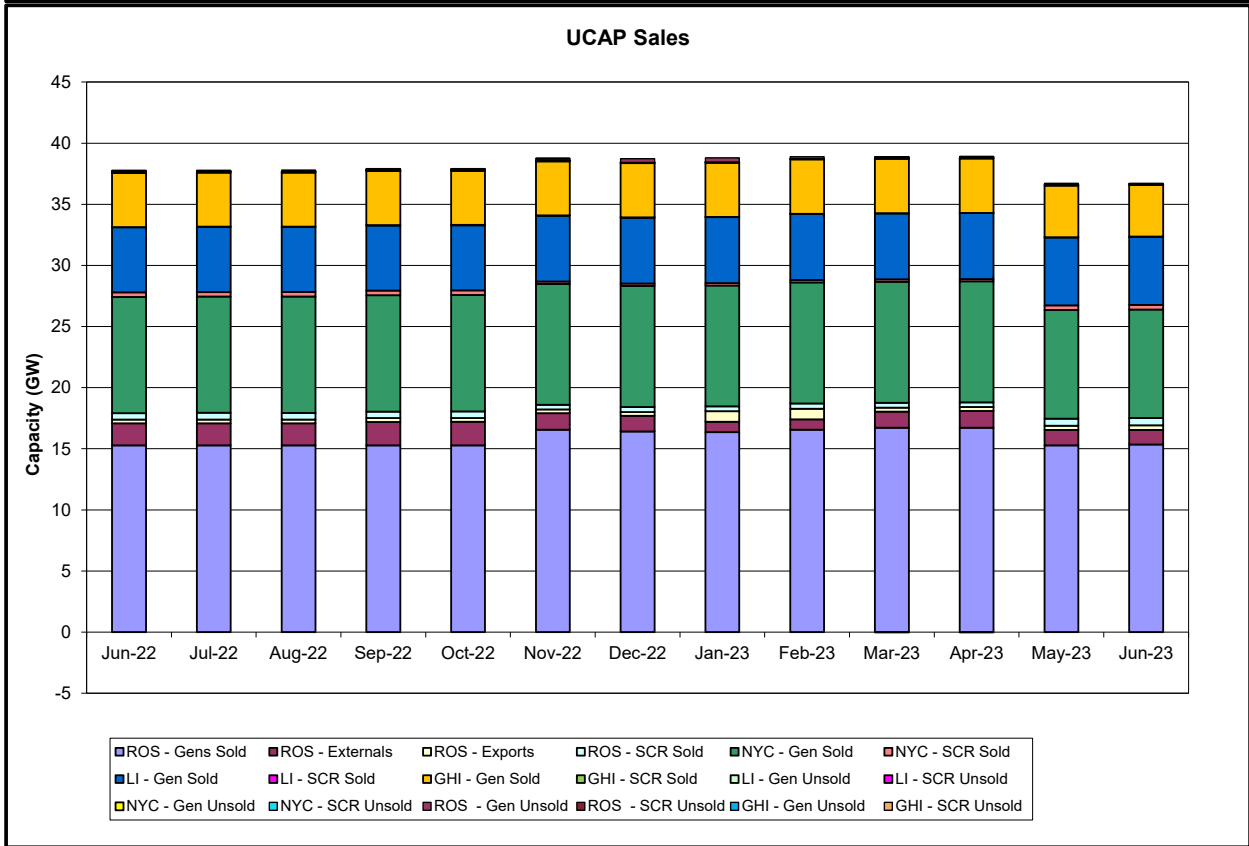
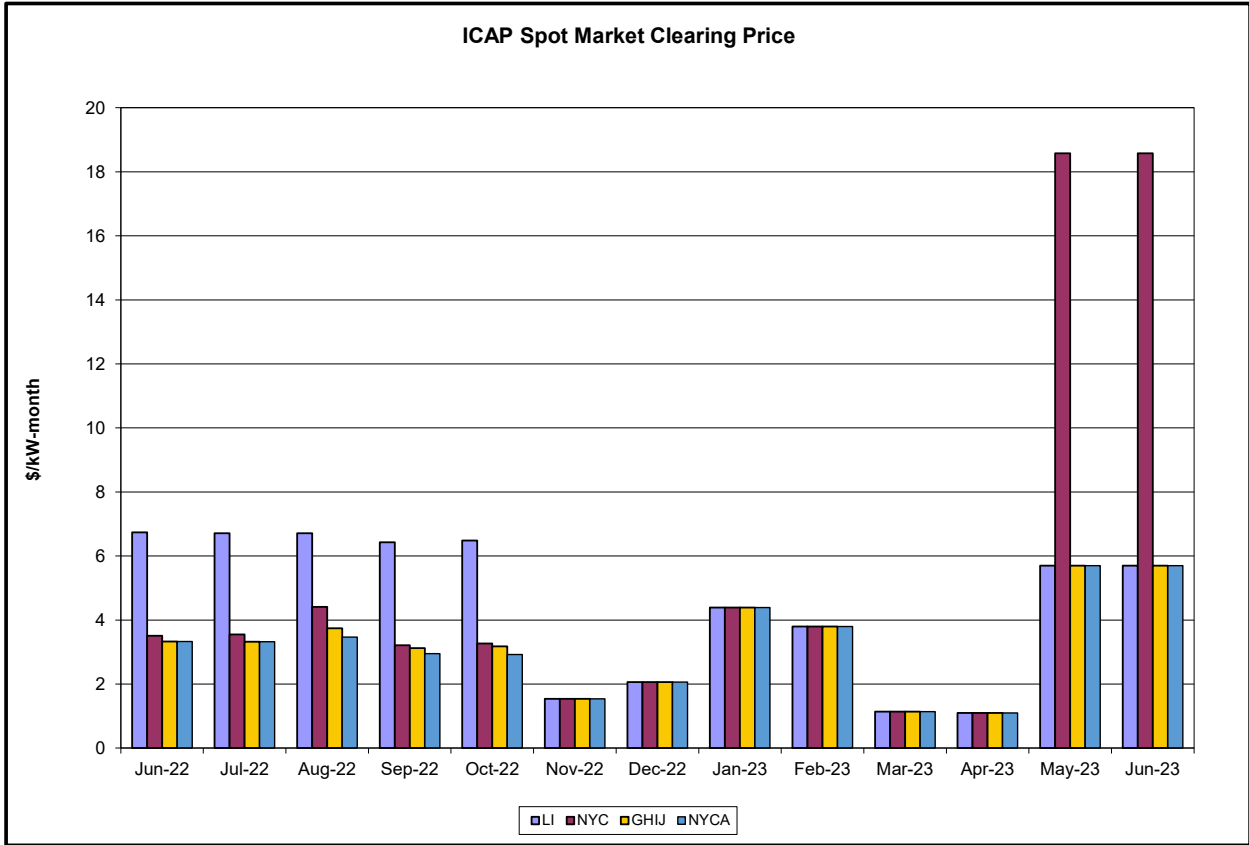










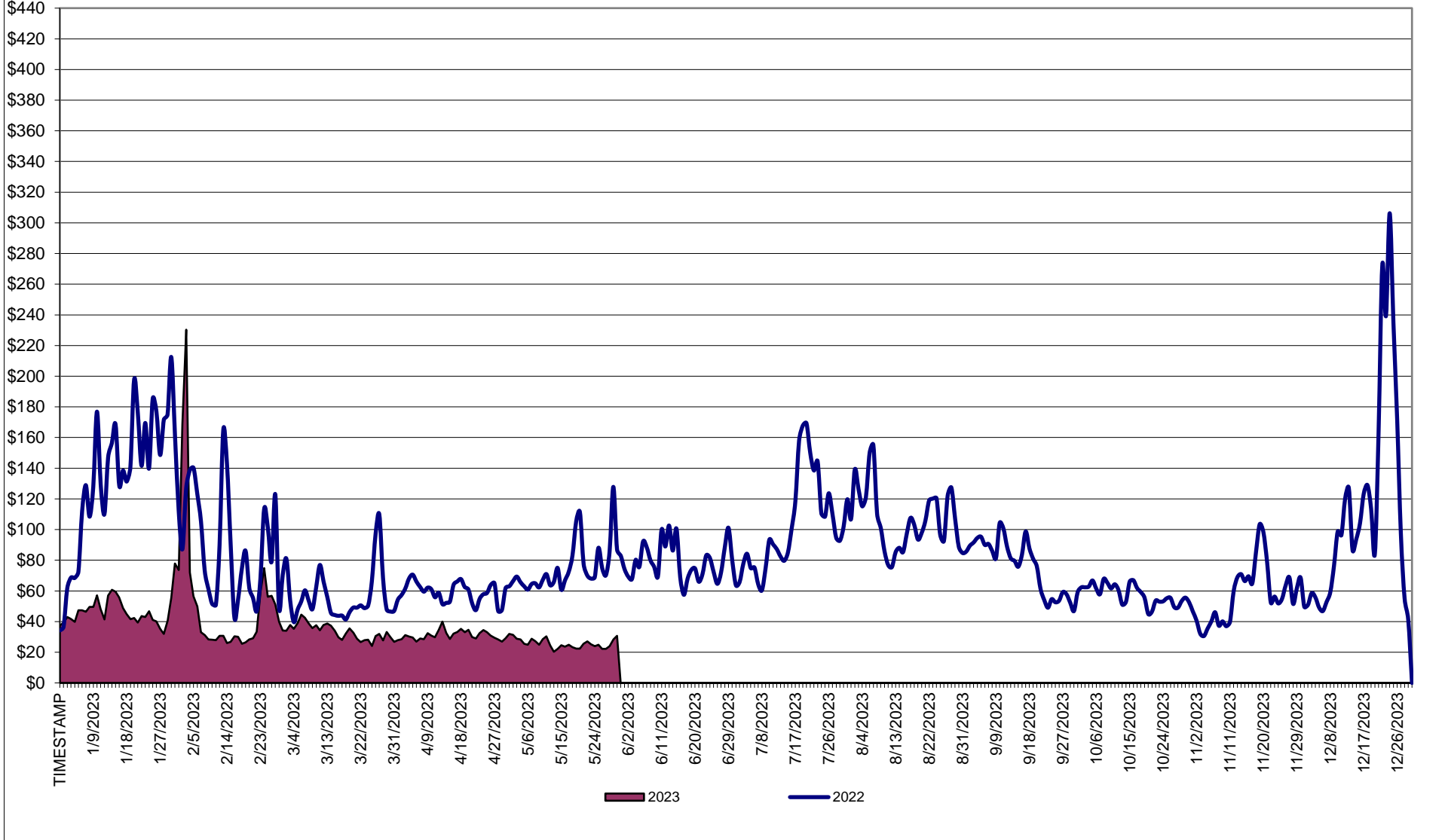


# Market Performance Highlights

## May 2023

- LBMP for May is \$23.13/MWh; lower than \$28.07/MWh in April 2023 and \$70.60/MWh in May 2022.
  - Day Ahead Load Weighted LBMPs and Real Time Load Weighted LBMPs are lower compared to April.
- May 2023 average year-to-date monthly cost of \$40.45/MWh is a 54% decrease from \$88.82/MWh in May 2022.
- Average daily sendout is 350 GWh/day in May; higher than 349 GWh/day in April 2023 and 372 GWh/day in May 2022.
- Natural gas prices and distillate prices are lower compared to the previous month.
  - Natural Gas (Transco Z6 NY) was \$1.43/MMBtu, down from \$1.73/MMBtu in April.
  - Natural gas prices (Transco Z6 NY) are down 417% year-over-year.
  - Jet Kerosene Gulf Coast was \$16.11/MMBtu, down from \$17.72/MMBtu in April.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$16.78/MMBtu, down from \$18.54/MMBtu in April.
  - Distillate prices are down 96.4% year-over-year
- Uplift per MWh is higher compared to the previous month.
  - Uplift (not including NYISO cost of operations) is (\$0.13)/MWh; higher than (\$0.38)/MWh in April.
    - Local Reliability Share is \$0.07/MWh, higher than \$0.04/MWh in April.
    - Statewide Share is (\$0.20)/MWh, higher than (\$0.38)/MWh in April.
  - TSA \$ per NYC MWh is \$0.00/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are higher than April.

**Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\***  
**2022 Annual Average \$89.23/MWh**  
**May 2022 YTD Average \$88.82/MWh**  
**May 2023 YTD Average \$40.45/MWh**



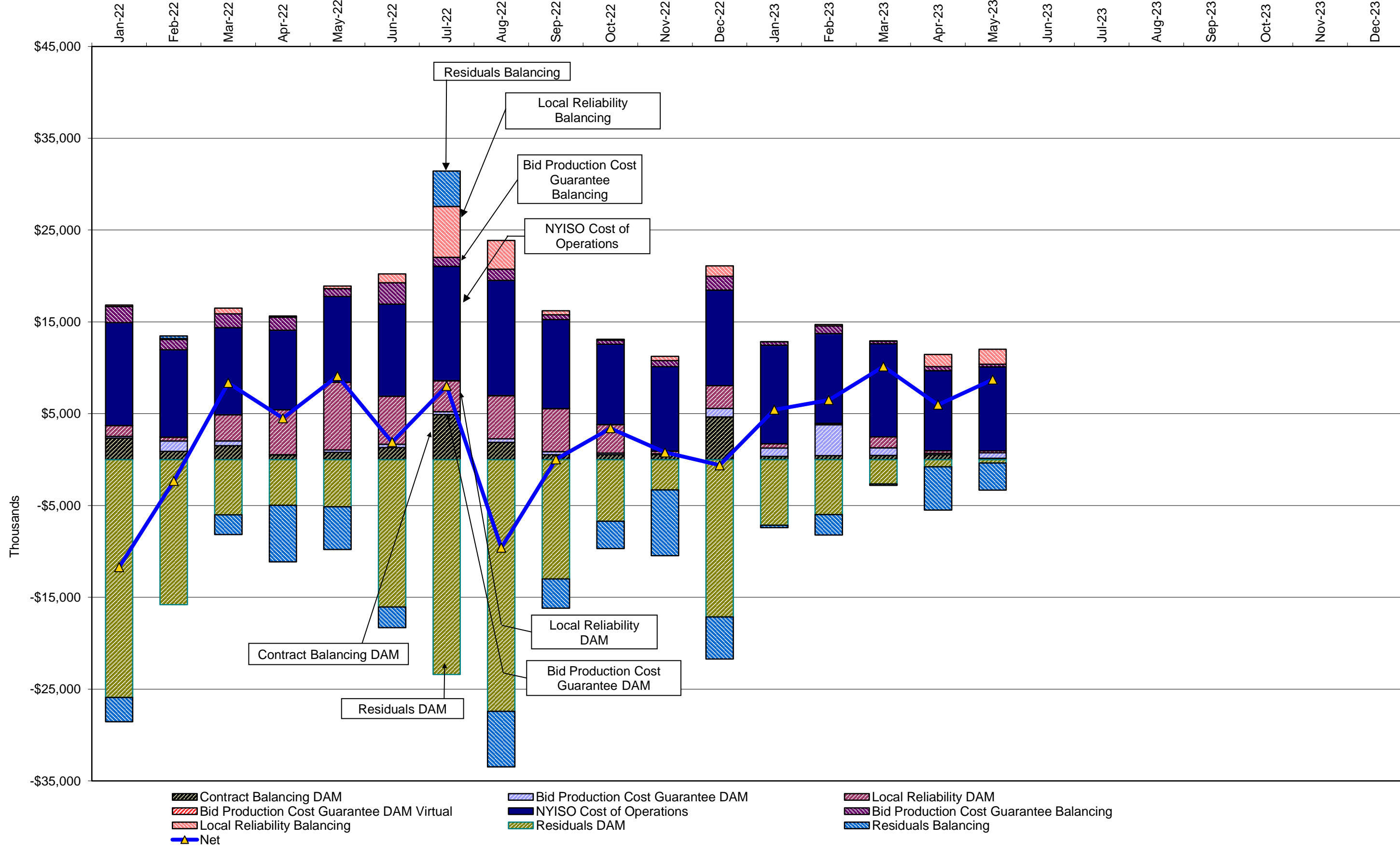
\* Excludes ICAP payments.

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

<b>2023</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	42.10	55.47	31.11	28.07	23.13							
NTAC	2.82	1.15	1.39	1.72	1.38							
Reserve	0.72	0.90	0.73	0.85	0.81							
Regulation	0.09	0.13	0.13	0.15	0.12							
NYISO Cost of Operations	0.77	0.77	0.77	0.78	0.78							
FERC Fee Recovery	0.08	0.09	0.09	0.10	0.10							
Uplift	(0.38)	(0.27)	(0.00)	(0.34)	(0.13)							
Uplift: Local Reliability Share	0.03	0.03	0.09	0.04	0.07							
Uplift: Statewide Share	(0.41)	(0.30)	(0.10)	(0.38)	(0.20)							
Voltage Support and Black Start	0.42	0.42	0.43	0.43	0.43							
<b>Avg Monthly Cost</b>	46.56	58.58	34.58	31.67	26.55							
Avg YTD Cost	46.64	52.36	46.65	43.45	40.45							
TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	0.00							
<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>	137.41	95.82	60.34	59.38	75.07	80.17	103.73	110.61	81.81	58.26	57.91	113.40
Avg YTD Cost	137.49	118.36	100.65	91.92	88.82	87.37	90.31	93.42	92.27	89.47	86.97	89.23
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

\* Excludes ICAP payments.  
Market Mitigation and Analysis  
Prepared: 6/9/2023 11:53 AM

## NYISO Dollar Flows - Uplift - OATT Schedule 1 components - Data through May 31, 2023



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

<b>2023</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>Day Ahead Market MWh</b>	13,662,137	12,355,489	12,651,083	11,058,870	11,601,426							
DAM LSE Internal LBMP Energy Sales	55%	55%	56%	55%	55%							
DAM External TC LBMP Energy Sales	7%	7%	4%	4%	4%							
DAM Bilateral - Internal Bilaterals	28%	29%	30%	30%	31%							
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%	5%	6%	6%	6%							
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	2%	2%	2%							
DAM Bilateral - Wheel Through Bilaterals	3%	2%	2%	2%	2%							
<b>Balancing Energy Market MWh</b>	328,840	397,488	420,170	303,381	-77,279							
Balancing Energy LSE Internal LBMP Energy Sales	65%	38%	53%	43%	-157%							
Balancing Energy External TC LBMP Energy Sales	68%	68%	58%	69%	223%							
Balancing Energy Bilateral - Internal Bilaterals	2%	1%	2%	-1%	-5%							
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	7%							
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	7%	6%	6%	5%	10%							
Balancing Energy Bilateral - Wheel Through Bilaterals	-43%	-13%	-18%	-16%	-178%							
<b>Transactions Summary</b>												
LBMP	63%	63%	62%	61%	60%							
Internal Bilaterals	28%	28%	29%	29%	31%							
Import Bilaterals	5%	5%	6%	6%	6%							
Export Bilaterals	2%	2%	2%	3%	2%							
Wheels Through	2%	1%	1%	2%	1%							
<b>Market Share of Total Load</b>												
Day Ahead Market	97.6%	96.9%	96.8%	97.3%	100.7%							
Balancing Energy +	2.4%	3.1%	3.2%	2.7%	-0.7%							
Total MWh	13,990,977	12,752,977	13,071,253	11,362,252	11,524,147							
Average Daily Energy Sendout/Month GWh	410	408	387	349	350							

<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>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

+ 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 2023 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 *	\$40.60	\$47.82	\$29.84	\$26.91	\$22.41							
Standard Deviation	\$10.32	\$47.20	\$7.42	\$6.50	\$6.46							
Load Weighted Price **	\$41.37	\$50.55	\$30.37	\$27.38	\$23.02							
<b><u>RTC LBMP</u></b>												
Price *	\$38.28	\$42.67	\$28.02	\$26.93	\$21.13							
Standard Deviation	\$31.37	\$39.75	\$11.53	\$9.23	\$7.61							
Load Weighted Price **	\$39.04	\$44.80	\$28.49	\$27.39	\$21.62							
<b><u>REAL TIME LBMP</u></b>												
Price *	\$38.76	\$43.99	\$28.15	\$27.41	\$20.76							
Standard Deviation	\$45.06	\$43.54	\$15.02	\$13.08	\$9.13							
Load Weighted Price **	\$39.68	\$46.75	\$28.72	\$27.97	\$21.27							
Average Daily Energy Sendout/Month GWh	410	408	387	349	350							

### 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

\* Average zonal load weighted prices.

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

## NYISO Monthly Average Internal LBMPs 2022 - 2023

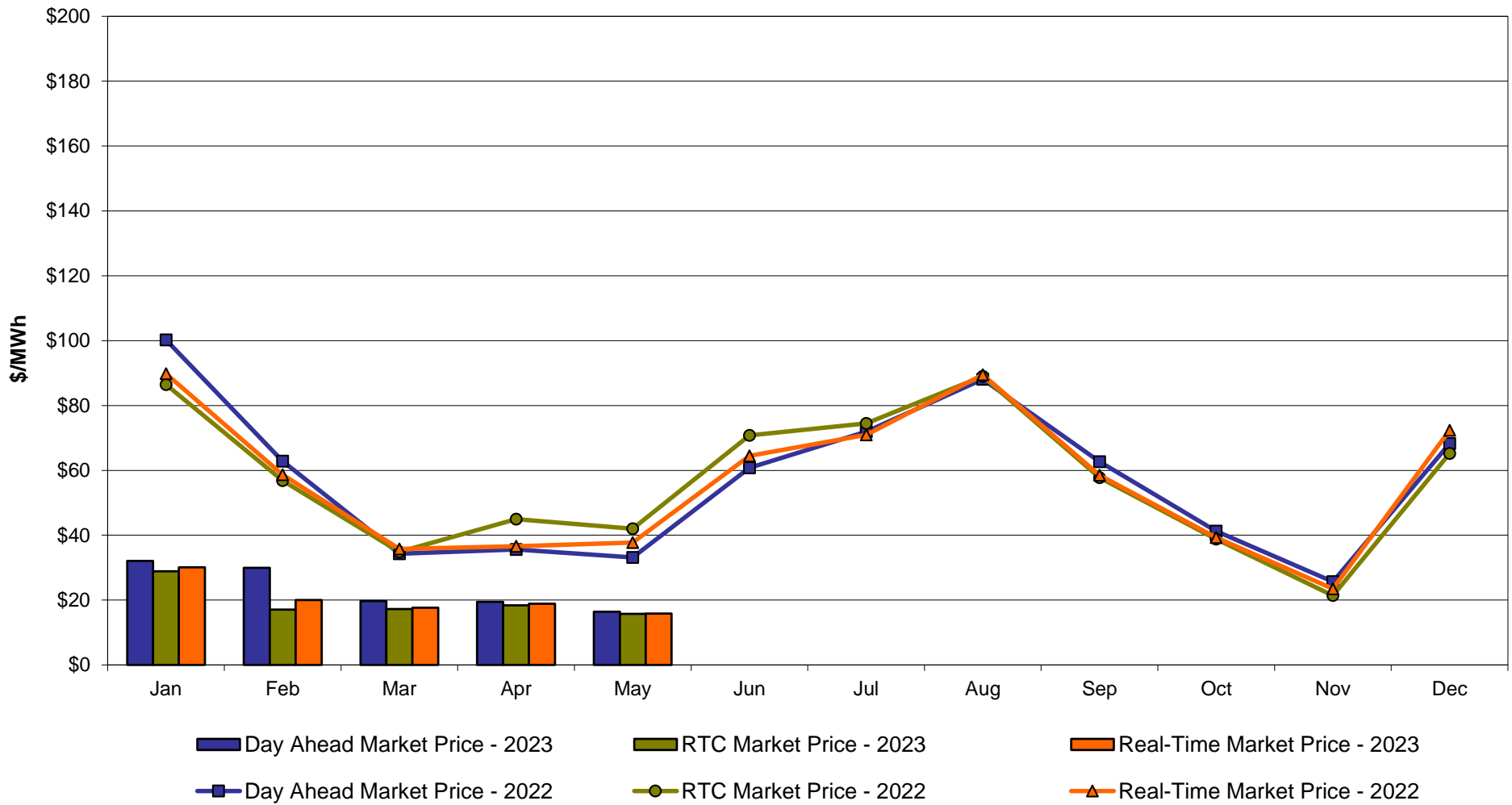


**May 2023 Zonal LBMP Statistics for NYISO (\$/MWh)**

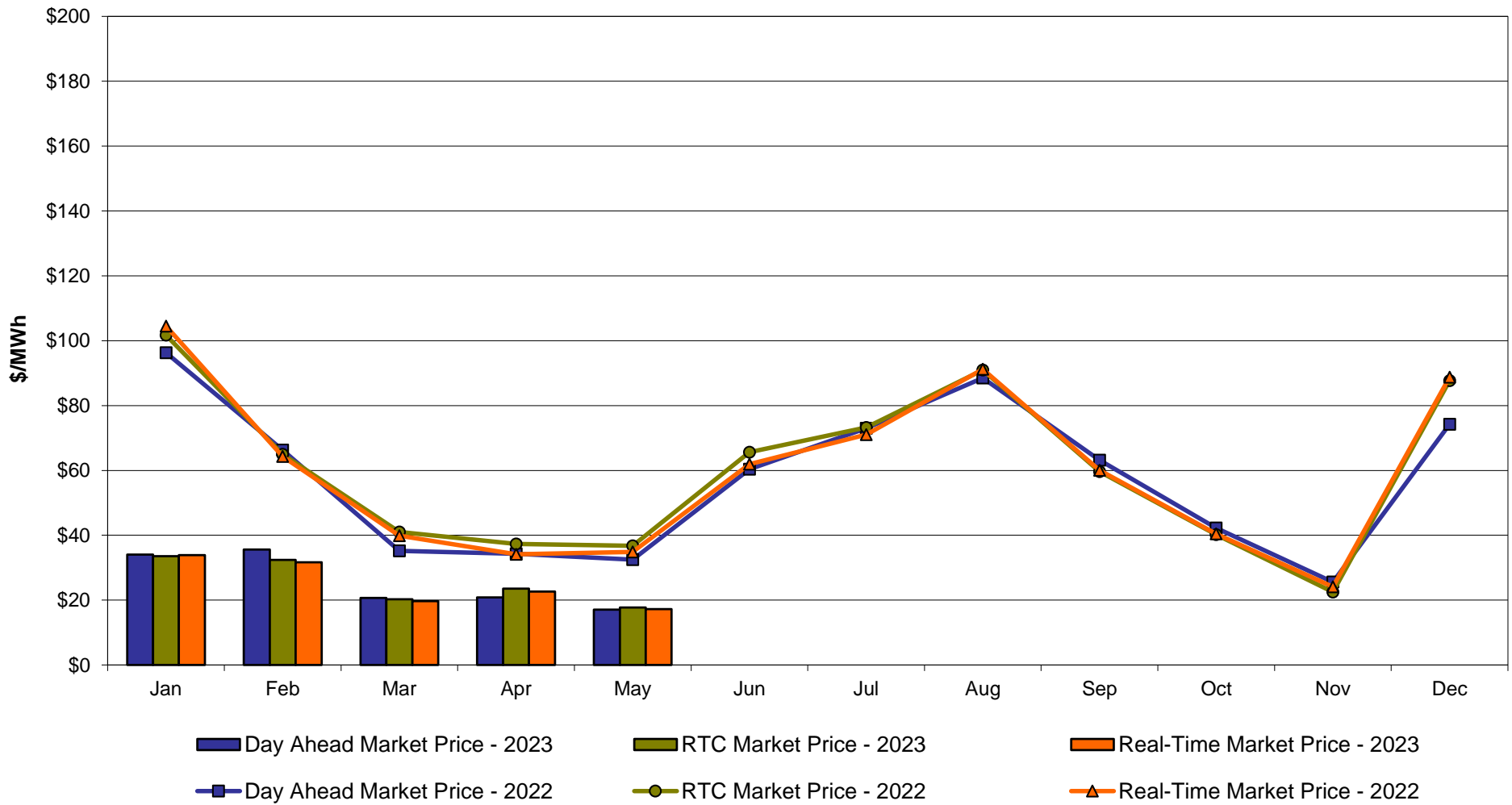
	<u>WEST Zone A</u>	<u>GENESEE Zone B</u>	<u>NORTH Zone D</u>	<u>CENTRAL Zone C</u>	<u>MOHAWK VALLEY Zone E</u>	<u>CAPITAL Zone F</u>	<u>HUDSON VALLEY Zone G</u>	<u>MILLWOOD Zone H</u>	<u>DUNWOODIE Zone I</u>	<u>NEW YORK CITY Zone J</u>	<u>LONG ISLAND Zone K</u>
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	16.40	16.33	14.52	17.06	17.42	26.17	24.18	24.51	24.56	24.67	28.19
Standard Deviation	6.47	6.74	7.79	7.02	7.04	7.85	6.83	6.99	7.00	7.03	8.30
<b><u>RTC LBMP</u></b>											
Unweighted Price *	15.75	15.24	15.18	17.72	17.43	23.04	22.00	22.23	22.26	22.58	28.00
Standard Deviation	8.13	8.50	10.07	9.33	8.52	8.19	7.10	7.16	7.15	7.52	27.46
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	15.80	15.54	14.78	17.22	17.19	22.96	21.78	22.16	22.22	22.43	26.30
Standard Deviation	9.25	9.66	11.63	10.79	10.09	10.83	9.82	9.62	9.66	9.78	18.01
	<u>ONTARIO IESO Zone O</u>	<u>HYDRO QUEBEC (Wheel) Zone M</u>	<u>HYDRO QUEBEC (Import/Export) Zone M</u>	<u>PJM Zone P</u>	<u>NEW ENGLAND Zone N</u>	<u>CROSS SOUND CABLE Controllable Line</u>	<u>NORTHPORT- NORWALK Controllable Line</u>	<u>NEPTUNE Controllable Line</u>	<u>LINDEN VFT Controllable Line</u>	<u>HUDSON Controllable Line</u>	<u>Dennison Controllable Line</u>
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	16.01	15.13	15.13	20.76	24.27	28.06	27.70	26.39	24.54	24.59	14.34
Standard Deviation	6.29	7.31	7.31	6.11	6.00	8.27	7.96	7.45	6.96	6.99	7.54
<b><u>RTC LBMP</u></b>											
Unweighted Price *	15.11	15.76	15.76	21.59	22.33	28.60	27.18	25.28	22.28	22.42	15.35
Standard Deviation	7.65	9.33	9.33	34.33	7.58	29.81	26.82	16.62	7.28	7.54	9.94
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	15.99	15.52	15.52	21.16	22.29	26.77	25.23	24.27	22.22	22.30	14.96
Standard Deviation	9.88	10.68	10.68	39.97	10.03	20.26	17.45	13.35	9.60	9.66	11.45

\* Straight LBMP averages

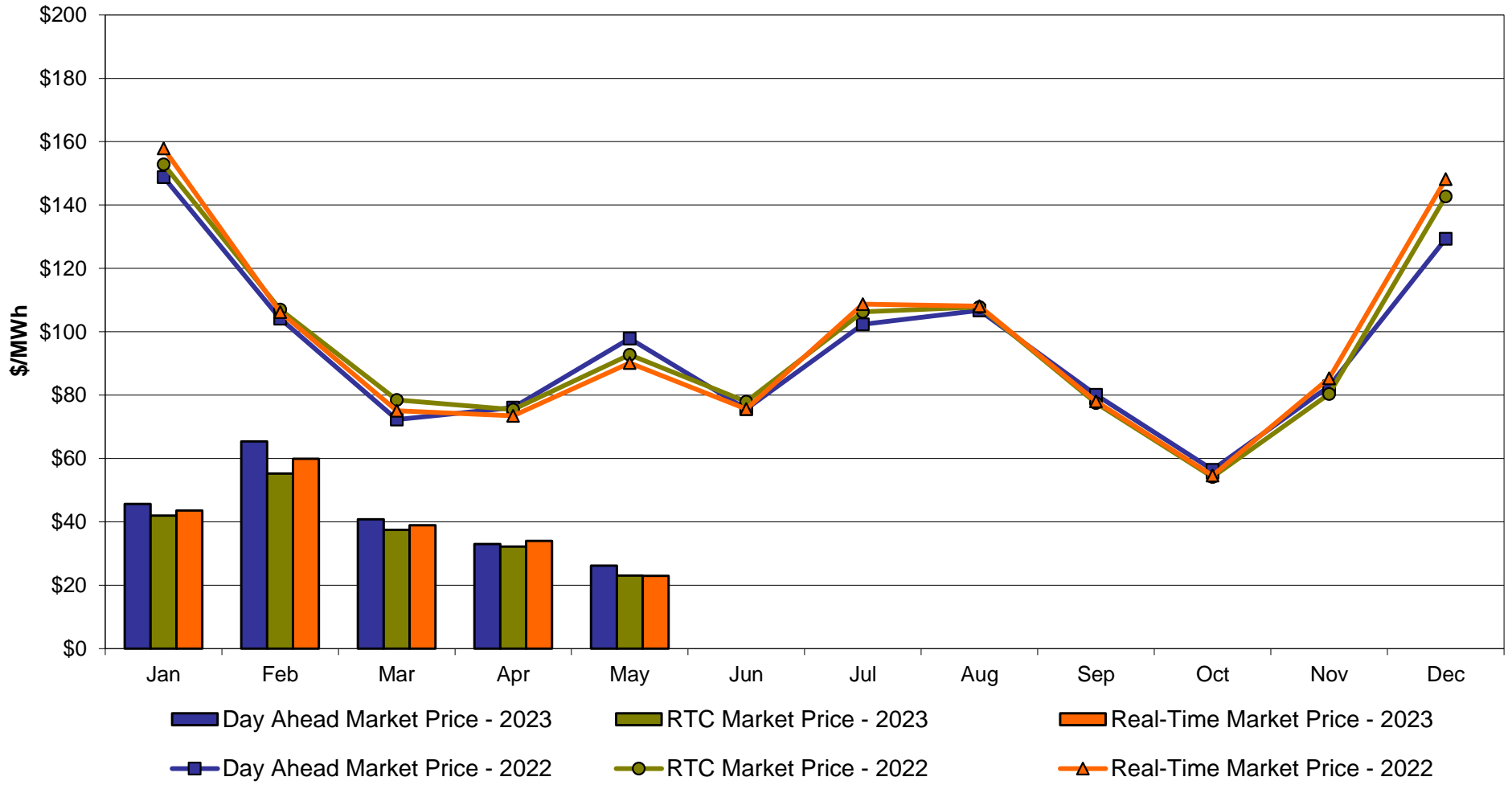
**West Zone A  
Monthly Average LBMP Prices 2022 - 2023**



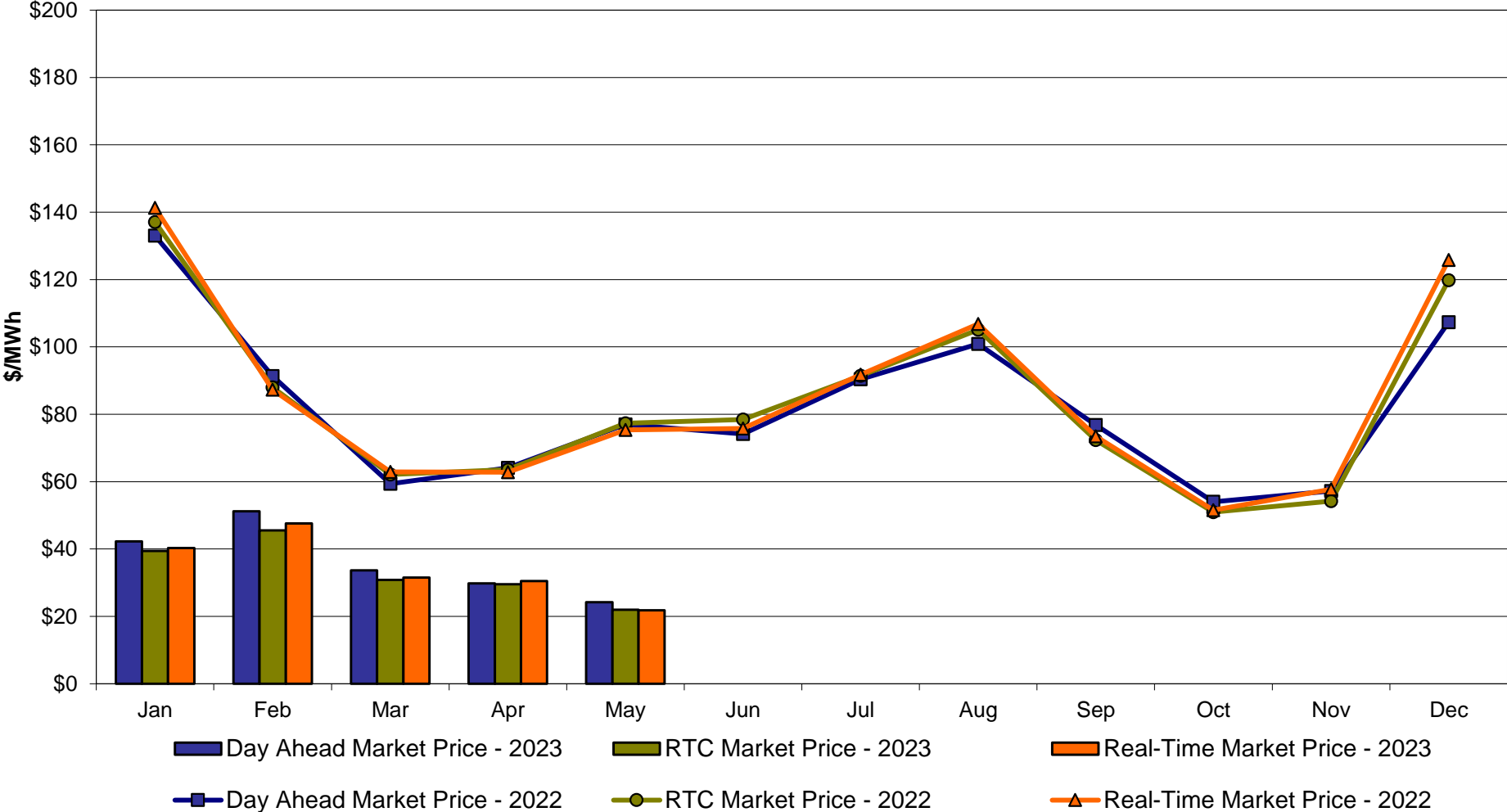
**Central Zone C  
Monthly Average LBMP Prices 2022 - 2023**



## Capital Zone F Monthly Average LBMP Prices 2022 - 2023

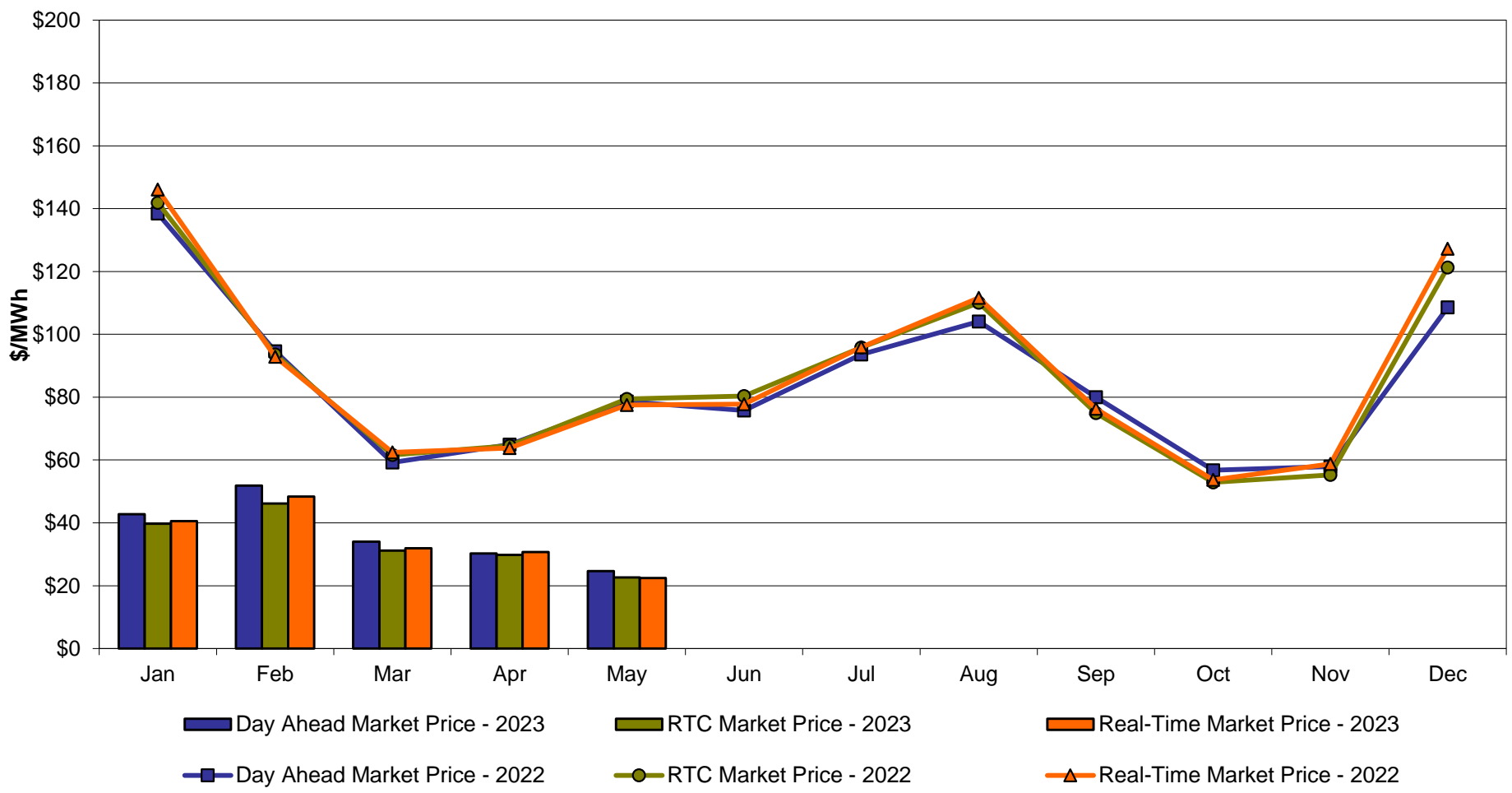


### Hudson Valley Zone G Monthly Average LBMP Prices 2022 - 2023

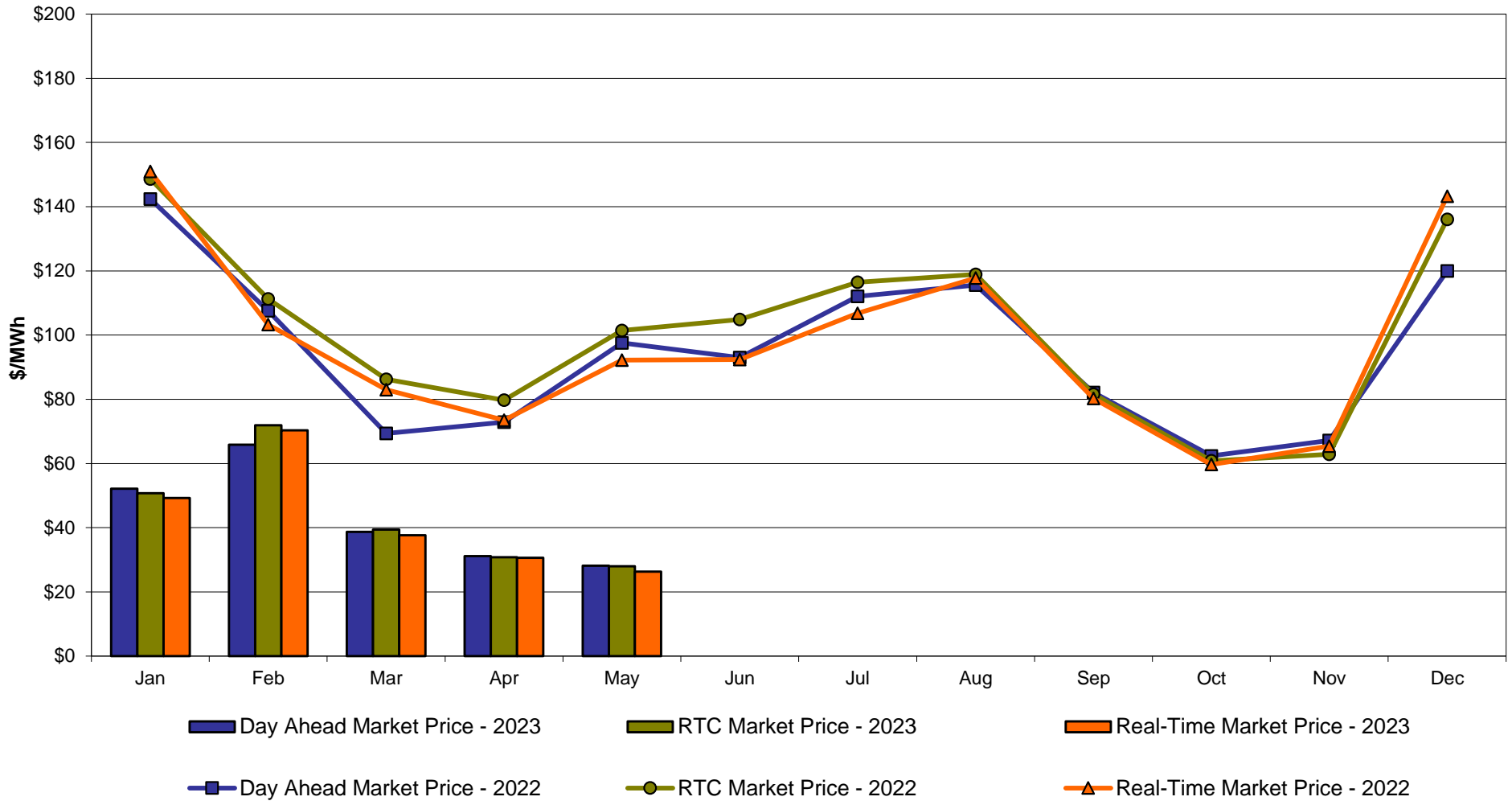




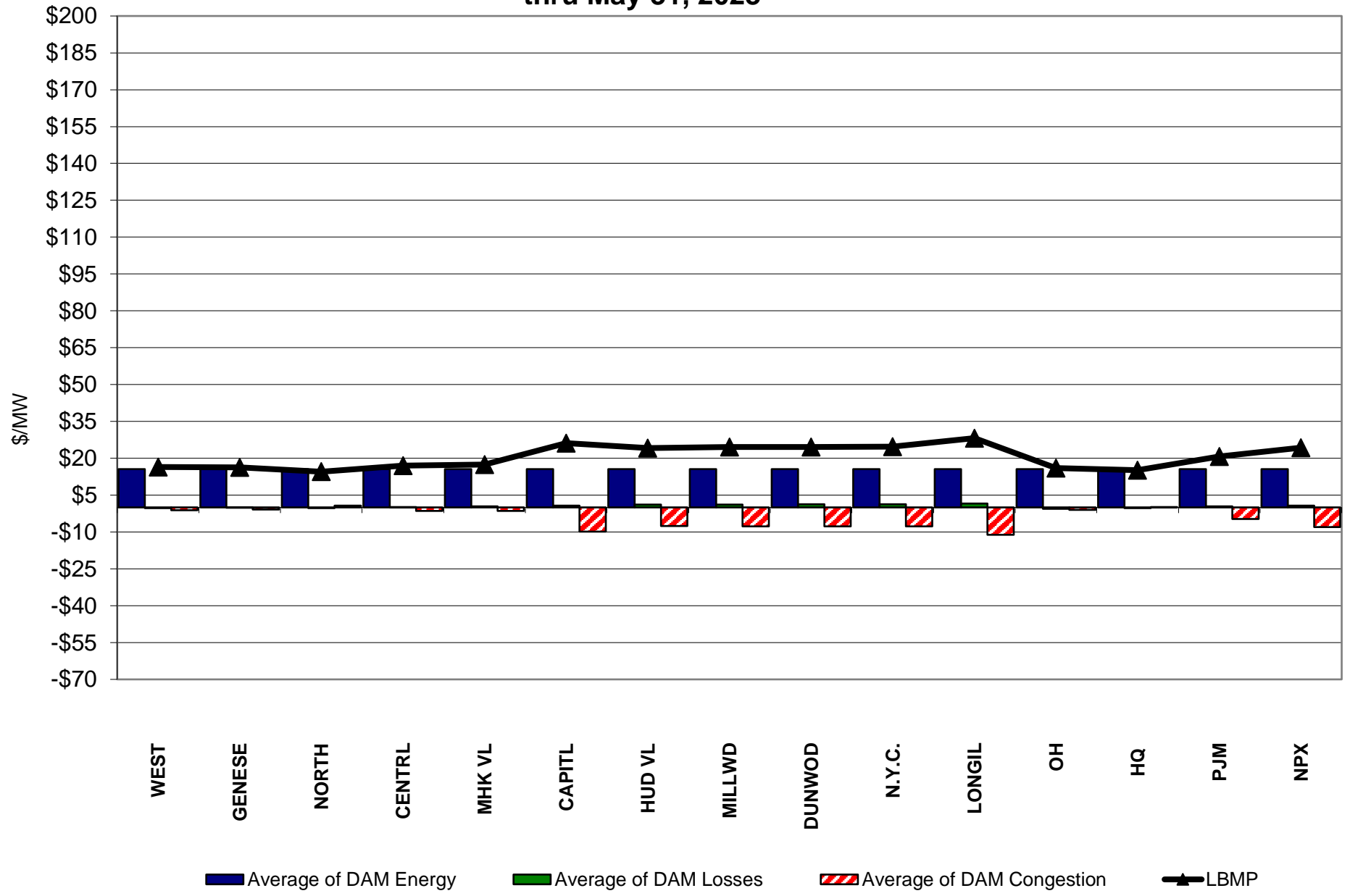
## NYC Zone J Monthly Average LBMP Prices 2022 - 2023



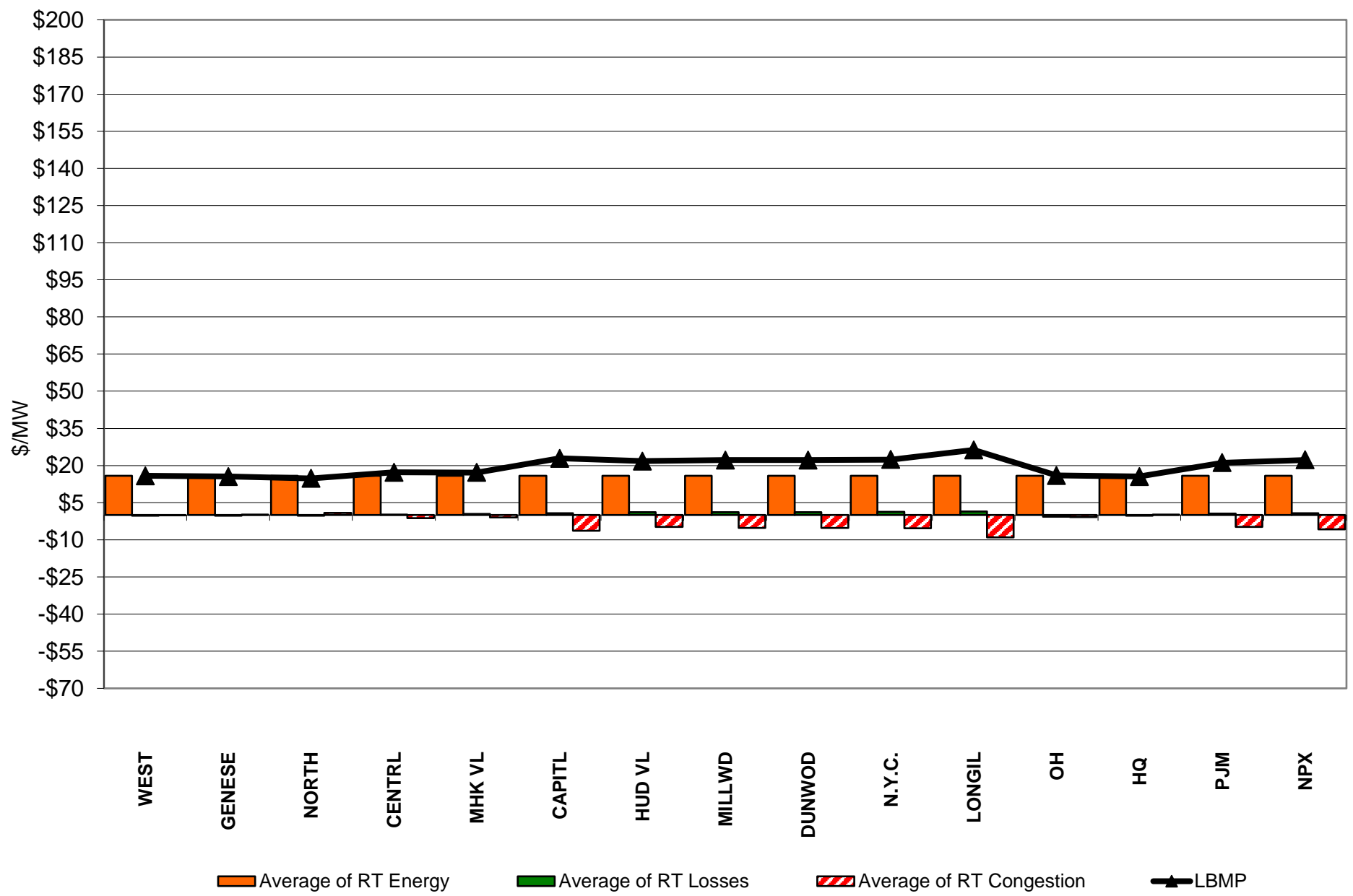
## Long Island Zone K Monthly Average LBMP Prices 2022 - 2023



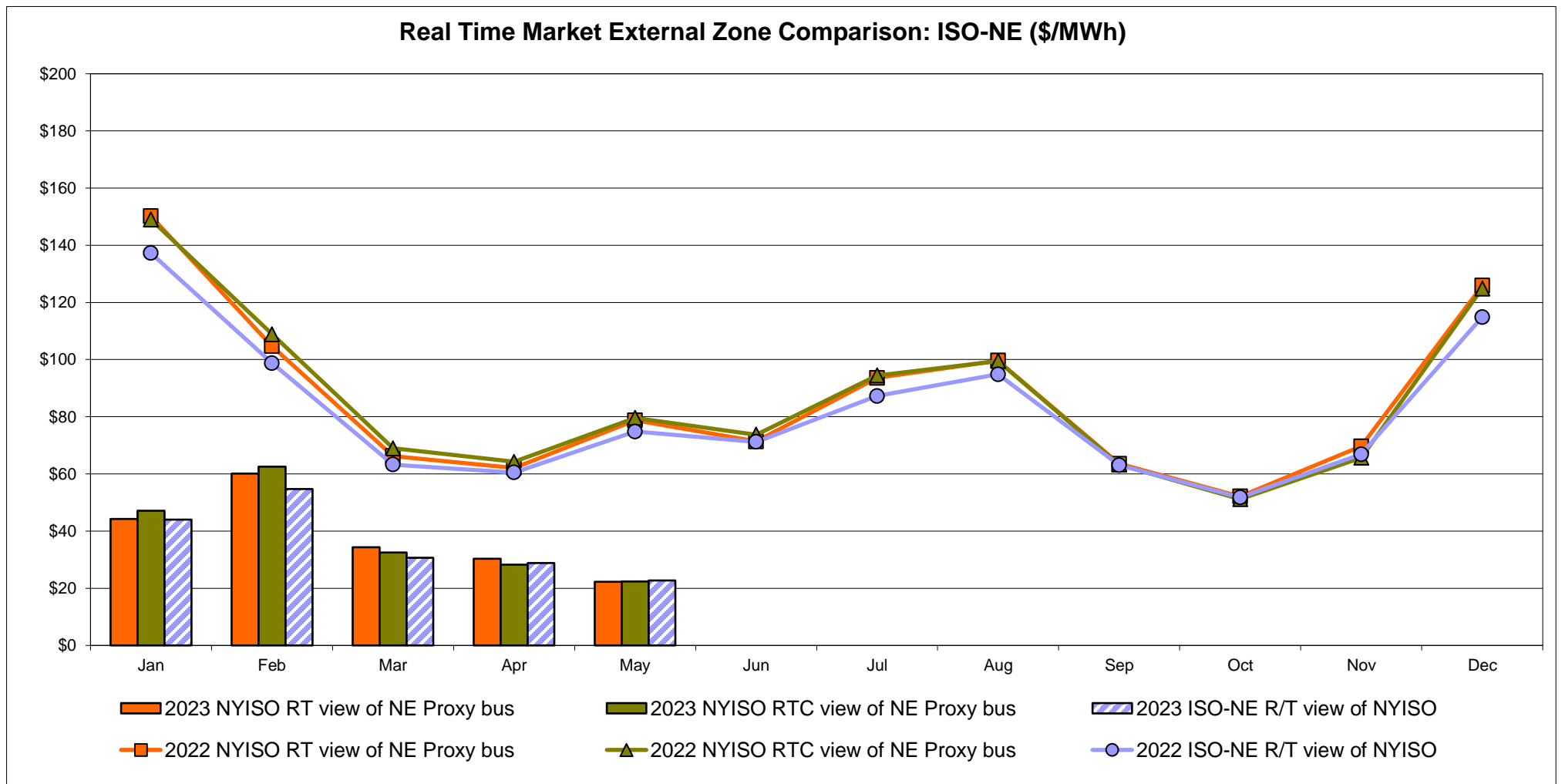
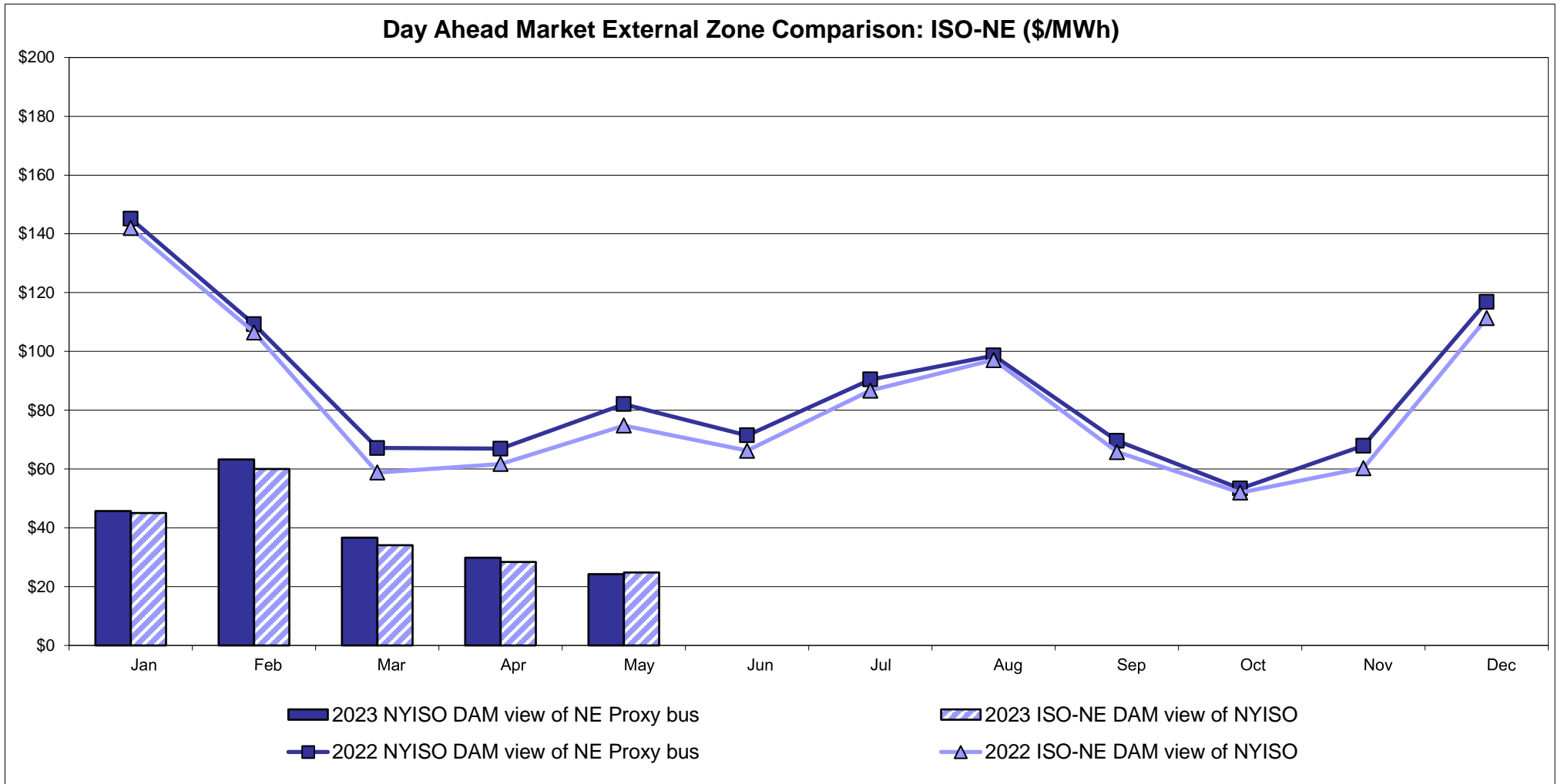
**DAM Zonal Unweighted Monthly Average LBMP Components  
thru May 31, 2023**



**RT Zonal Unweighted Monthly Average LBMP Components  
thru May 31, 2023**

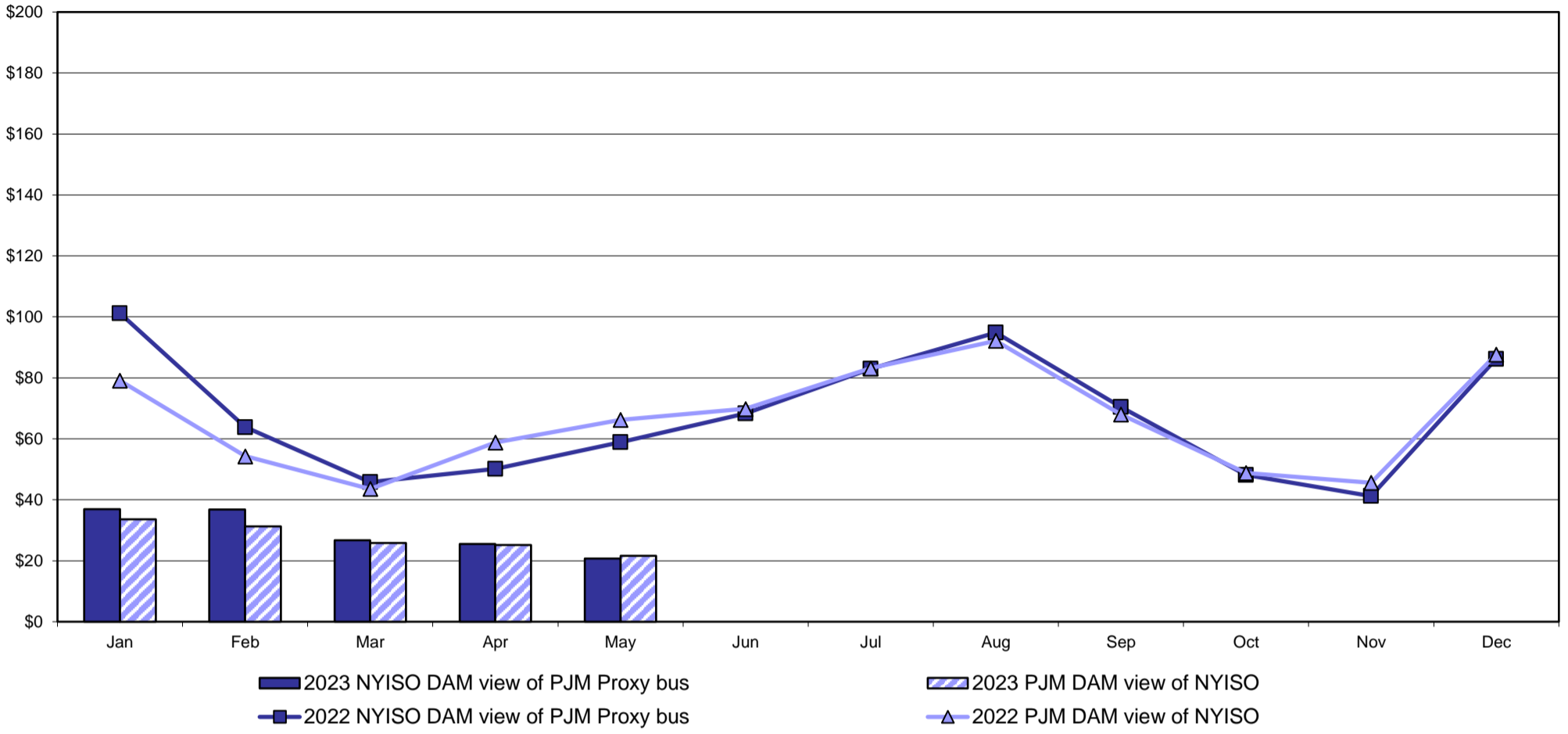


# External Comparison ISO-New England

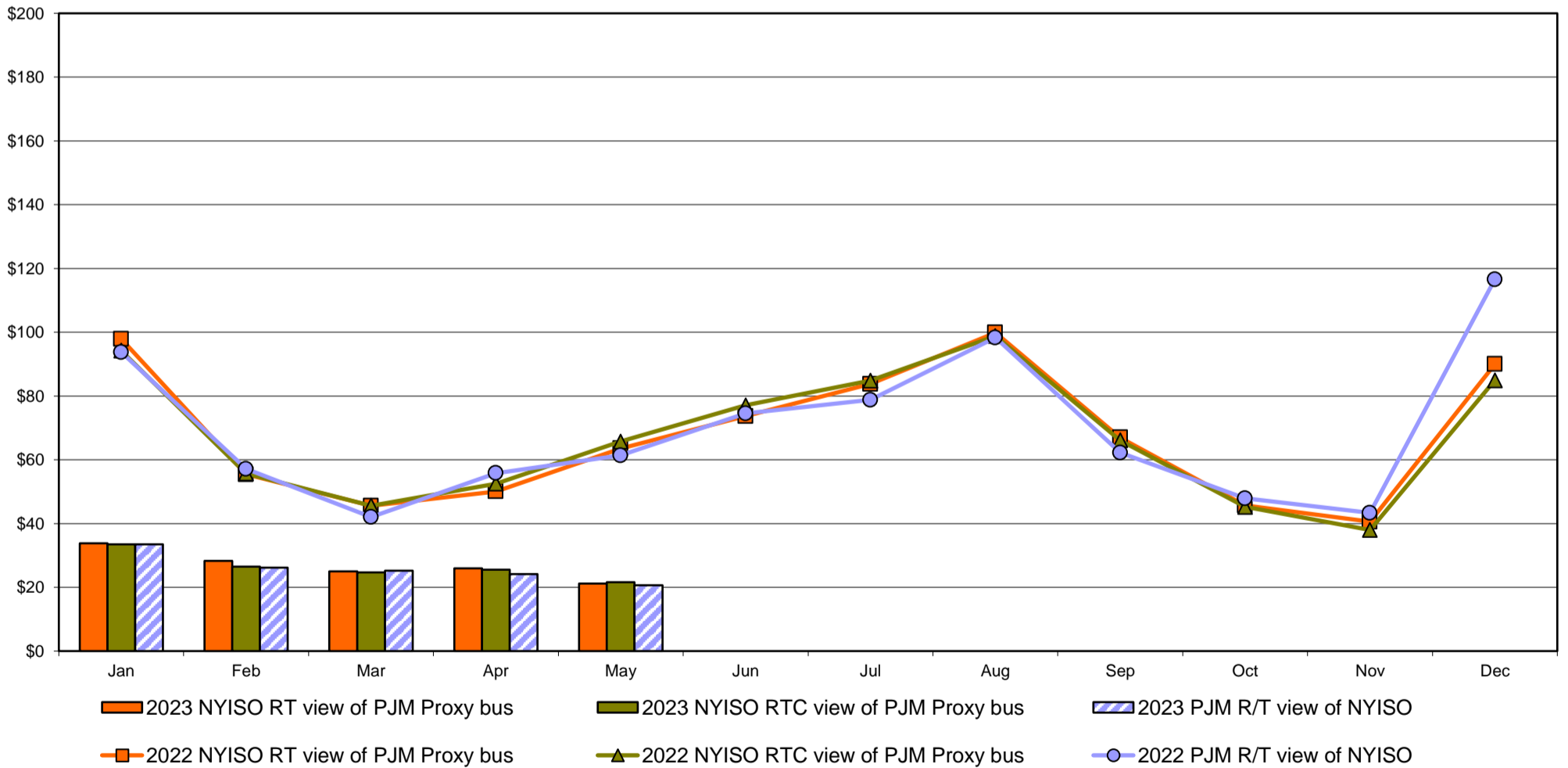


# External Comparison PJM

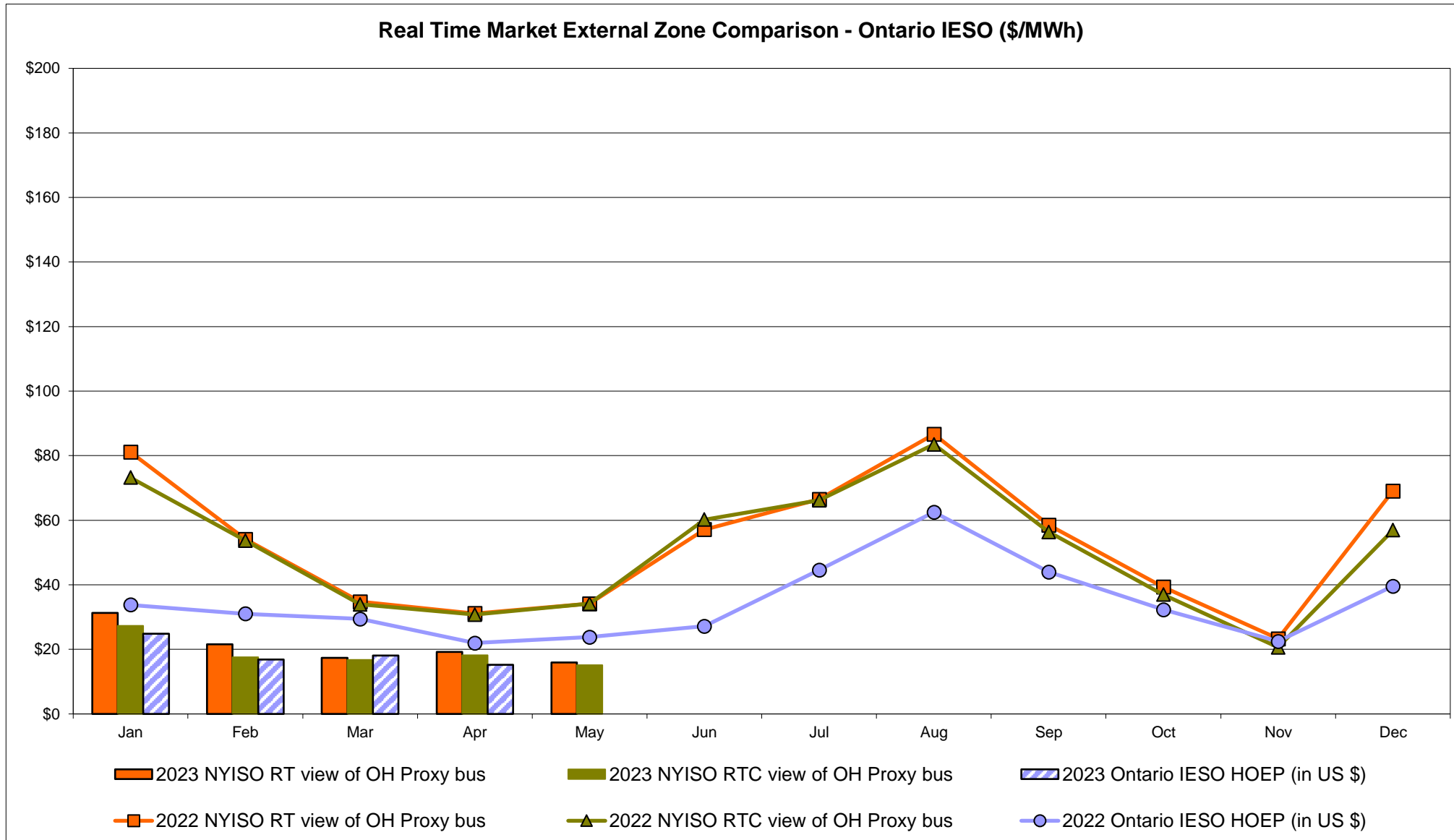
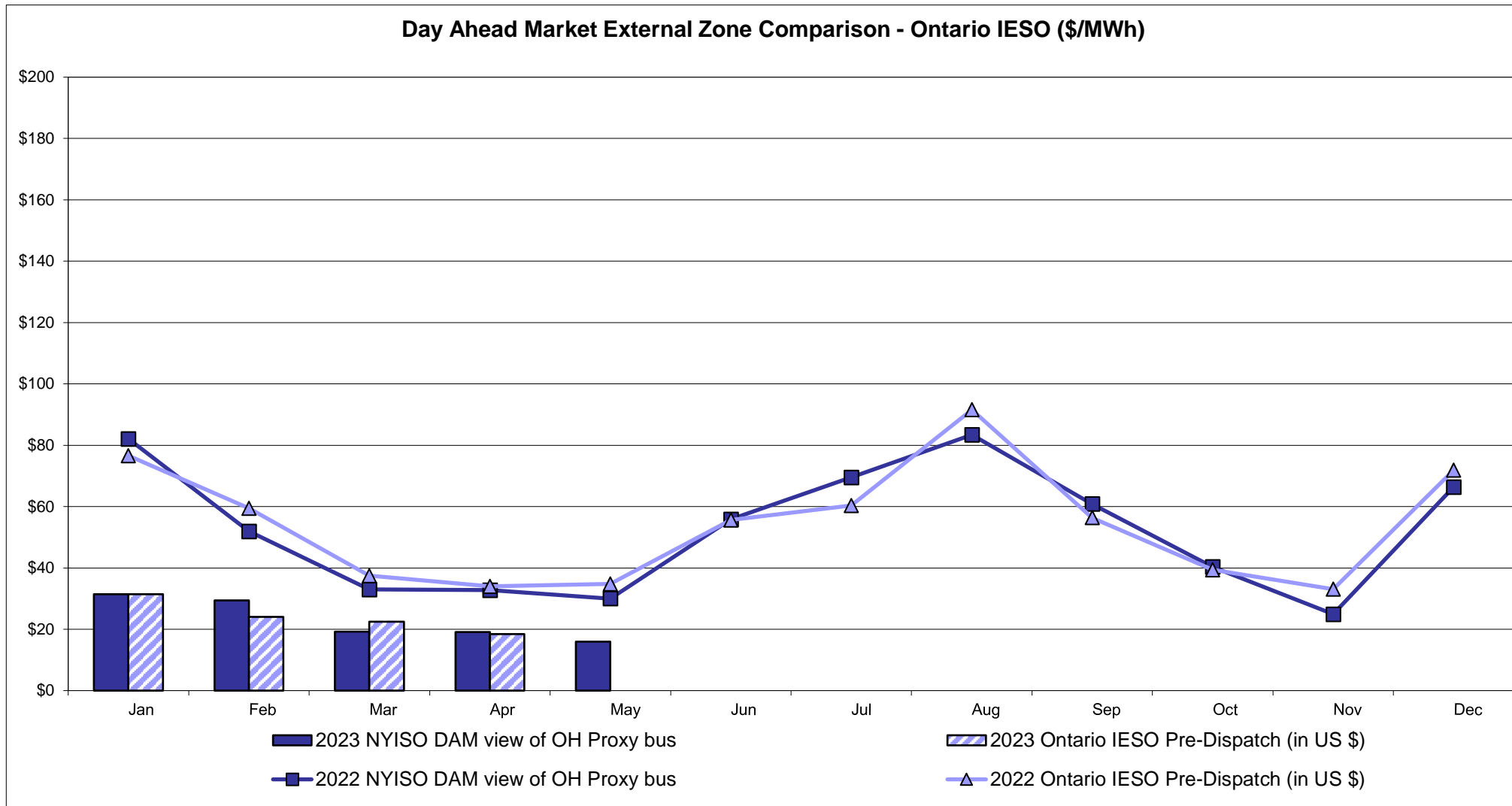
## Day Ahead Market External Zone Comparison - PJM (\$/MWh)



## Real Time Market External Zone Comparison - PJM (\$/MWh)

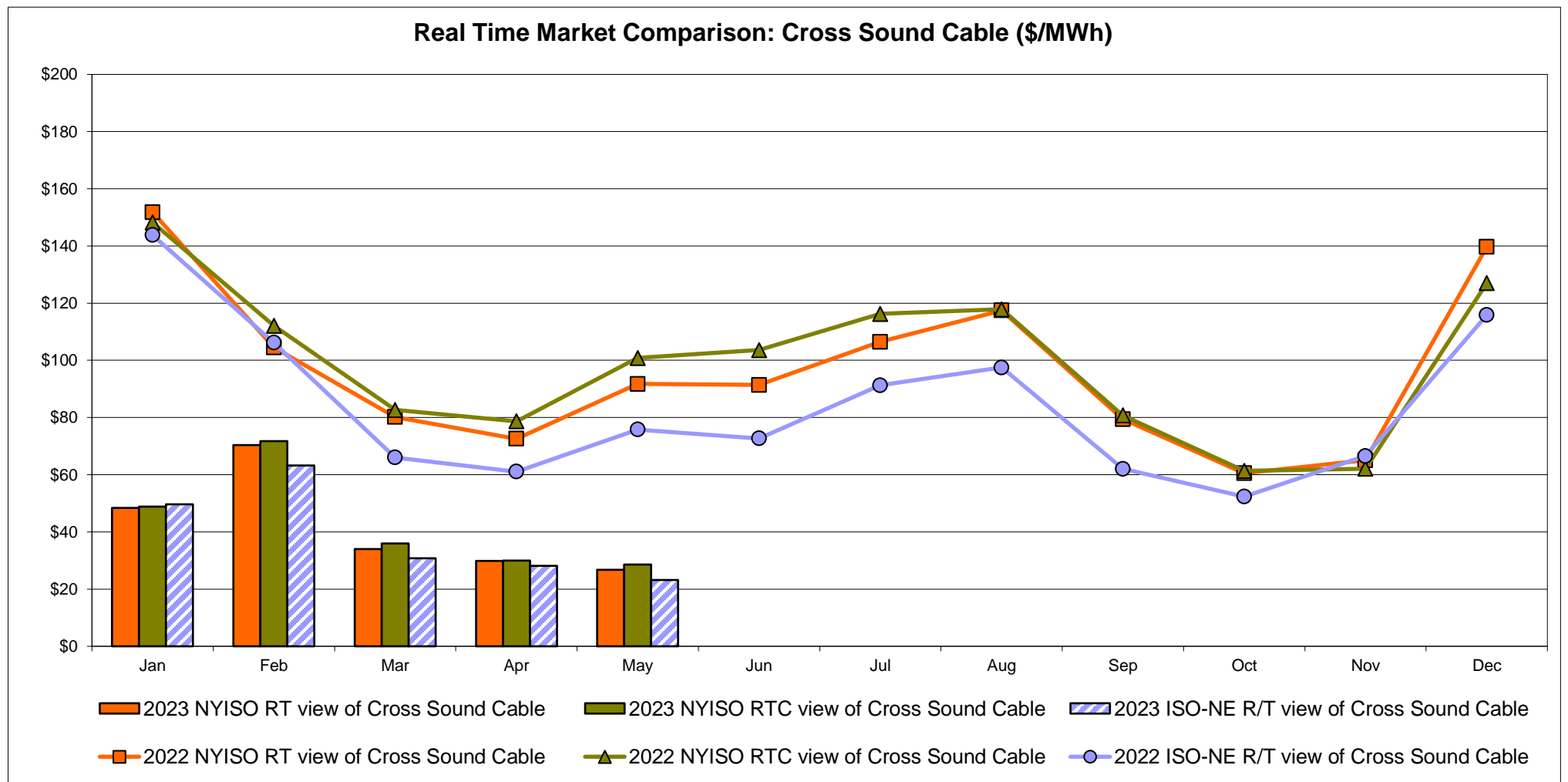
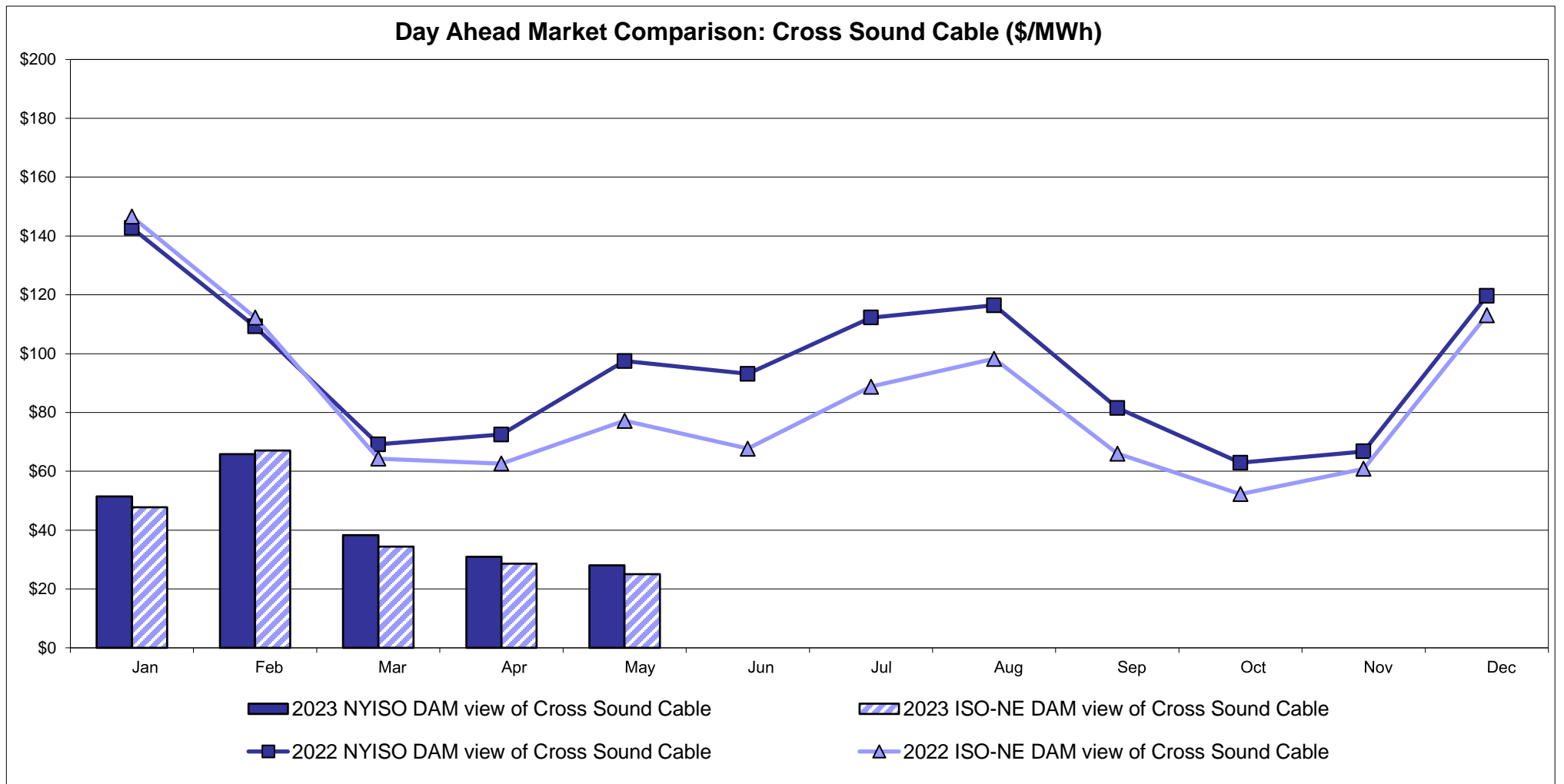


# External Comparison Ontario IESO



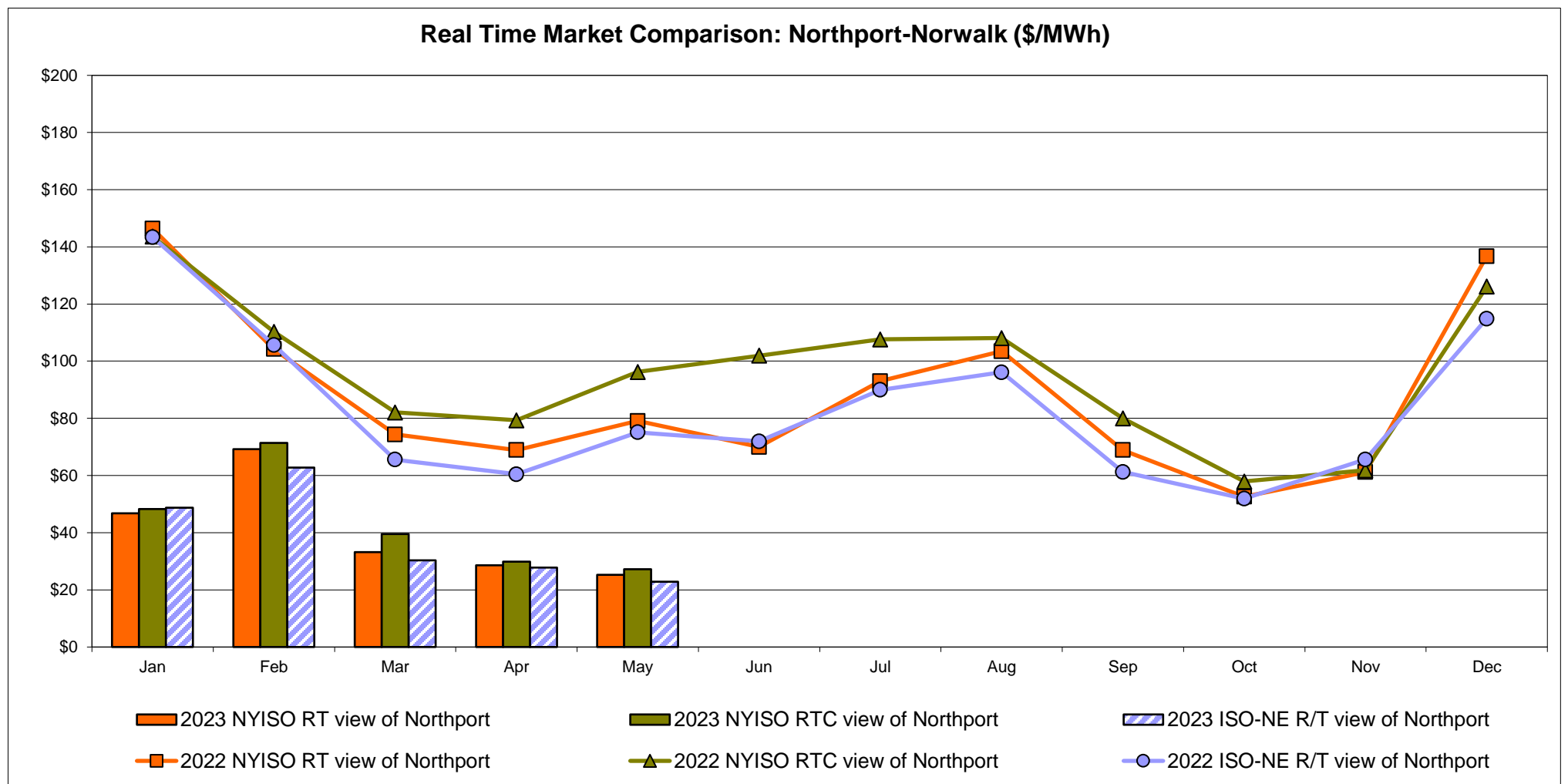
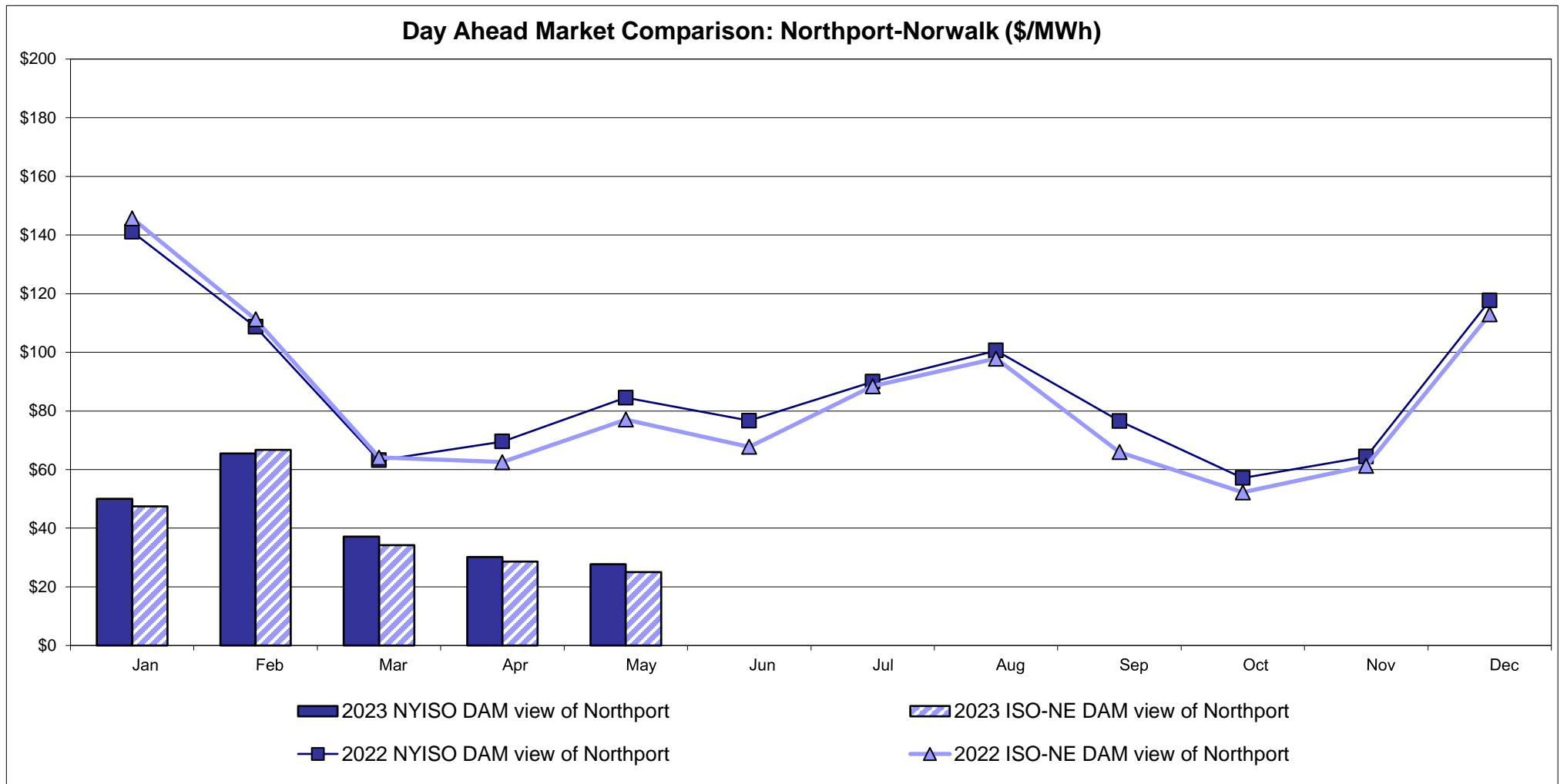
Notes: Exchange factor used for May 2023 was to US  
 HOEP: Hourly Ontario Energy Price  
 Pre-Dispatch: Projected Energy Price

# 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)

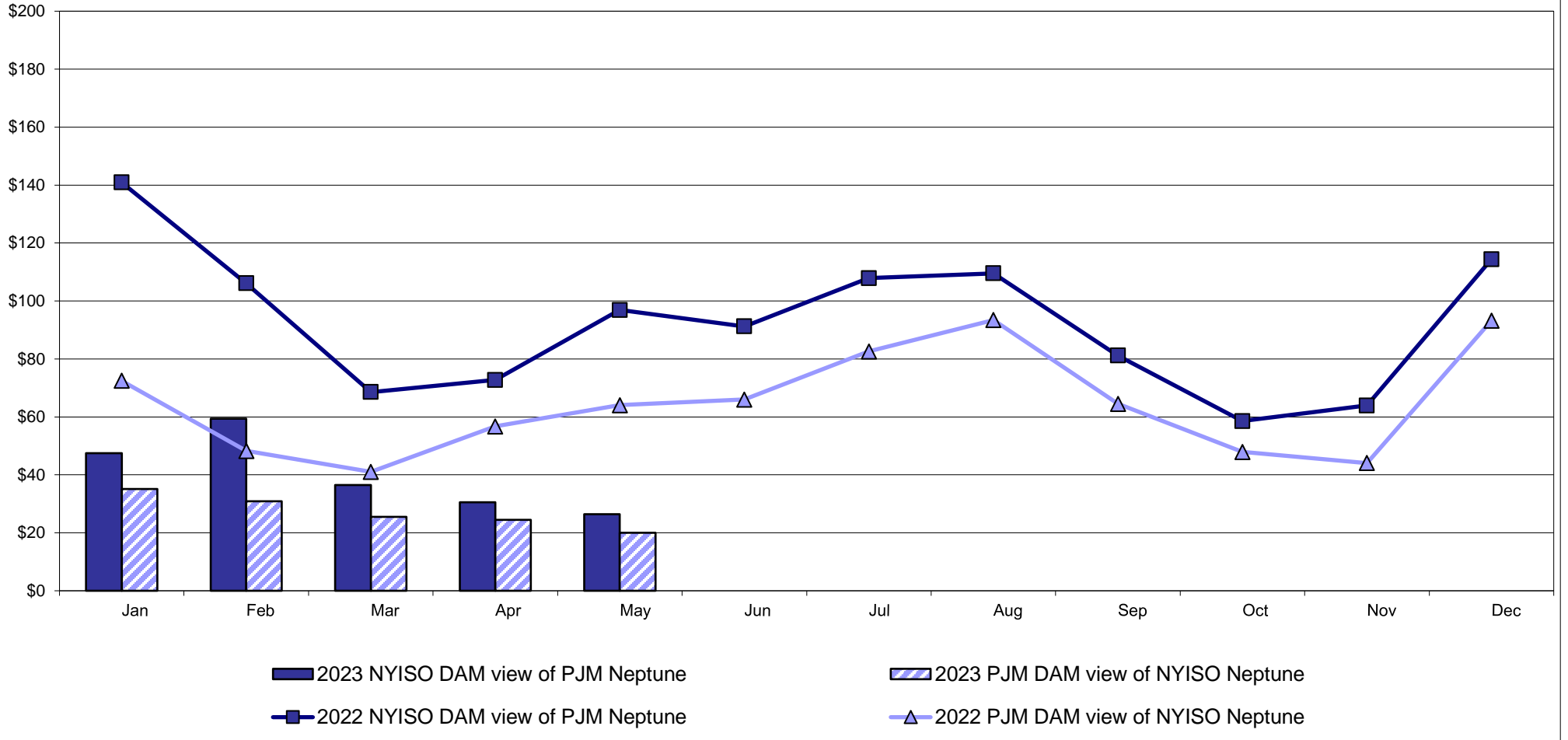


Note:  
 ISO-NE Forecast is an advisory posting @ 18:00 day before.  
 The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.  
 The DAM and R/T prices at the 1385 interface are used for NYISO.

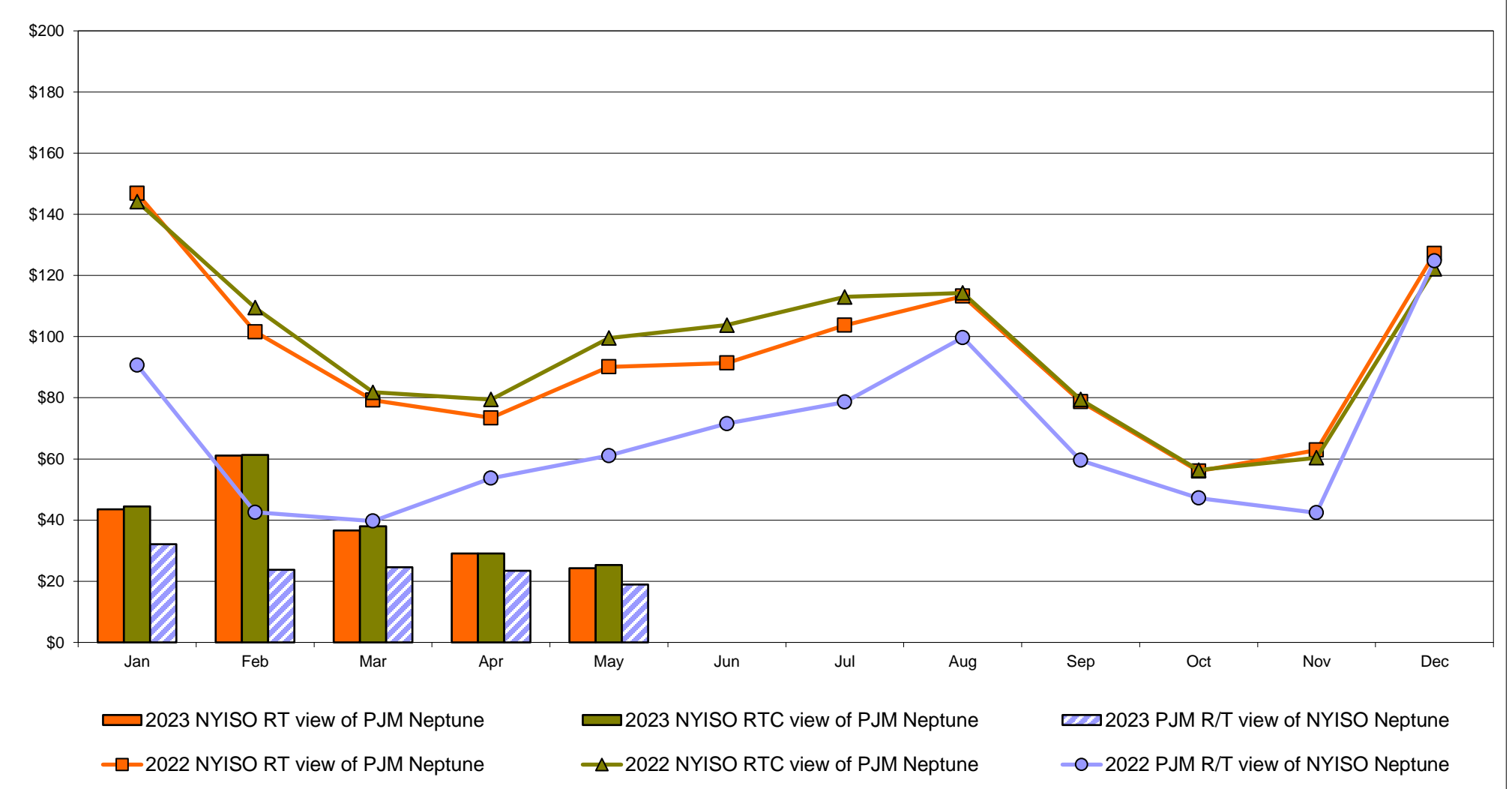


# External Controllable Line: Neptune (PJM)

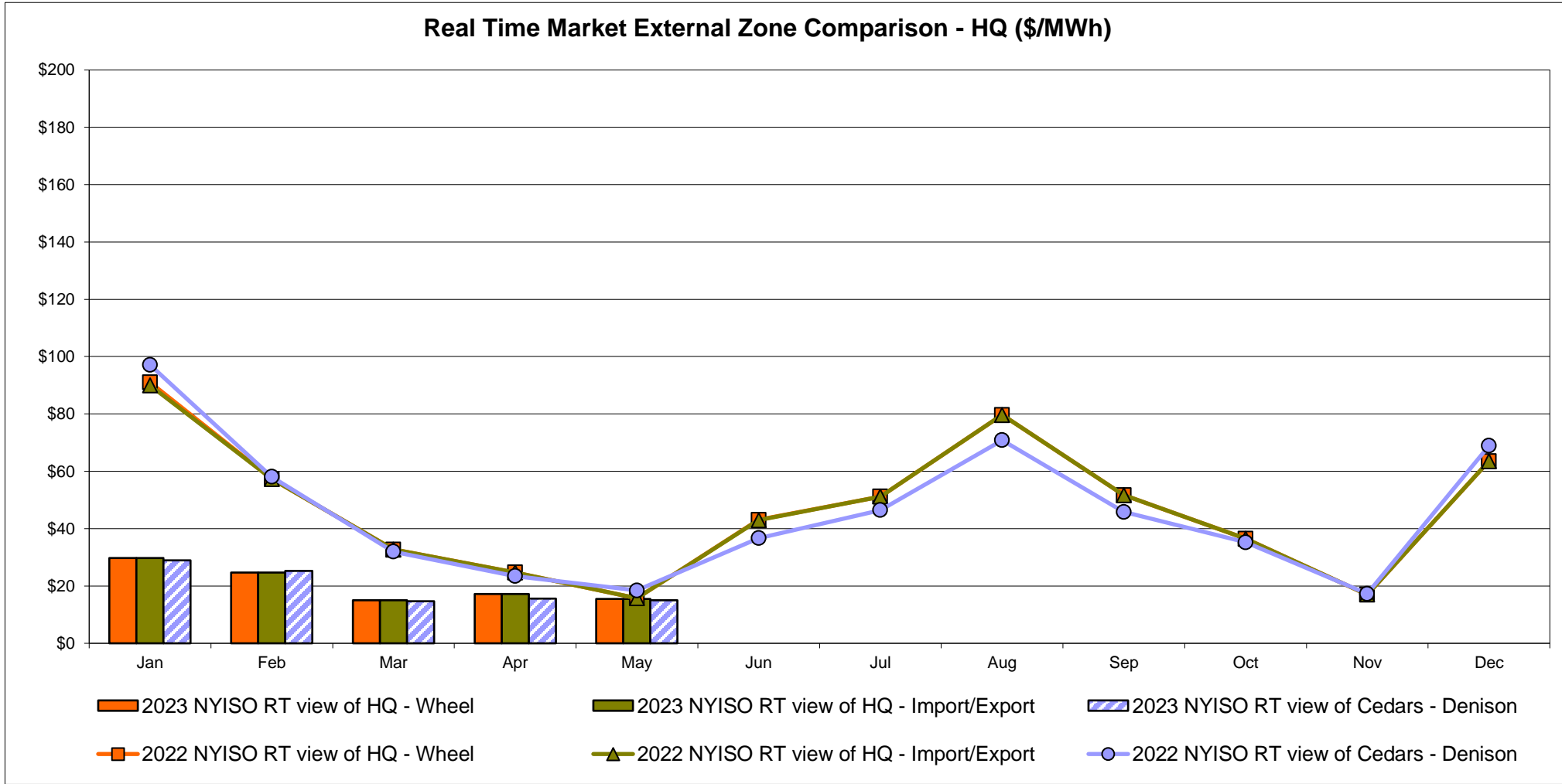
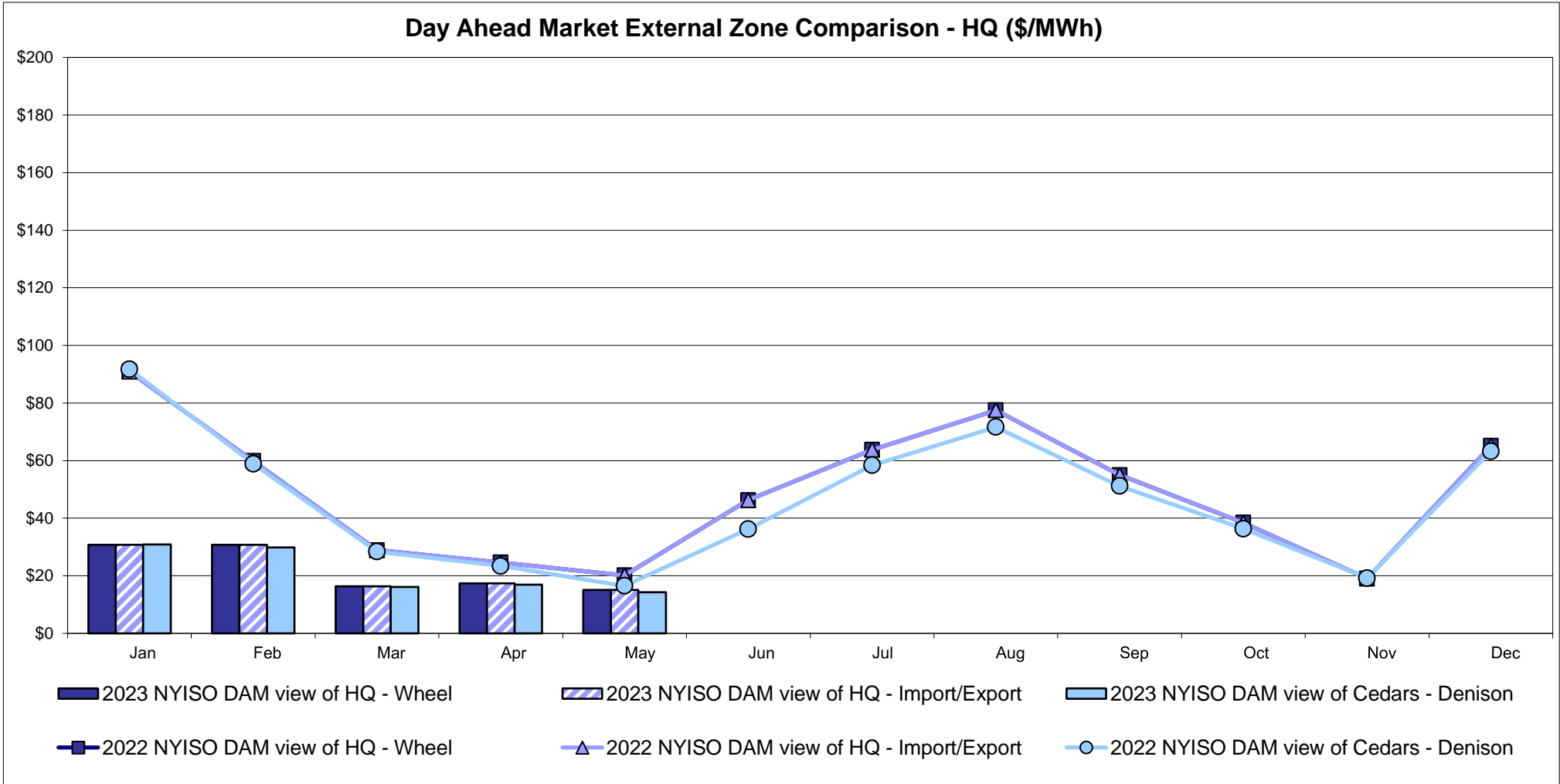
### Day Ahead Market Comparison: Neptune (\$/MWh)



### Real Time Market Comparison: Neptune (\$/MWh)

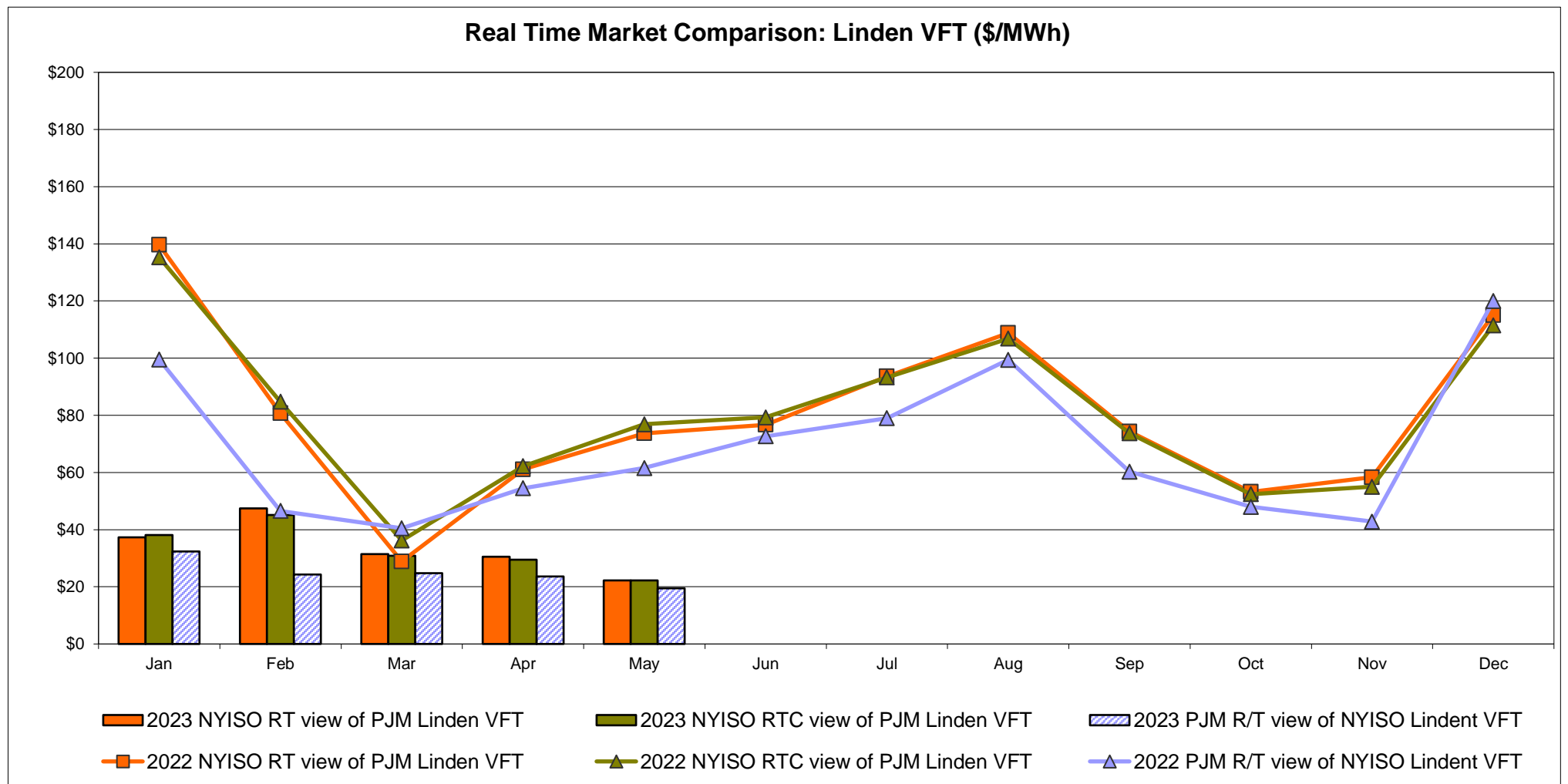
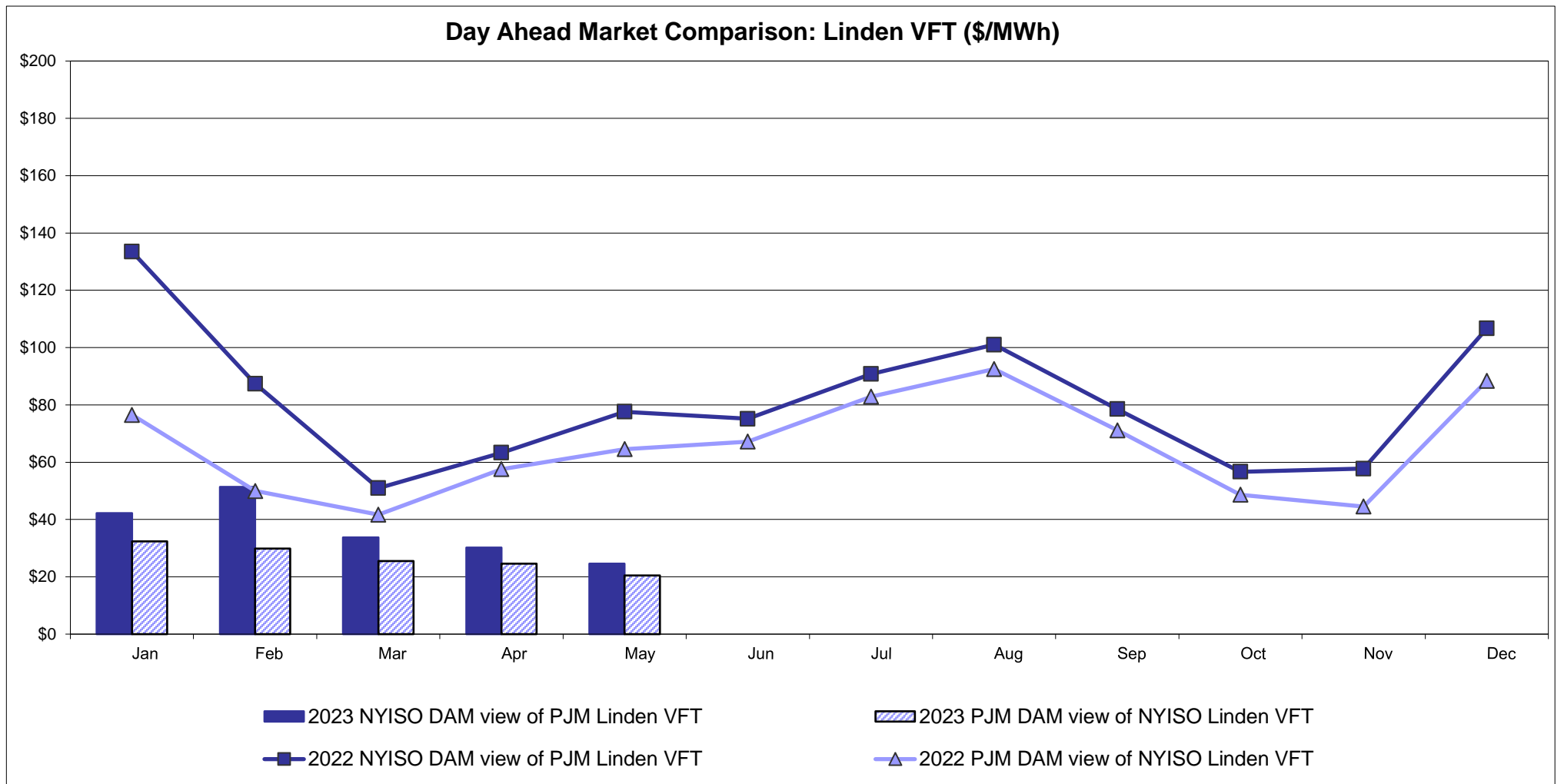


# External Comparison Hydro-Quebec

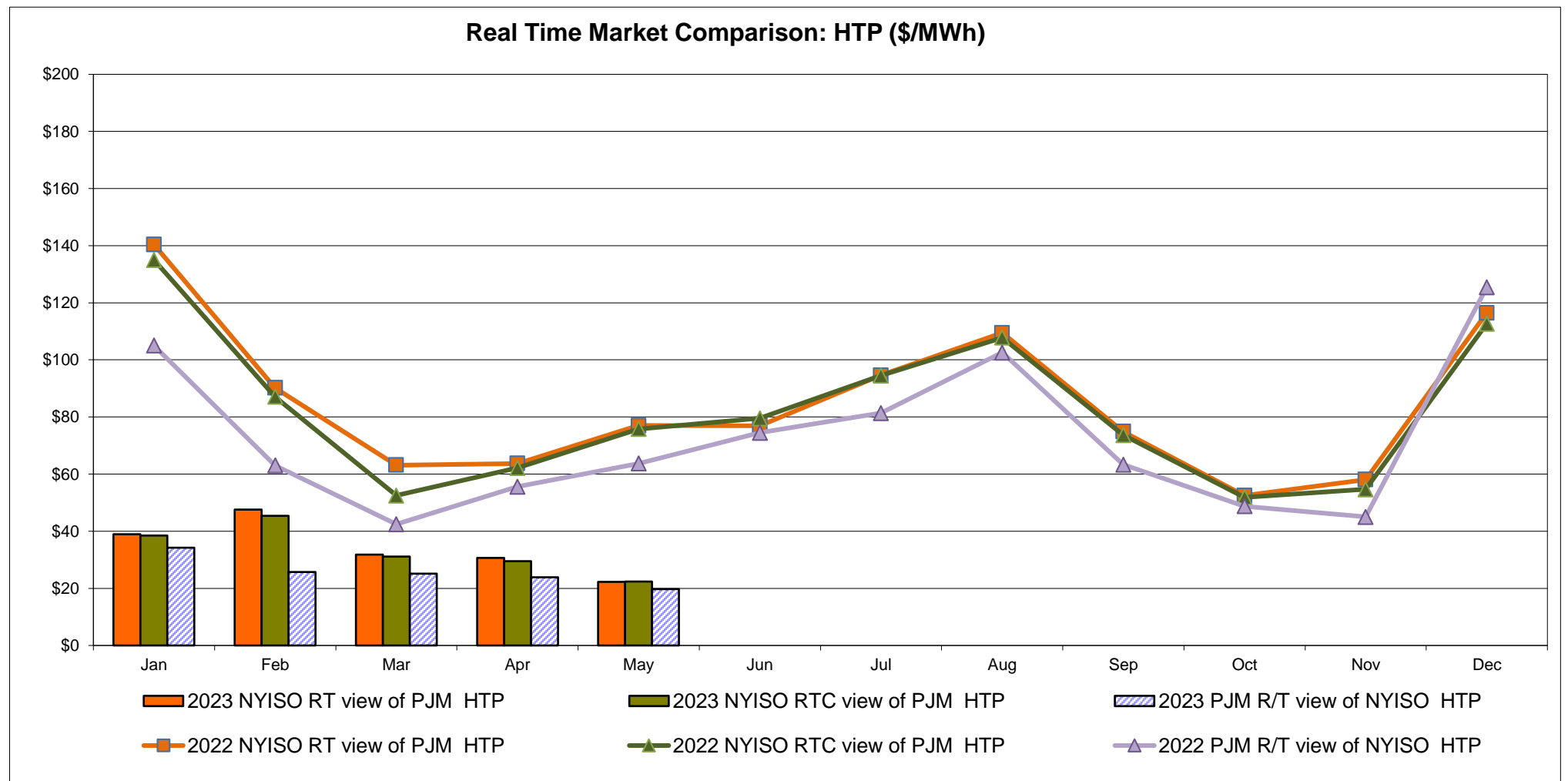
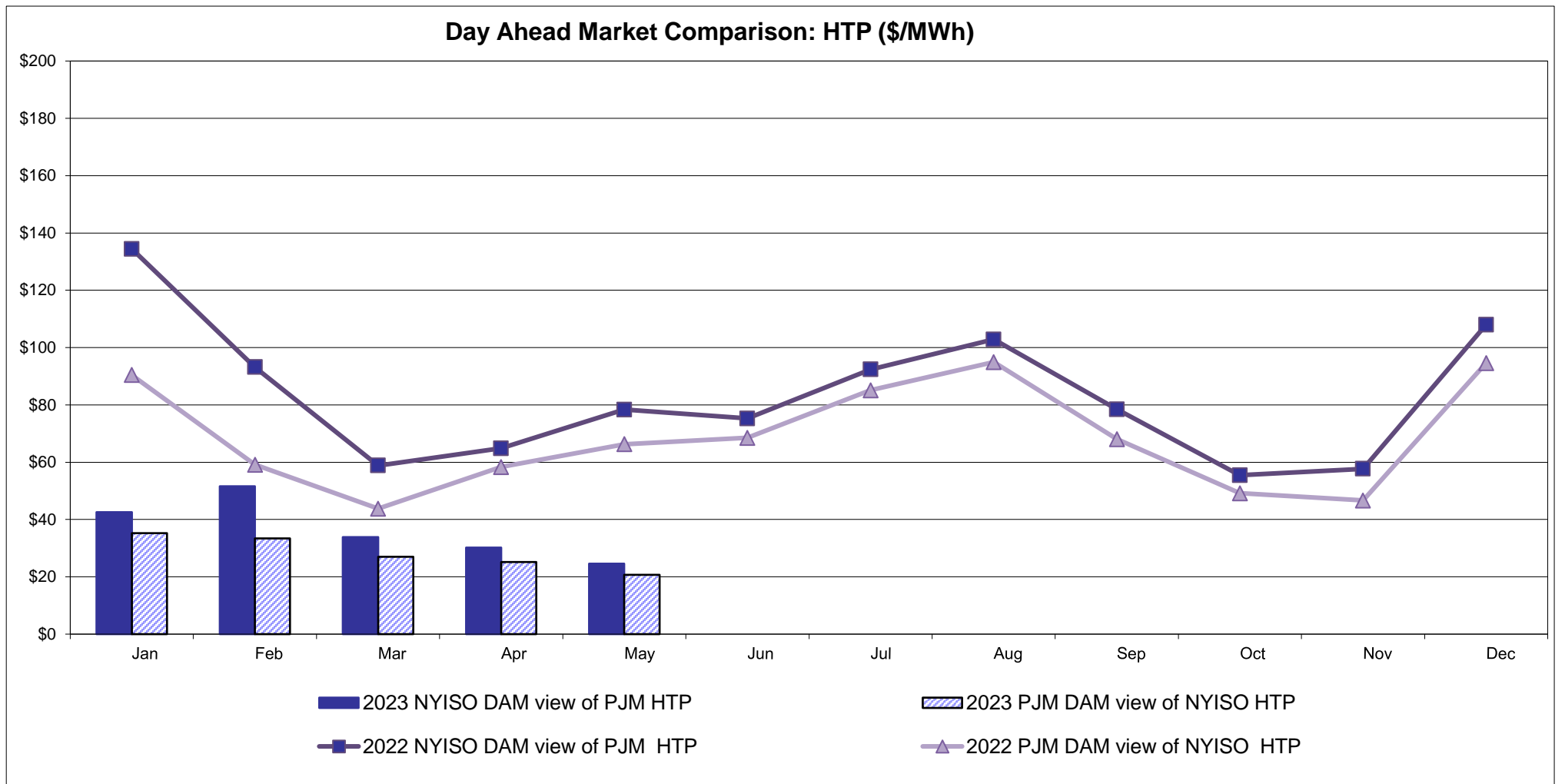


Note:  
Hydro-Quebec Prices are unavailable.

# External Controllable Line: Linden VFT (PJM)



# External Controllable Line: Hudson (PJM)

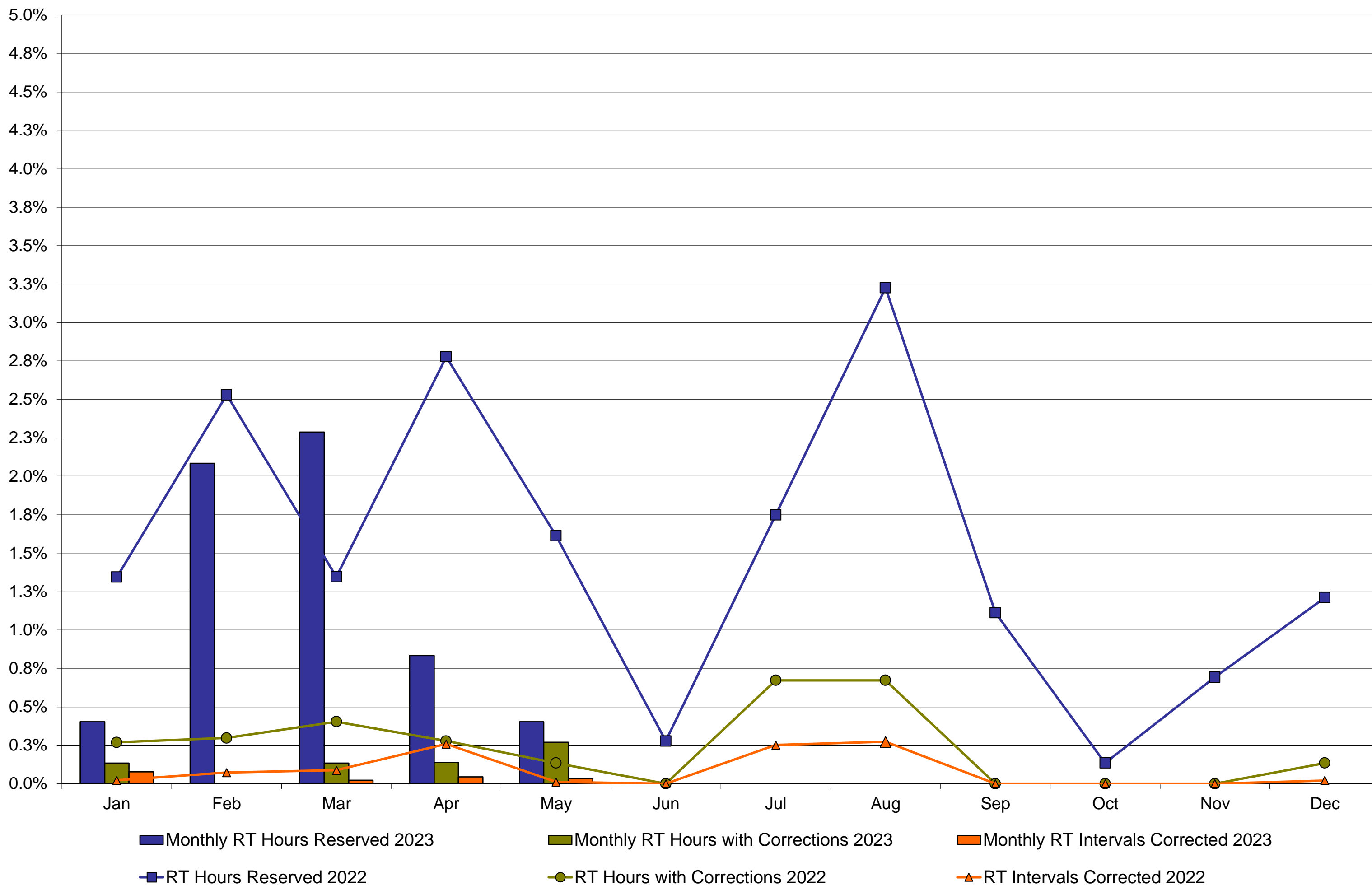


### NYISO Real Time Price Correction Statistics

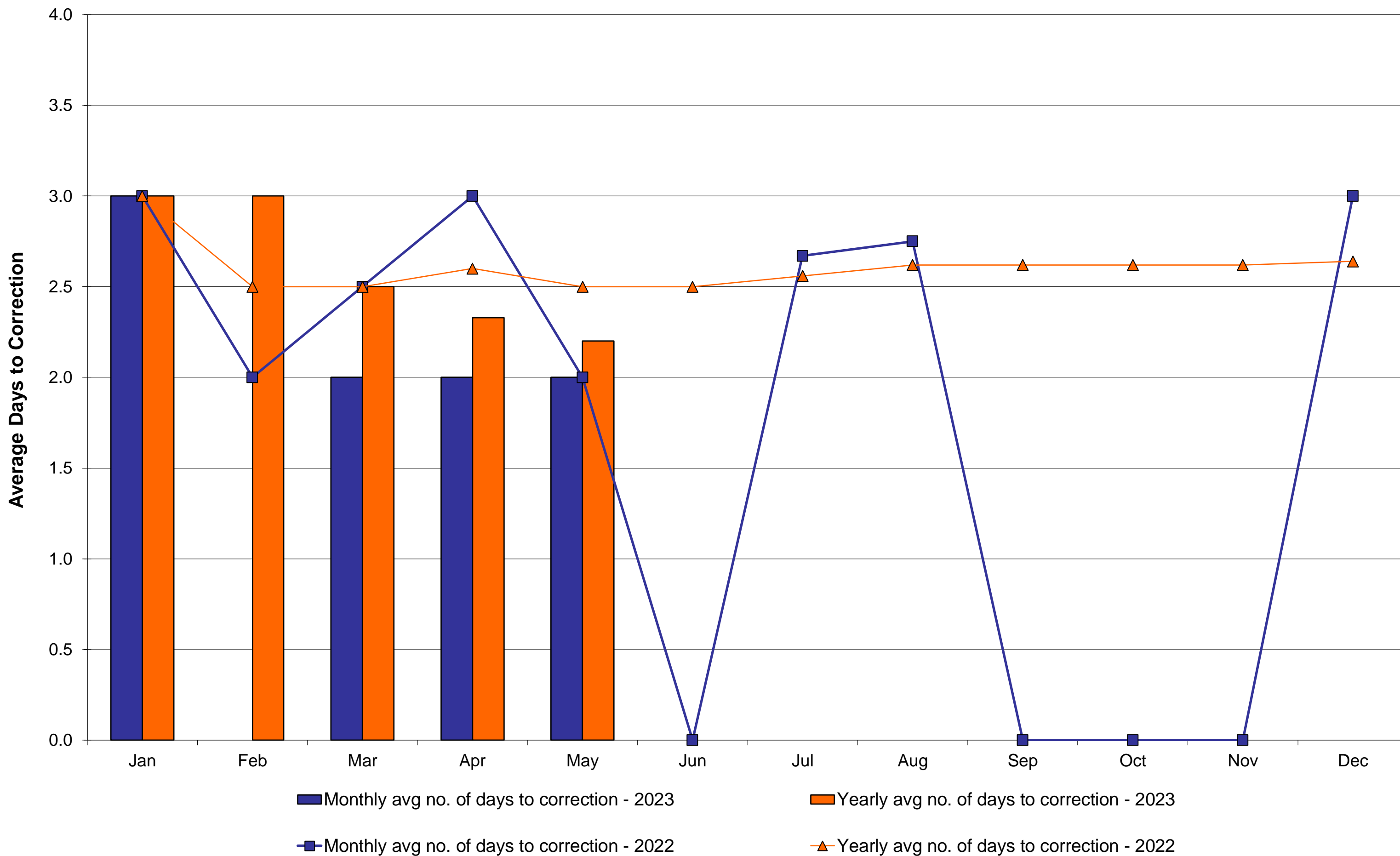
<b>2023</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Hour Corrections</b>													
Number of hours with corrections	in the month	1	0	1	1	2							
Number of hours	in the month	744	672	743	720	744							
% of hours with corrections	in the month	0.13%	0.00%	0.13%	0.14%	0.27%							
% of hours with corrections	year-to-date	0.13%	0.07%	0.09%	0.10%	0.14%							
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	7	0	2	4	3							
Number of intervals	in the month	9,082	8,373	9,171	8,890	9,160							
% of intervals corrected	in the month	0.08%	0.00%	0.02%	0.04%	0.03%							
% of intervals corrected	year-to-date	0.08%	0.04%	0.03%	0.04%	0.04%							
<b>Hours Reserved</b>													
Number of hours reserved	in the month	3	14	17	6	3							
Number of hours	in the month	744	672	743	720	744							
% of hours reserved	in the month	0.40%	2.08%	2.29%	0.83%	0.40%							
% of hours reserved	year-to-date	0.40%	1.20%	1.57%	1.39%	1.19%							
<b>Days to Correction *</b>													
Avg. number of days to correction	in the month	3.00	0.00	2.00	2.00	2.00							
Avg. number of days to correction	year-to-date	3.00	3.00	2.50	2.33	2.20							
<b>Days Without Corrections</b>													
Days without corrections	in the month	30	28	30	29	29							
Days without corrections	year-to-date	30	58	88	117	146							
<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

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

### Percentage of Real-Time Corrections

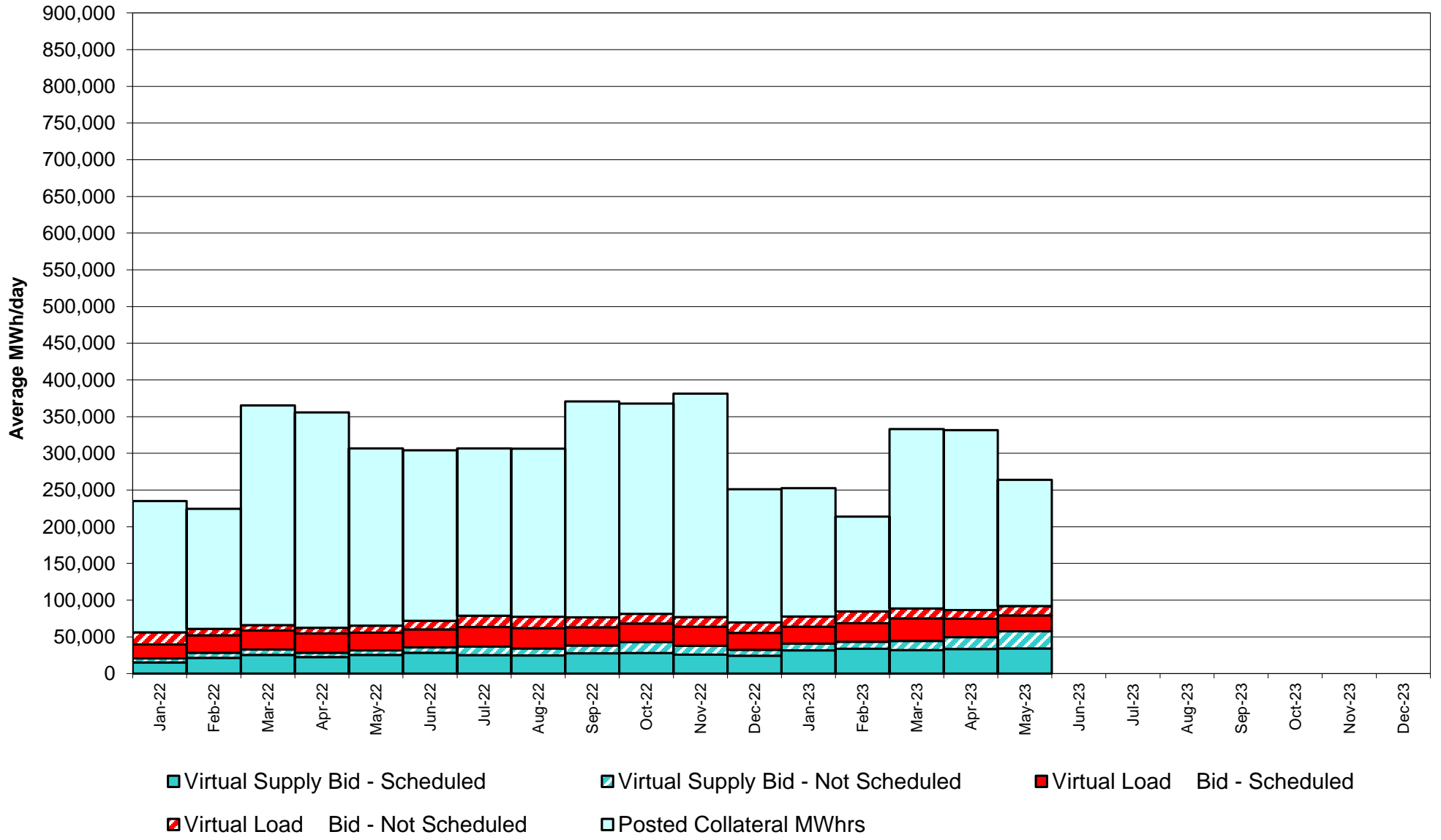


### Annual average time period for making Price Corrections (from reservation date) \*

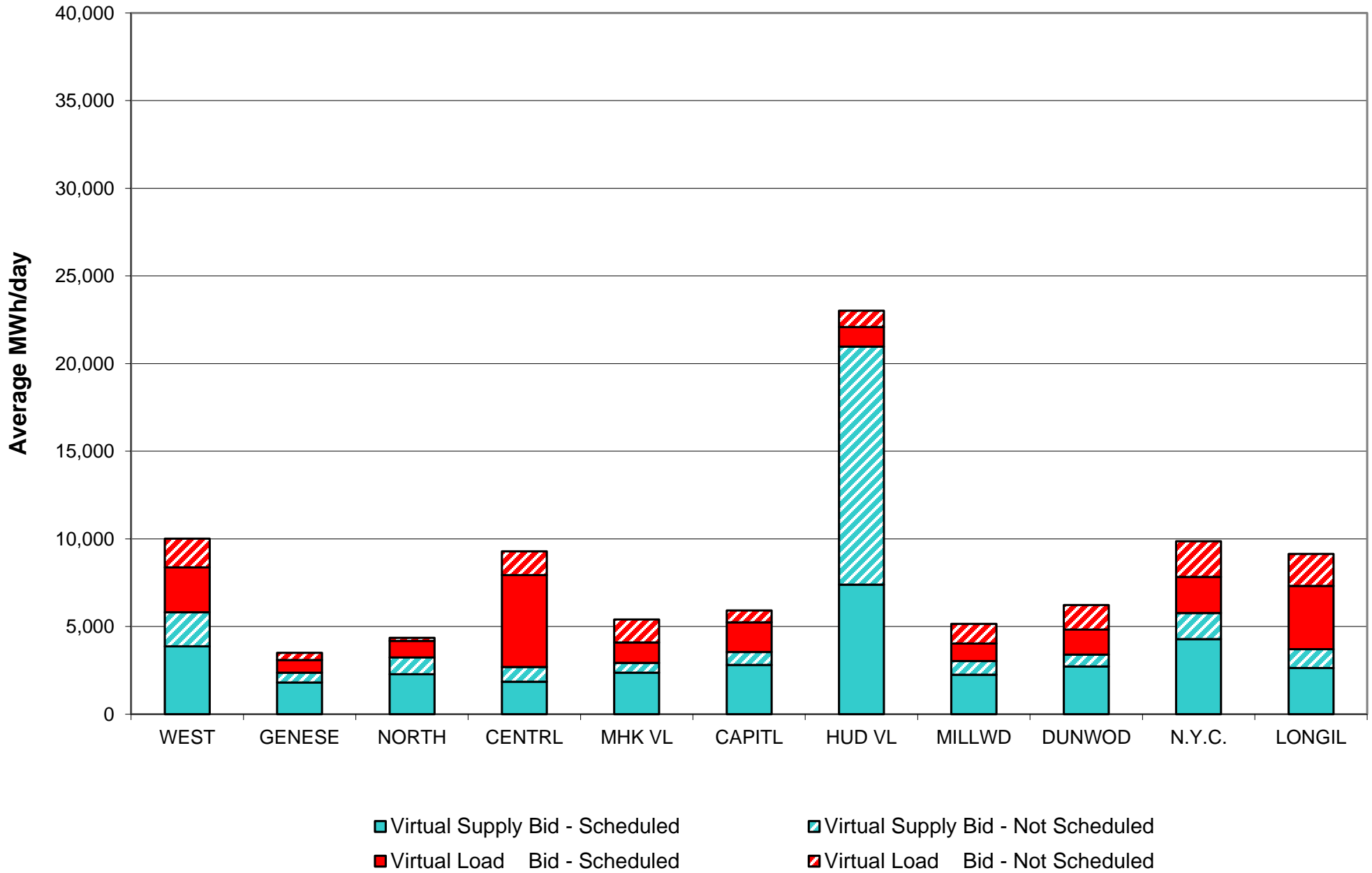


\*Calendar days from reservation date; for June 2018 forward, business days from market date

## NYISO Virtual Trading Average MWh per day



## Virtual Load and Supply Zonal Statistics through May 31, 2023

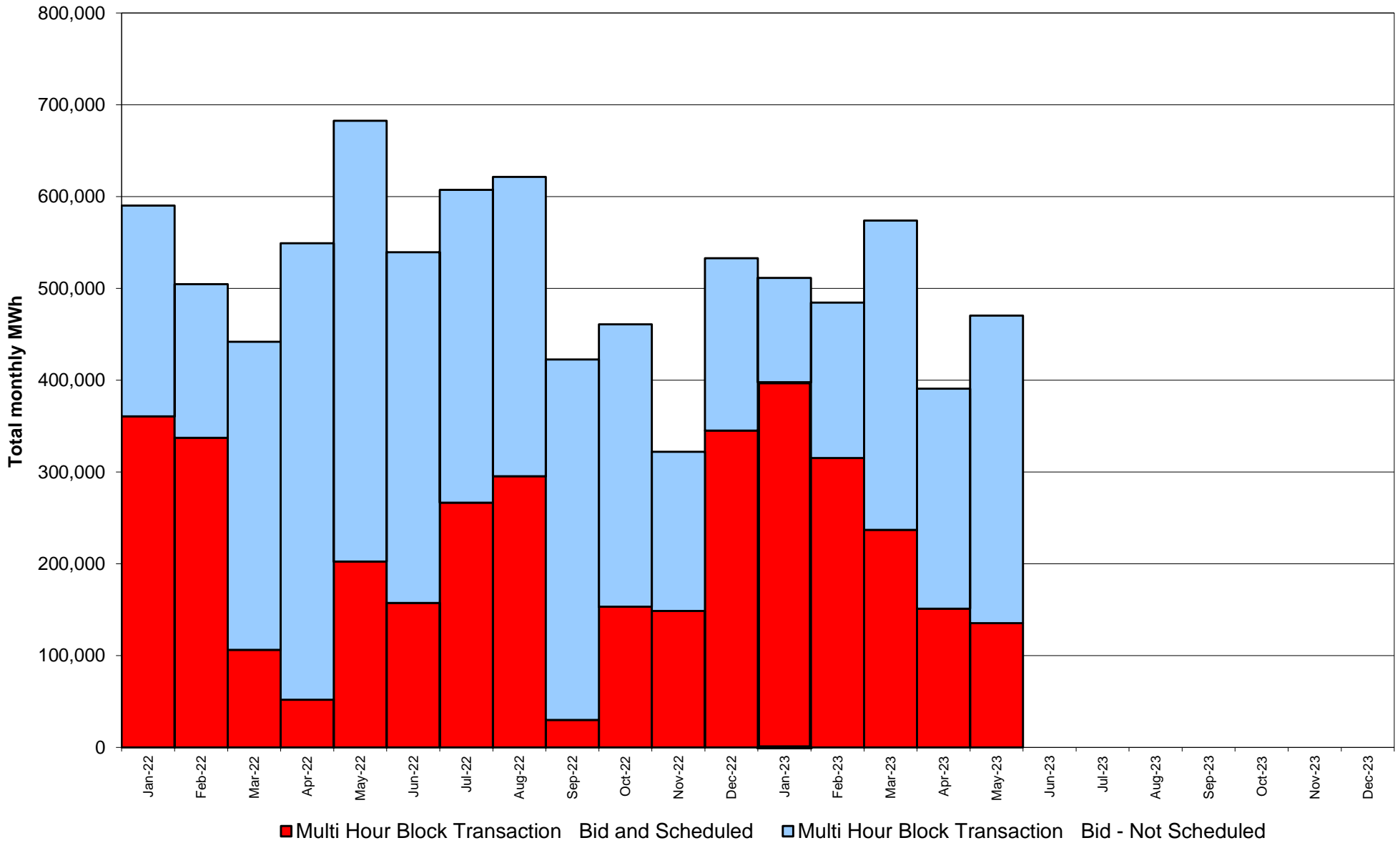




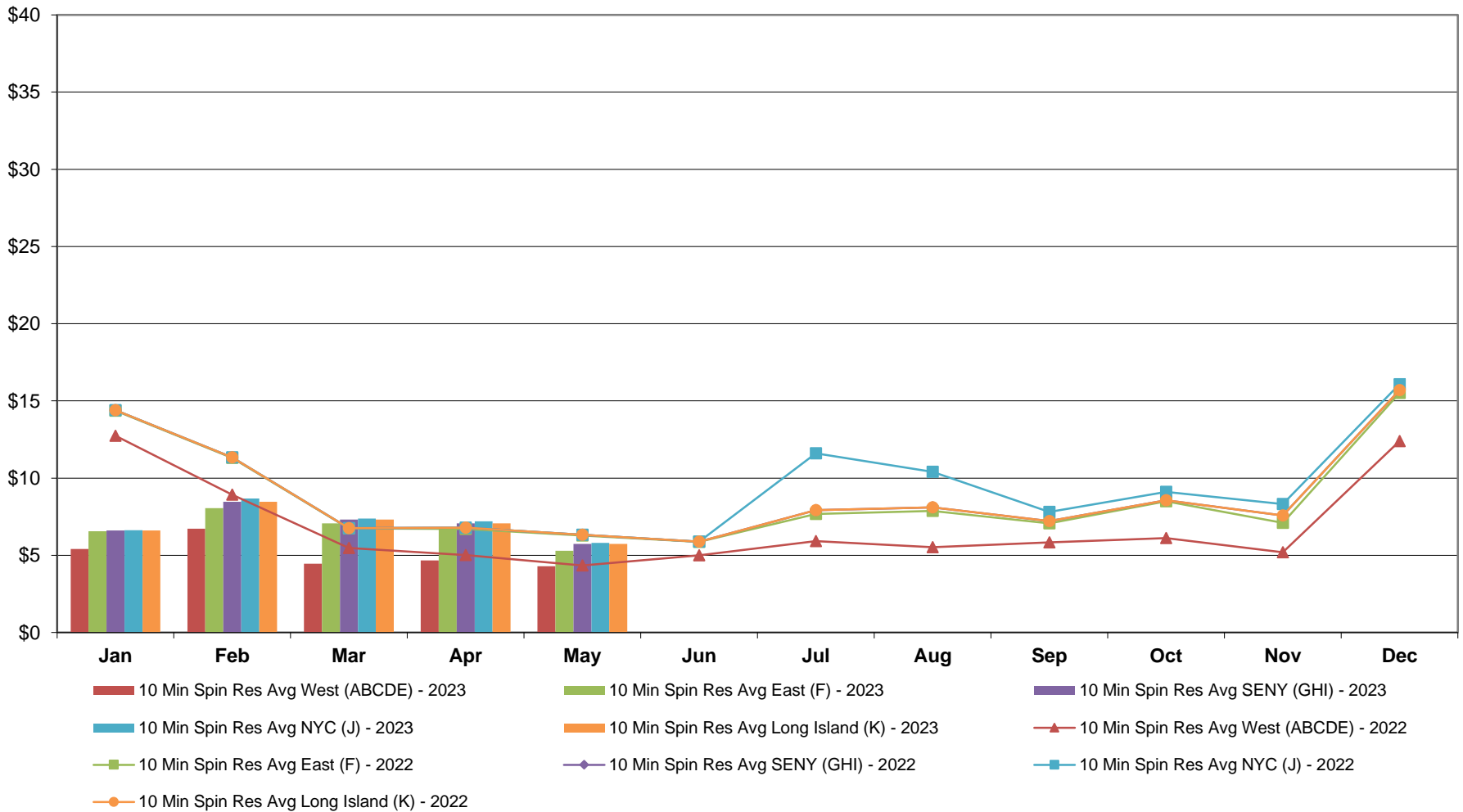
**Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2023**

		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
<b>WEST</b>	Jan-23	3,364	1,605	5,555	1,026	<b>MHK VL</b>	Jan-23	1,312	1,038	1,590	558	<b>DUNWOD</b>	Jan-23	862	1,623	1,884	319
	Feb-23	2,266	1,863	6,652	1,270		Feb-23	1,146	1,395	2,484	436		Feb-23	1,366	1,793	2,082	408
	Mar-23	3,318	1,373	5,353	2,062		Mar-23	1,815	829	1,488	1,135		Mar-23	2,505	1,556	2,093	670
	Apr-23	2,407	1,561	5,939	1,245		Apr-23	1,182	841	1,556	450		Apr-23	1,941	1,615	1,682	633
	May-23	2,572	1,636	3,868	1,941		May-23	1,165	1,312	2,365	567		May-23	1,434	1,391	2,719	680
	Jun-23						Jun-23						Jun-23				
	Jul-23						Jul-23						Jul-23				
	Aug-23						Aug-23						Aug-23				
	Sep-23						Sep-23						Sep-23				
	Oct-23						Oct-23						Oct-23				
	Nov-23						Nov-23						Nov-23				
	Dec-23						Dec-23						Dec-23				
<b>GENESE</b>	Jan-23	1,005	469	1,438	255	<b>CAPITL</b>	Jan-23	1,762	834	1,824	917	<b>N.Y.C.</b>	Jan-23	2,674	2,287	4,516	977
	Feb-23	1,136	523	1,480	586		Feb-23	1,902	1,166	2,655	729		Feb-23	2,663	2,398	3,564	1,126
	Mar-23	835	495	1,562	905		Mar-23	3,256	1,595	2,454	594		Mar-23	2,230	2,393	4,646	1,121
	Apr-23	982	746	1,817	584		Apr-23	2,509	960	2,303	695		Apr-23	2,032	1,683	3,490	1,100
	May-23	721	408	1,807	568		May-23	1,691	681	2,810	736		May-23	2,063	2,034	4,284	1,488
	Jun-23						Jun-23						Jun-23				
	Jul-23						Jul-23						Jul-23				
	Aug-23						Aug-23						Aug-23				
	Sep-23						Sep-23						Sep-23				
	Oct-23						Oct-23						Oct-23				
	Nov-23						Nov-23						Nov-23				
	Dec-23						Dec-23						Dec-23				
<b>NORTH</b>	Jan-23	1,246	284	2,910	1,072	<b>HUD VL</b>	Jan-23	835	1,168	5,672	1,513	<b>LONGIL</b>	Jan-23	4,119	2,358	2,370	1,687
	Feb-23	1,111	302	2,854	1,432		Feb-23	1,335	1,484	5,382	1,297		Feb-23	4,408	2,440	2,494	1,130
	Mar-23	789	383	3,605	1,395		Mar-23	2,224	1,049	5,815	1,357		Mar-23	5,725	1,753	1,778	1,029
	Apr-23	615	332	3,338	854		Apr-23	896	846	8,301	7,864		Apr-23	4,436	1,401	2,087	746
	May-23	938	184	2,274	964		May-23	1,119	937	7,383	13,585		May-23	3,608	1,817	2,640	1,073
	Jun-23						Jun-23						Jun-23				
	Jul-23						Jul-23						Jul-23				
	Aug-23						Aug-23						Aug-23				
	Sep-23						Sep-23						Sep-23				
	Oct-23						Oct-23						Oct-23				
	Nov-23						Nov-23						Nov-23				
	Dec-23						Dec-23						Dec-23				
<b>CENTRL</b>	Jan-23	5,294	1,193	1,715	563	<b>MILLWD</b>	Jan-23	649	1,103	2,019	278	<b>NYISO</b>	Jan-23	23,122	13,963	31,494	9,165
	Feb-23	6,851	1,526	2,219	703		Feb-23	888	1,228	2,021	434		Feb-23	25,071	16,118	33,885	9,552
	Mar-23	6,340	843	1,355	1,520		Mar-23	1,616	992	1,938	736		Mar-23	30,654	13,262	32,086	12,525
	Apr-23	6,824	914	1,546	855		Apr-23	1,564	853	1,566	831		Apr-23	25,387	11,752	33,625	15,856
	May-23	5,246	1,357	1,858	830		May-23	995	1,119	2,250	784		May-23	21,553	12,874	34,260	23,216
	Jun-23						Jun-23						Jun-23				
	Jul-23						Jul-23						Jul-23				
	Aug-23						Aug-23						Aug-23				
	Sep-23						Sep-23						Sep-23				
	Oct-23						Oct-23						Oct-23				
	Nov-23						Nov-23						Nov-23				
	Dec-23						Dec-23						Dec-23				

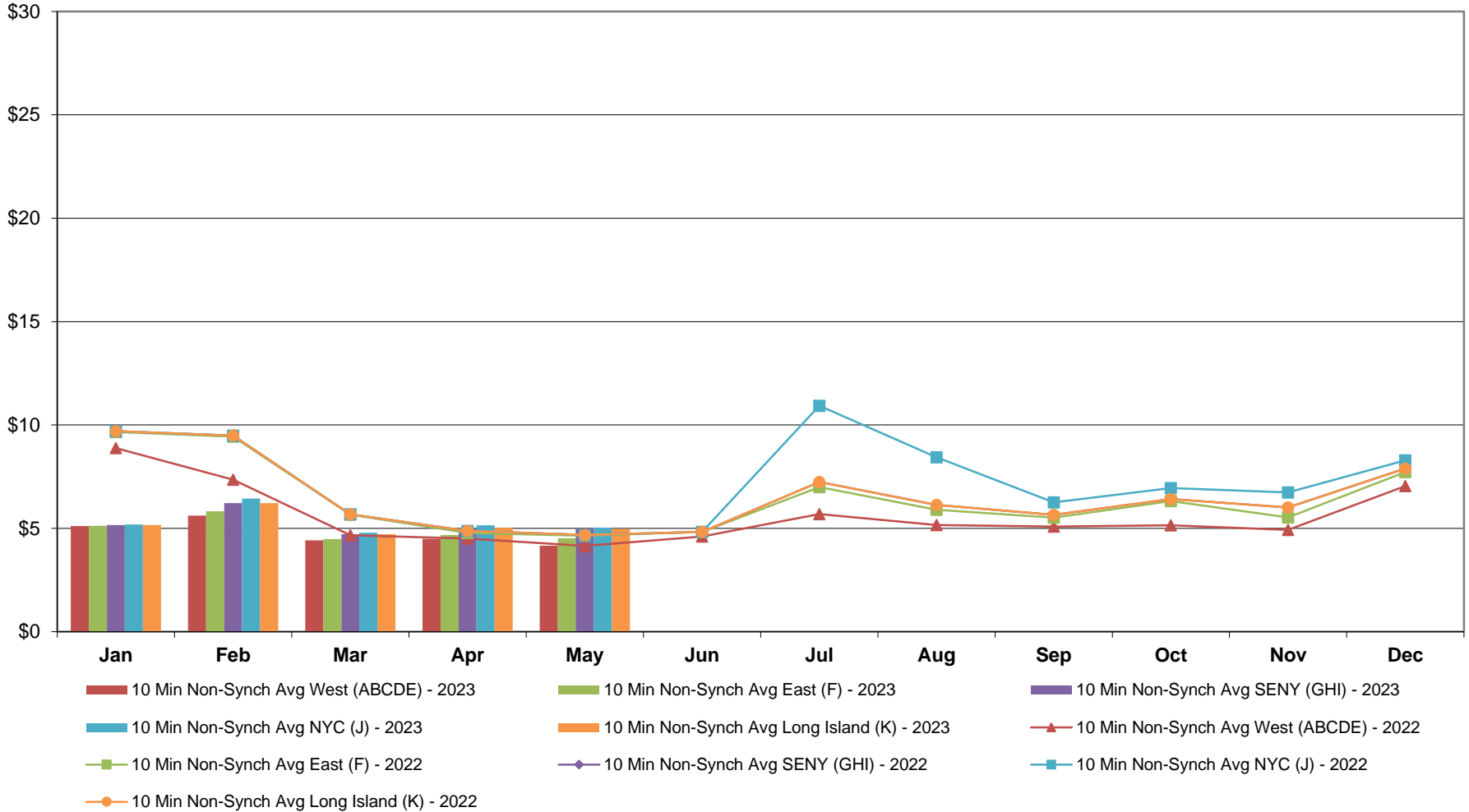
## NYISO Multi Hour Block Transactions Monthly Total MWh



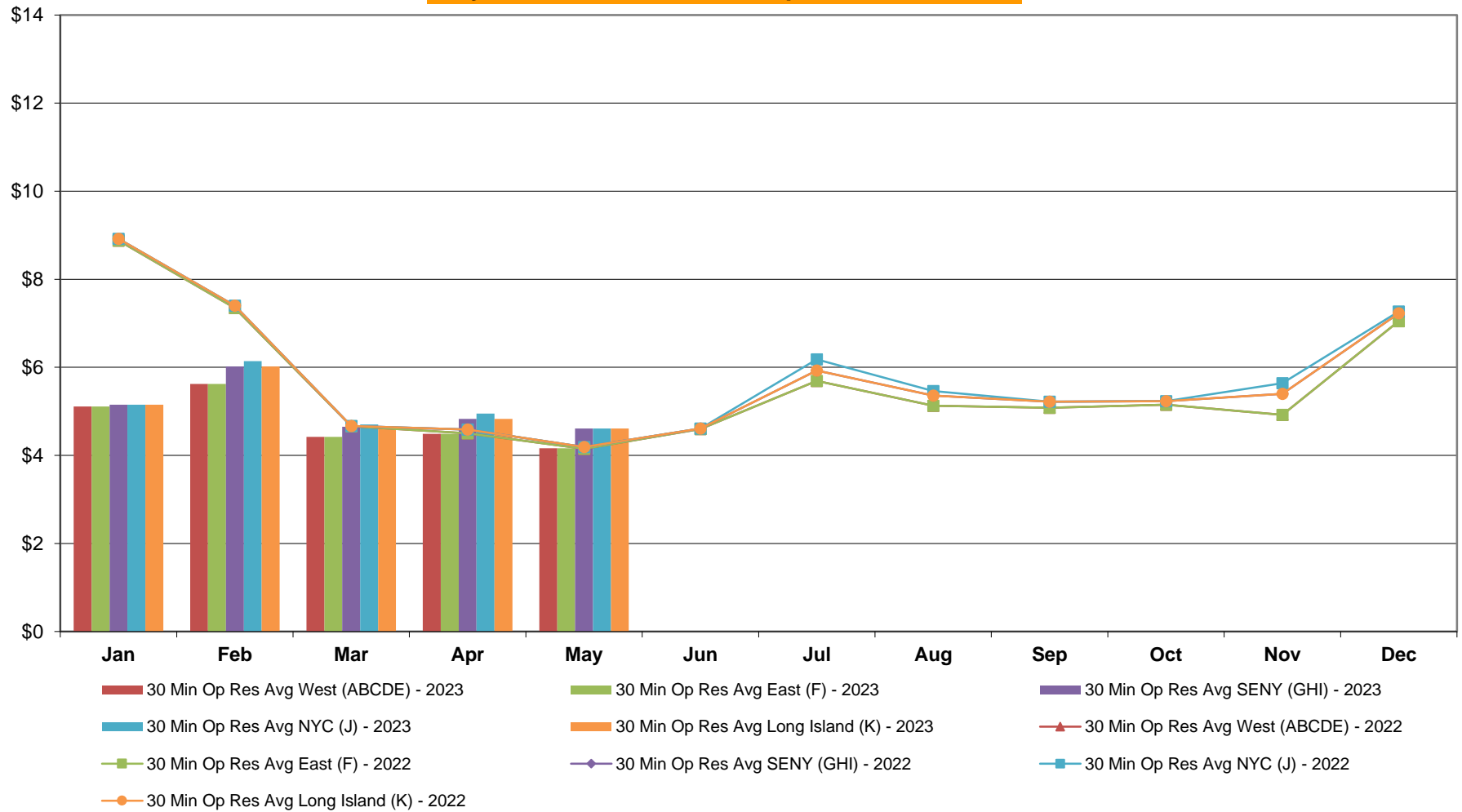
**NYISO Monthly Average Ancillary Service Prices  
Day Ahead Market - 10 Min Spin 2022 - 2023**



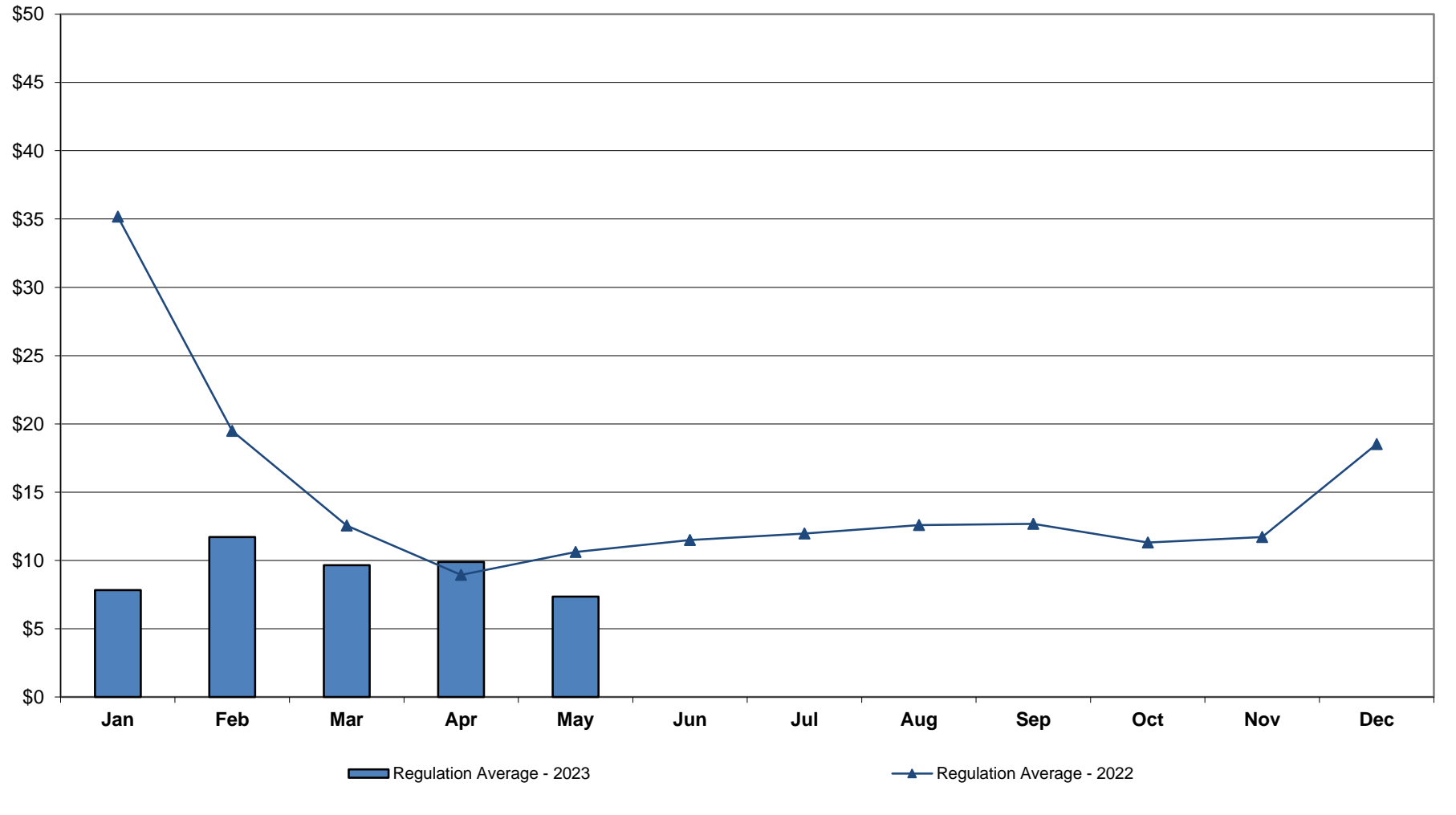
**NYISO Monthly Average Ancillary Service Prices  
Day Ahead Market - 10 Min Non-Synch 2022 - 2023**



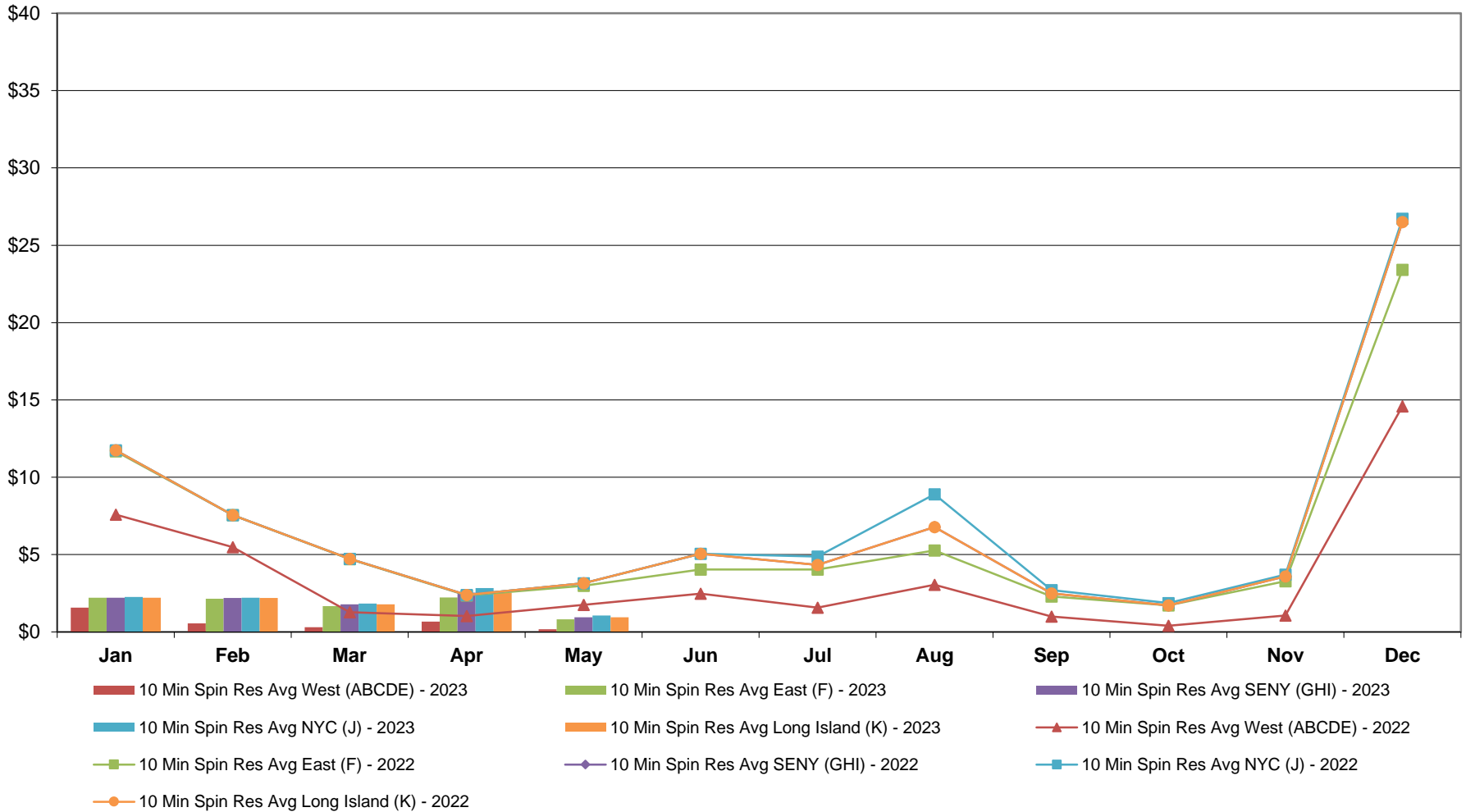
**NYISO Monthly Average Ancillary Service Prices  
Day Ahead Market - 30 Min Op Res 2022 - 2023**



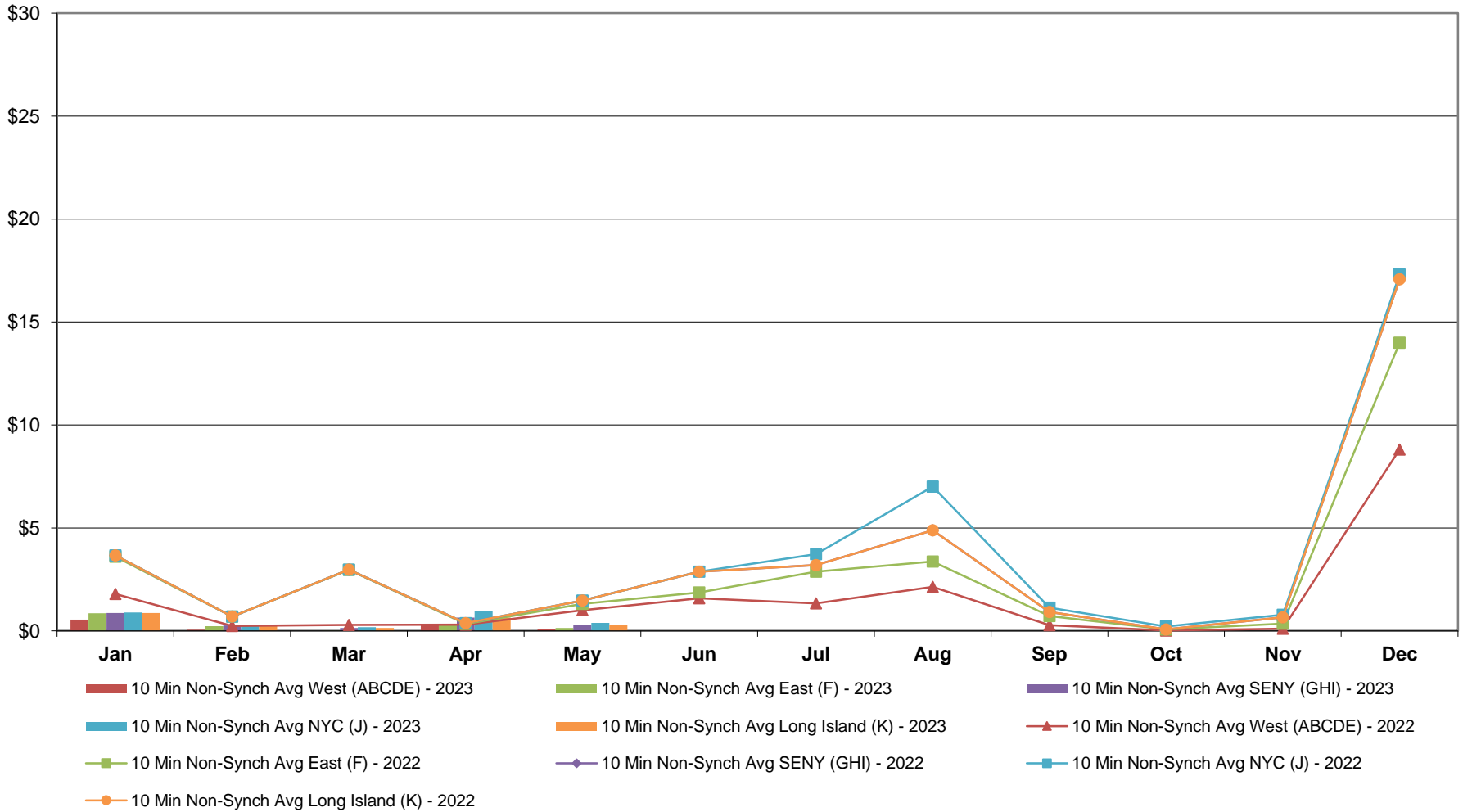
**NYISO Monthly Average Ancillary Service Prices  
Day Ahead Market - Regulation 2022 - 2023**



### NYISO Monthly Average Ancillary Service Prices RTC Market - 10 Min Spin 2022 - 2023

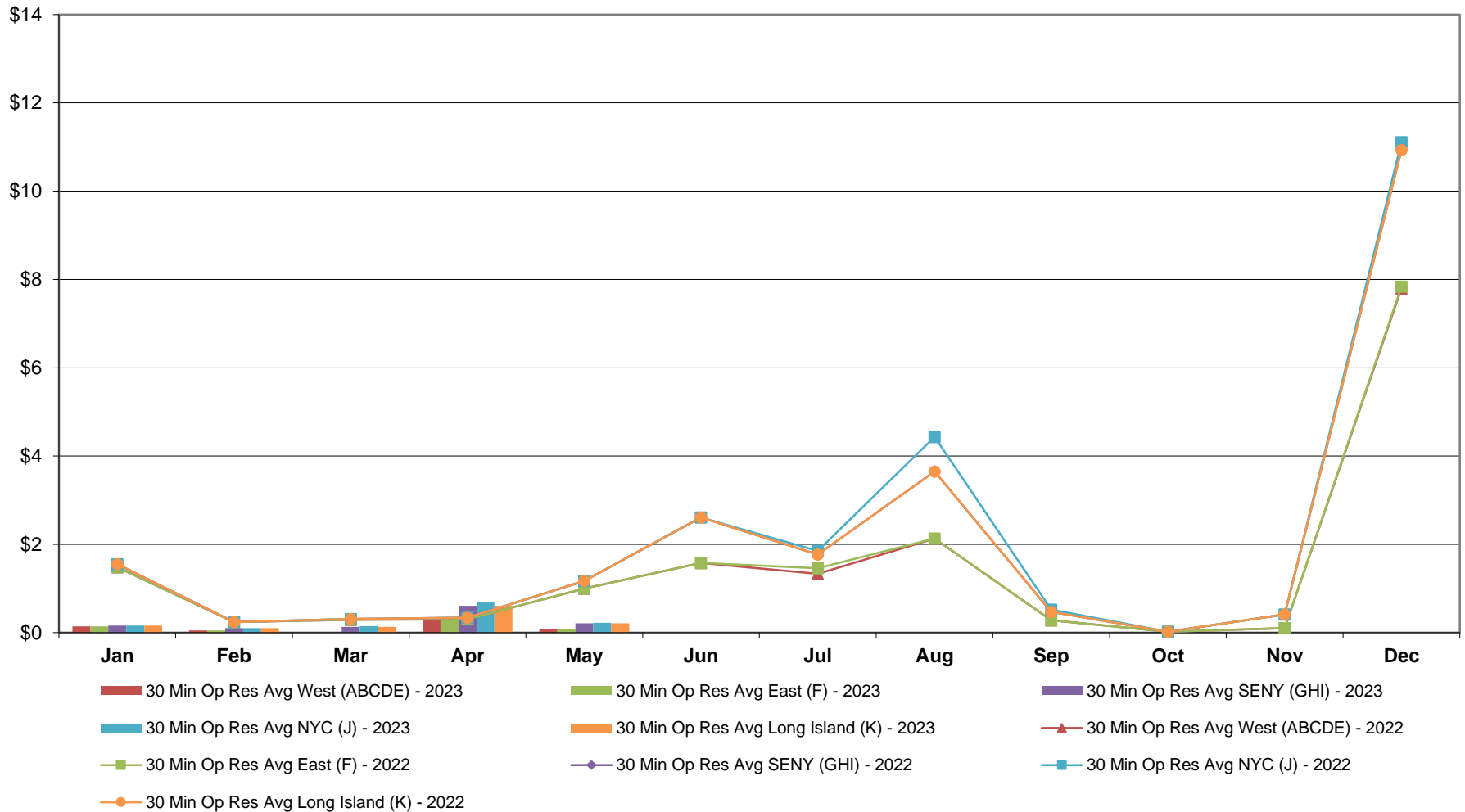


**NYISO Monthly Average Ancillary Service Prices  
RTC Market - 10 Min Non-Synch 2022 - 2023**

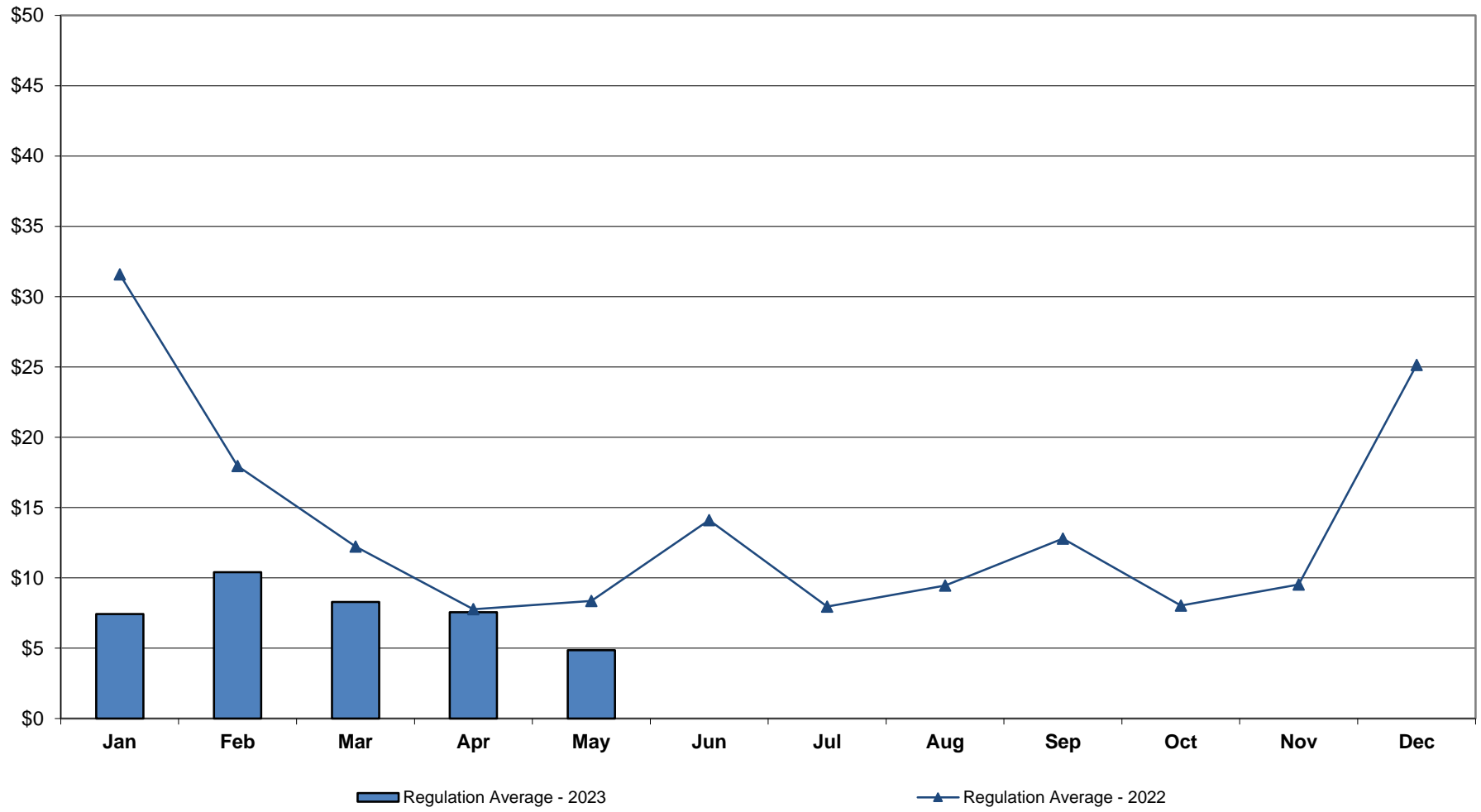




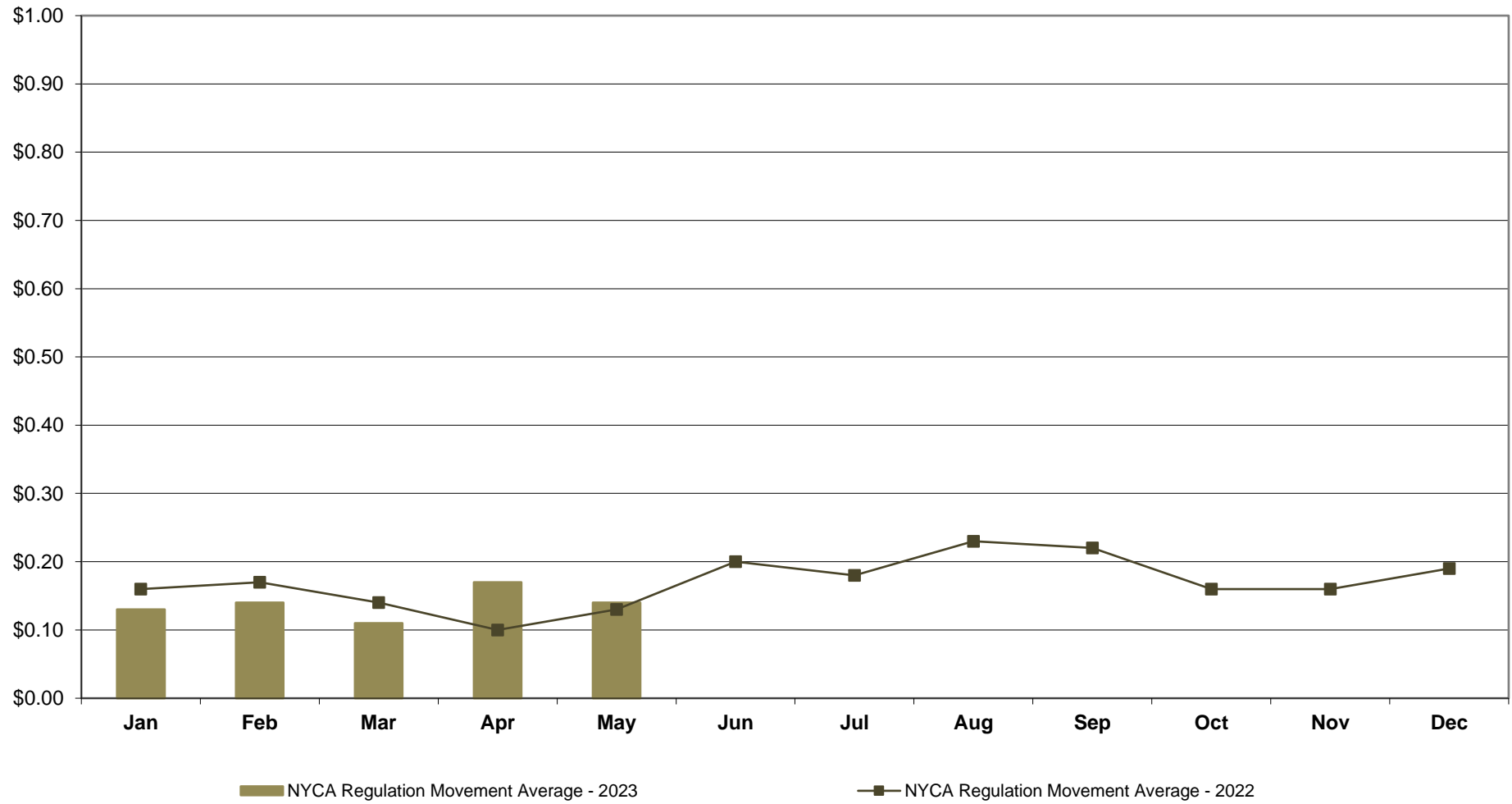
**NYISO Monthly Average Ancillary Service Prices  
RTC Market - 30 Min Op Res 2022 - 2023**



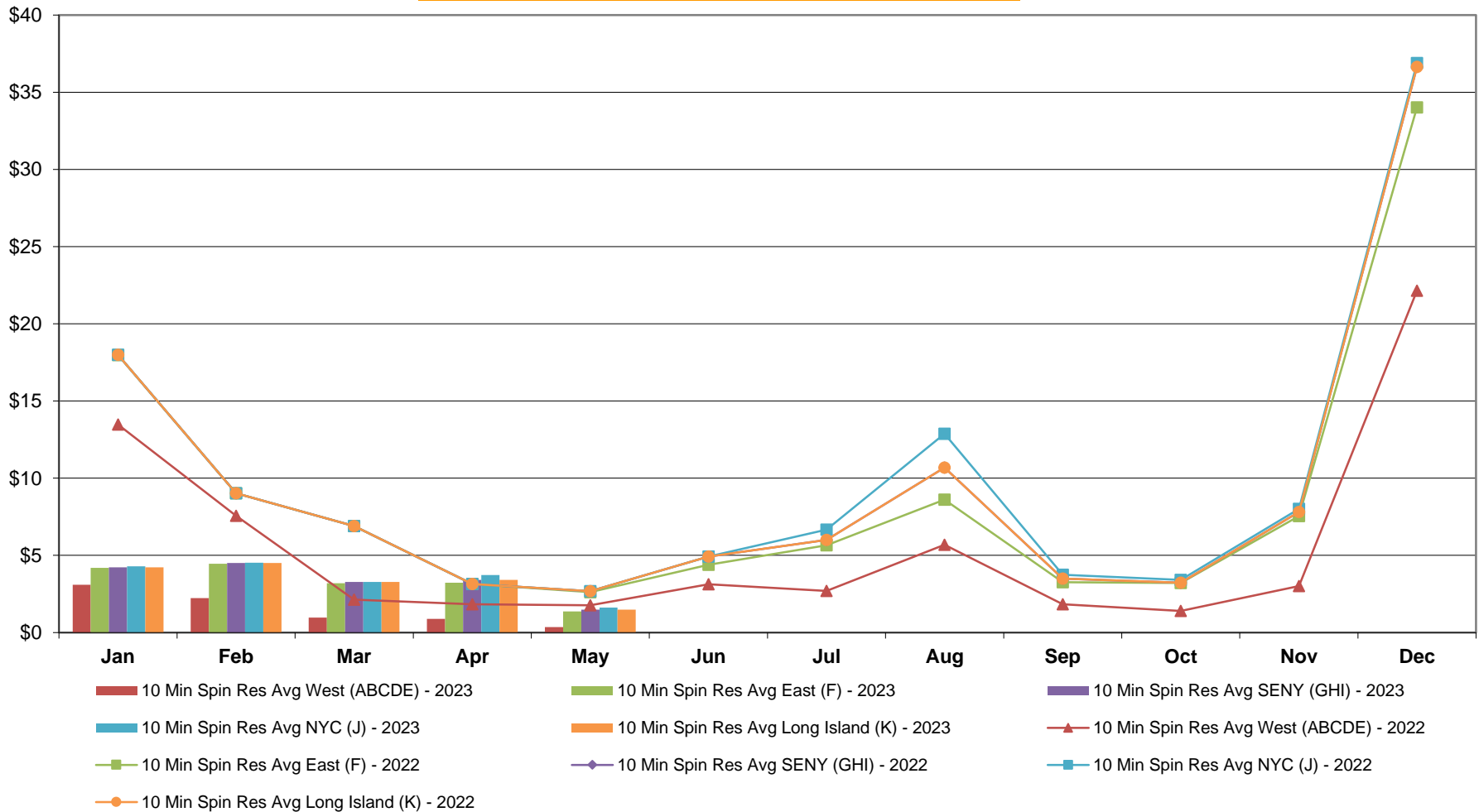
**NYISO Monthly Average Ancillary Service Prices  
RTC Market - Regulation 2022 - 2023**



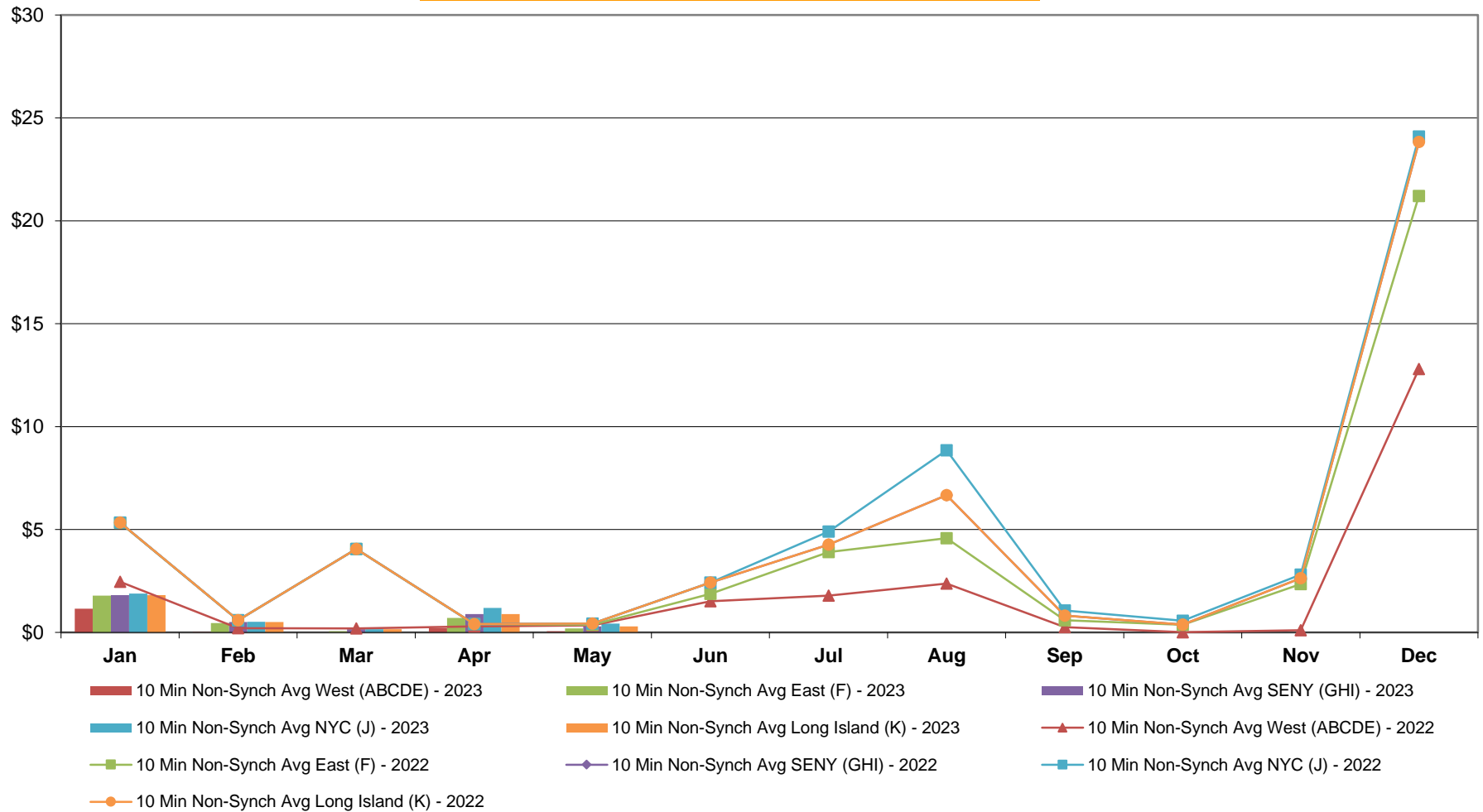
**NYISO Monthly Average Ancillary Service Prices  
RTC Market - Regulation Movement 2022 - 2023**



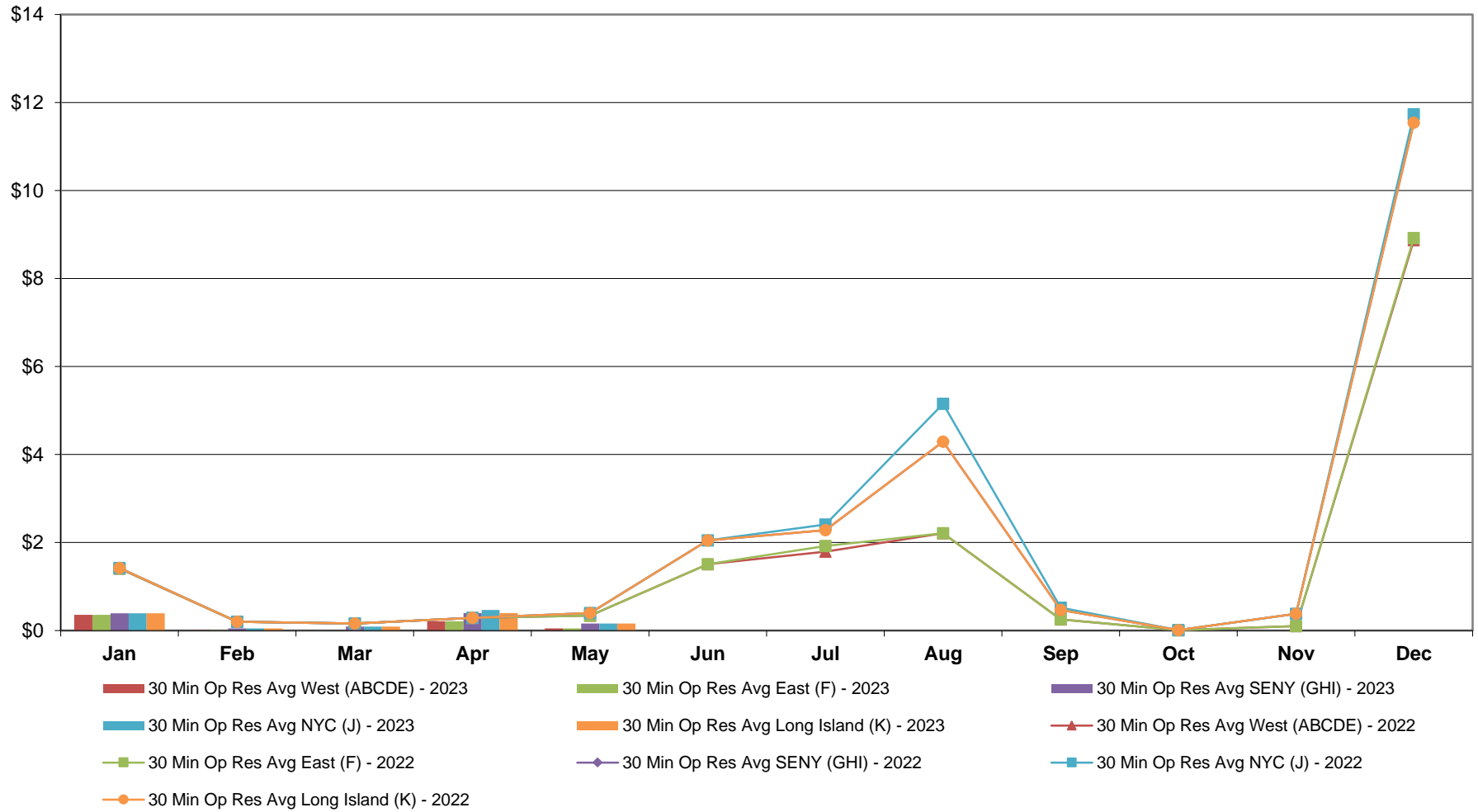
**NYISO Monthly Average Ancillary Service Prices  
Real Time Market - 10 Min Spin 2022 - 2023**



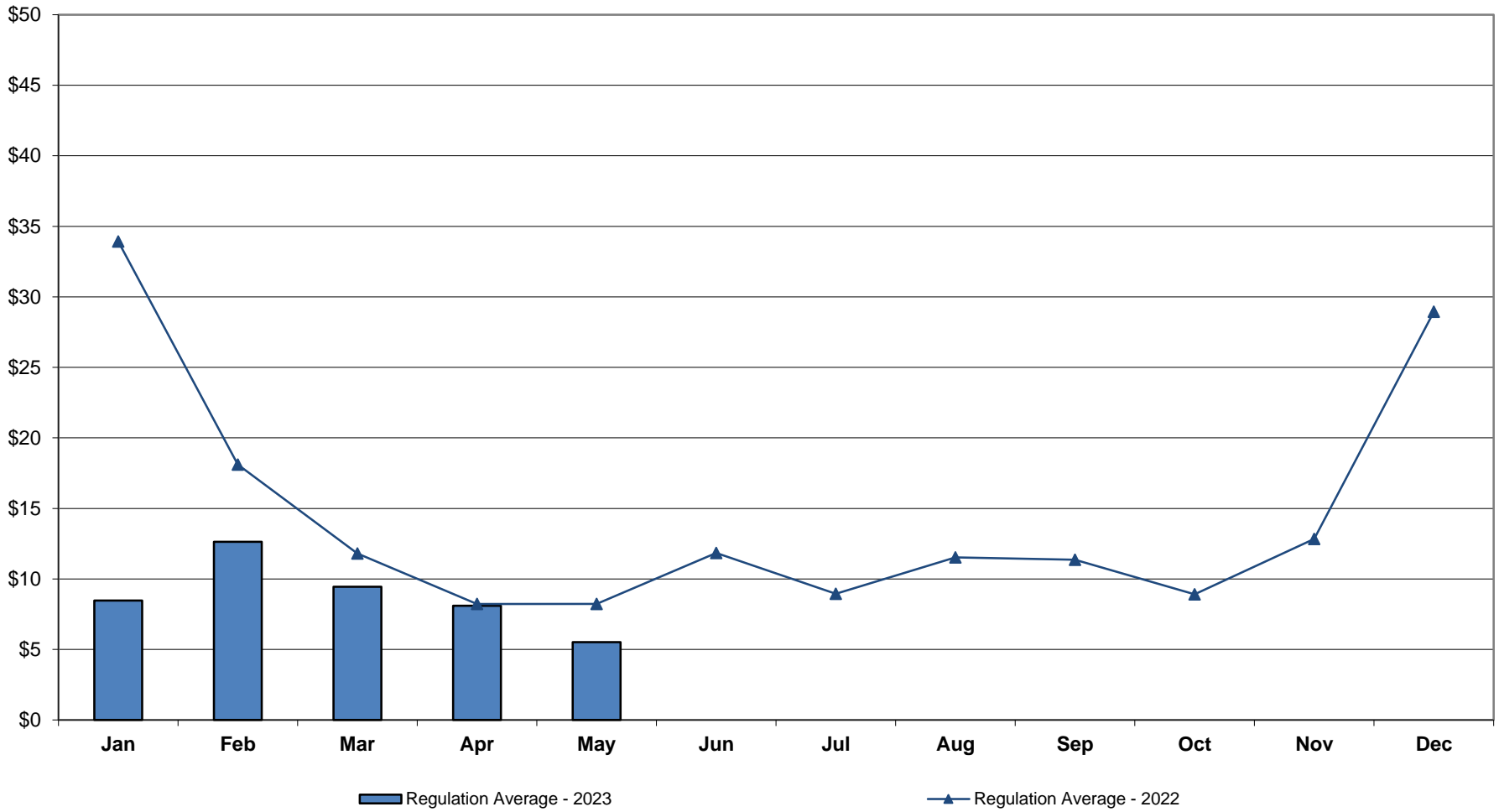
**NYISO Monthly Average Ancillary Service Prices  
Real Time Market - 10 Min Non-Synch 2022 - 2023**



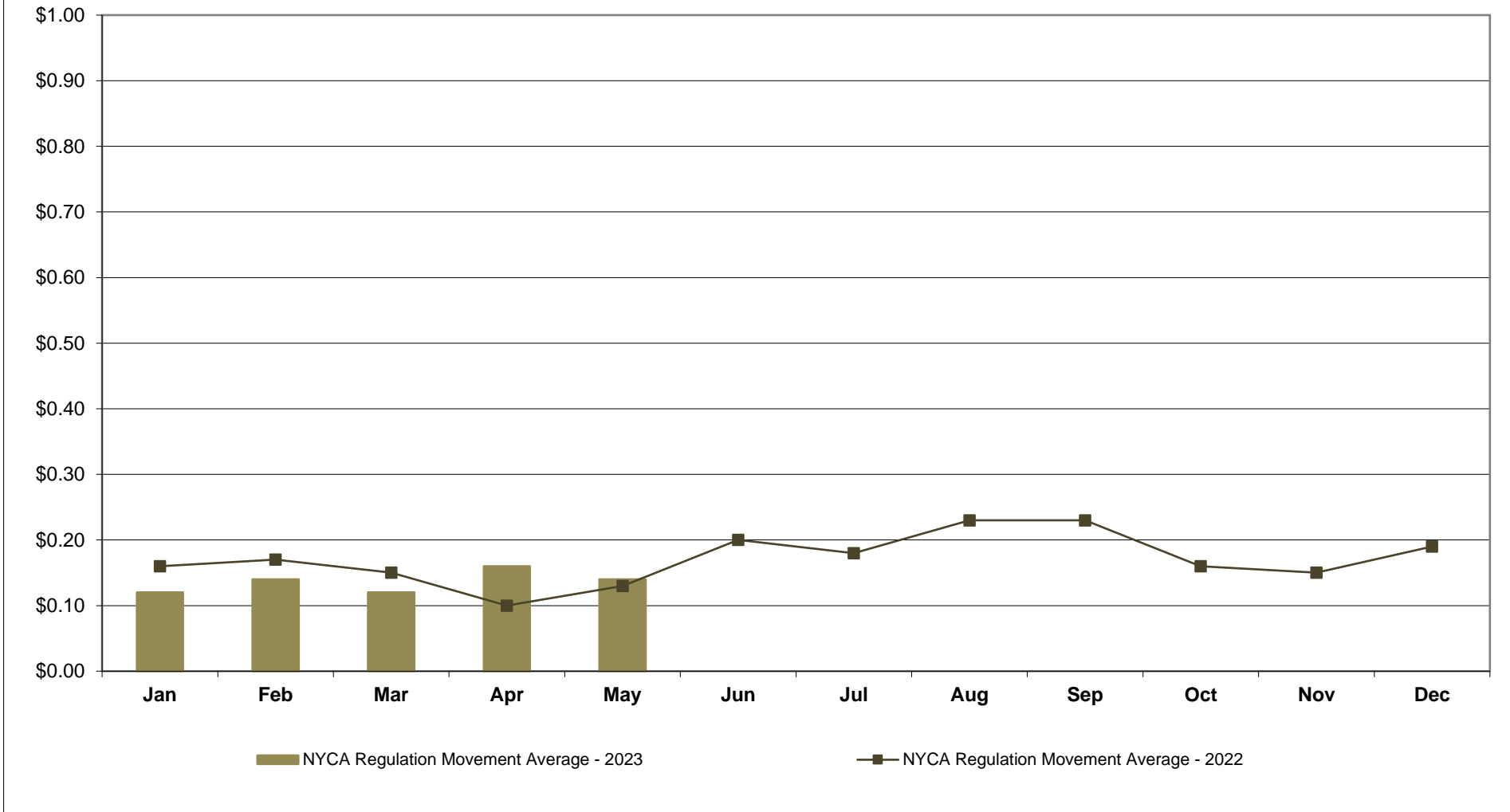
**NYISO Monthly Average Ancillary Service Prices  
Real Time Market - 30 Min Op Res 2022 - 2023**



**NYISO Monthly Average Ancillary Service Prices  
Real Time Market - Regulation 2022 - 2023**



**NYISO Monthly Average Ancillary Service Prices  
Real Time Market - Regulation Movement 2022 - 2023**





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

<b>2023</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>Day Ahead Market</b>												
10 Min Spin Long Island (K)	6.60	8.46	7.31	7.07	5.74							
10 Min Spin NYC (J)	6.63	8.68	7.38	7.20	5.81							
10 Min Spin SENY (GHI)	6.60	8.46	7.31	7.07	5.74							
10 Min Spin East (F)	6.56	8.06	7.07	6.73	5.30							
10 Min Spin West (ABCDE)	5.41	6.73	4.45	4.67	4.29							
10 Min Non Synch Long Island (K)	5.16	6.22	4.72	5.02	4.97							
10 Min Non Synch NYC (J)	5.18	6.44	4.79	5.15	5.04							
10 Min Non Synch SENY (GHI)	5.16	6.22	4.72	5.02	4.97							
10 Min Non Synch East (F)	5.12	5.82	4.48	4.68	4.52							
10 Min Non Synch West (ABCDE)	5.11	5.62	4.42	4.49	4.16							
30 Min Long Island (K)	5.15	6.02	4.65	4.83	4.61							
30 Min NYC (J)	5.15	6.14	4.70	4.95	4.61							
30 Min SENY (GHI)	5.15	6.02	4.65	4.83	4.61							
30 Min East (F)	5.11	5.62	4.42	4.49	4.16							
30 Min West (ABCDE)	5.11	5.62	4.42	4.49	4.16							
Regulation	7.82	11.71	9.65	9.88	7.36							
<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>Day Ahead Market</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

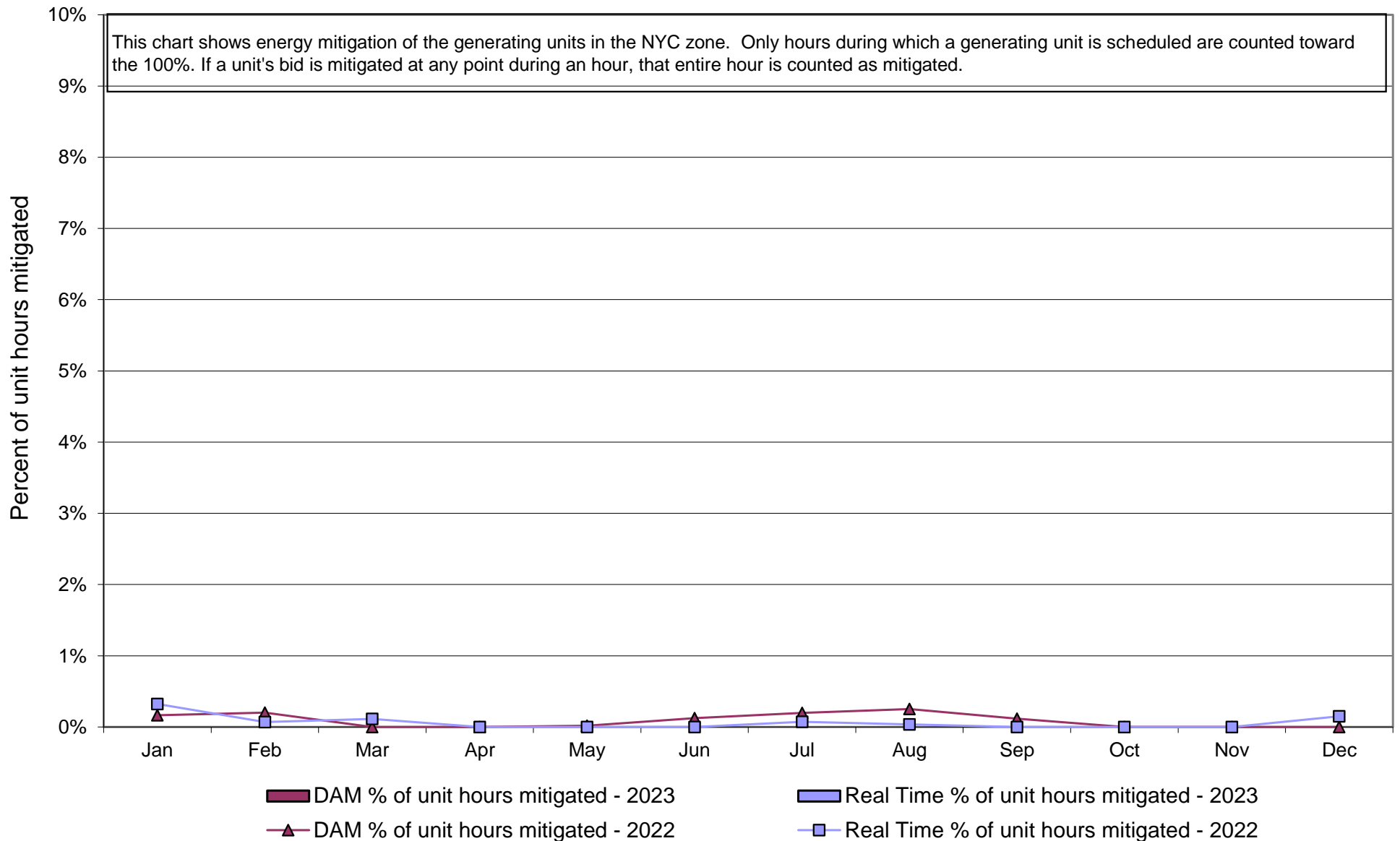
## NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - RTC

<u>2023</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>RTC Market</b>												
10 Min Spin Long Island (K)	2.22	2.19	1.79	2.55	0.95							
10 Min Spin NYC (J)	2.26	2.21	1.83	2.84	1.07							
10 Min Spin SENY (GHI)	2.22	2.19	1.79	2.55	0.95							
10 Min Spin East (F)	2.21	2.15	1.67	2.23	0.82							
10 Min Spin West (ABCDE)	1.57	0.56	0.30	0.67	0.17							
10 Min Non Synch Long Island (K)	0.86	0.26	0.14	0.65	0.27							
10 Min Non Synch NYC (J)	0.89	0.27	0.18	0.95	0.39							
10 Min Non Synch SENY (GHI)	0.86	0.26	0.14	0.65	0.27							
10 Min Non Synch East (F)	0.85	0.22	0.02	0.34	0.14							
10 Min Non Synch West (ABCDE)	0.54	0.05	0.00	0.29	0.08							
30 Min Long Island (K)	0.16	0.10	0.13	0.61	0.21							
30 Min NYC (J)	0.16	0.10	0.15	0.68	0.22							
30 Min SENY (GHI)	0.16	0.10	0.13	0.61	0.21							
30 Min East (F)	0.14	0.05	0.00	0.29	0.08							
30 Min West (ABCDE)	0.14	0.05	0.00	0.29	0.08							
Regulation	7.44	10.40	8.29	7.55	4.86							
NYCA Regulation Movement	0.13	0.14	0.11	0.17	0.14							
<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>RTC Market</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

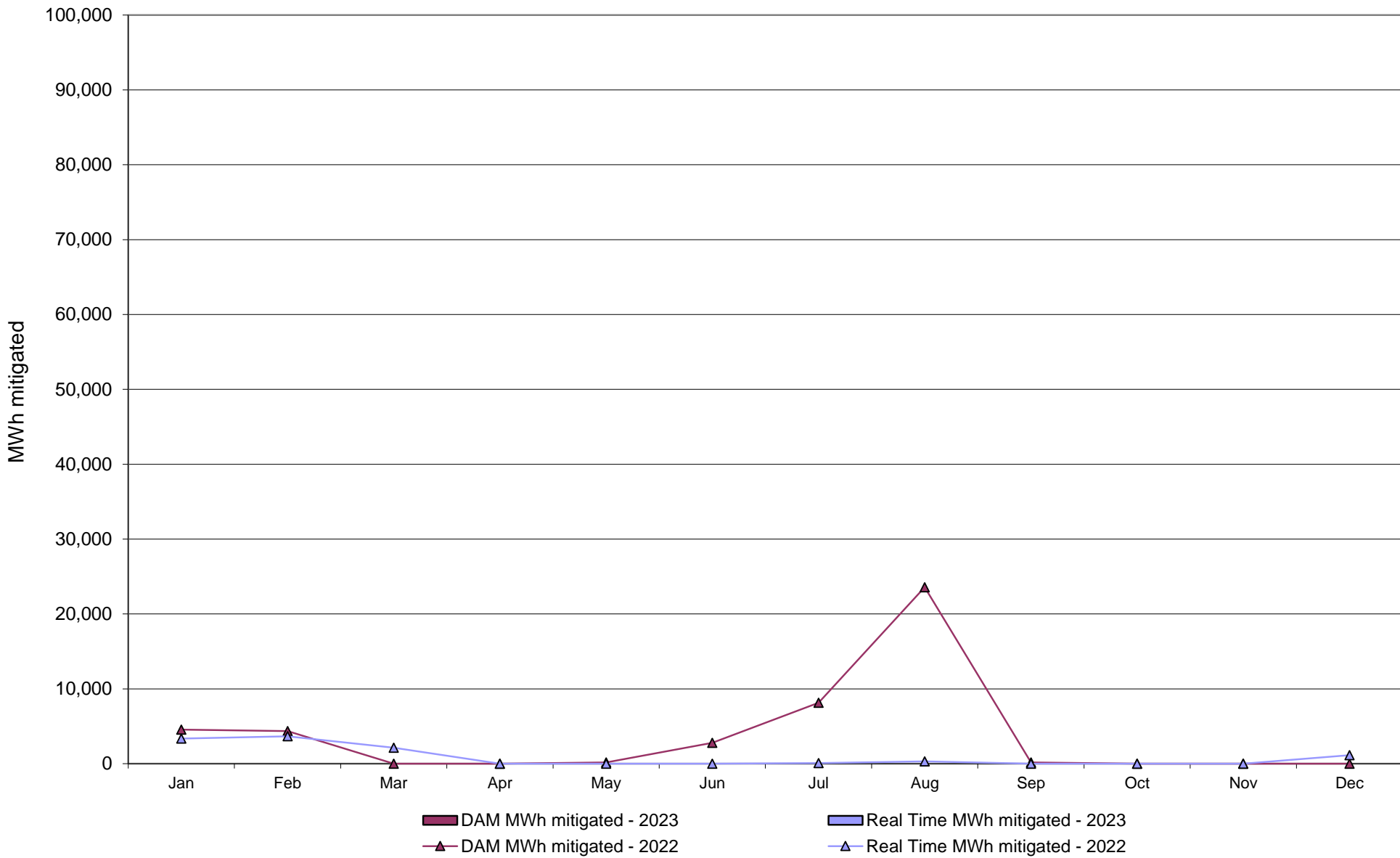
## NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - RT

<u>2023</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>Real Time Market</b>												
10 Min Spin Long Island (K)	4.22	4.51	3.28	3.42	1.48							
10 Min Spin NYC (J)	4.30	4.53	3.28	3.72	1.61							
10 Min Spin SENY (GHI)	4.22	4.51	3.28	3.42	1.48							
10 Min Spin East (F)	4.20	4.46	3.19	3.23	1.37							
10 Min Spin West (ABCDE)	3.10	2.24	0.97	0.89	0.36							
10 Min Non Synch Long Island (K)	1.81	0.50	0.15	0.89	0.29							
10 Min Non Synch NYC (J)	1.89	0.52	0.15	1.19	0.43							
10 Min Non Synch SENY (GHI)	1.81	0.50	0.15	0.89	0.29							
10 Min Non Synch East (F)	1.79	0.45	0.05	0.70	0.19							
10 Min Non Synch West (ABCDE)	1.15	0.01	0.00	0.21	0.05							
30 Min Long Island (K)	0.39	0.05	0.09	0.40	0.16							
30 Min NYC (J)	0.39	0.05	0.09	0.47	0.16							
30 Min SENY (GHI)	0.39	0.05	0.09	0.40	0.16							
30 Min East (F)	0.36	0.01	0.00	0.21	0.05							
30 Min West (ABCDE)	0.36	0.01	0.00	0.21	0.05							
Regulation	8.46	12.64	9.44	8.10	5.52							
NYCA Regulation Movement	0.12	0.14	0.12	0.16	0.14							
<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>Real Time Market</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

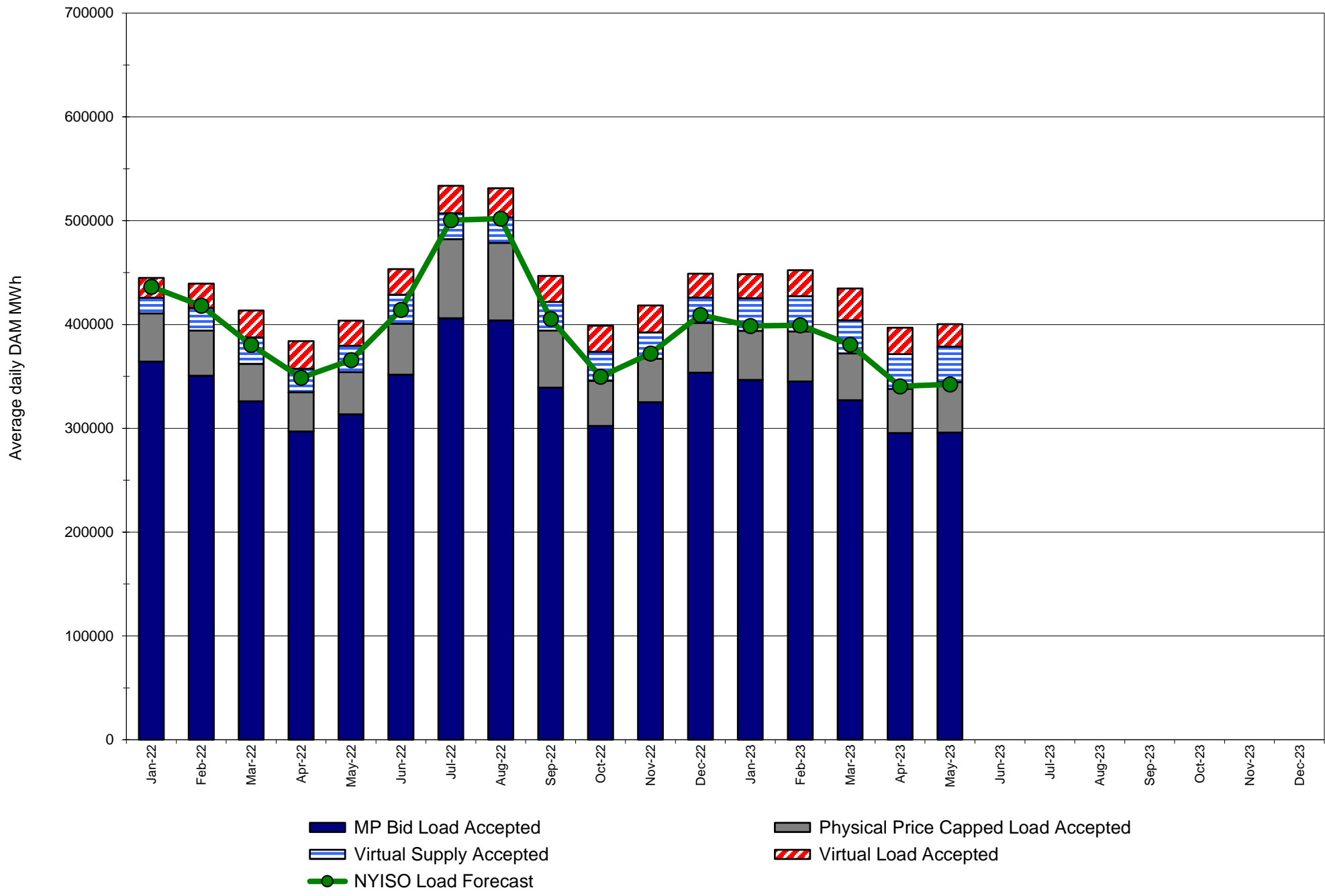
## NYISO In City Energy Mitigation - AMP (NYC Zone) 2022 - 2023 Percentage of committed unit-hours mitigated



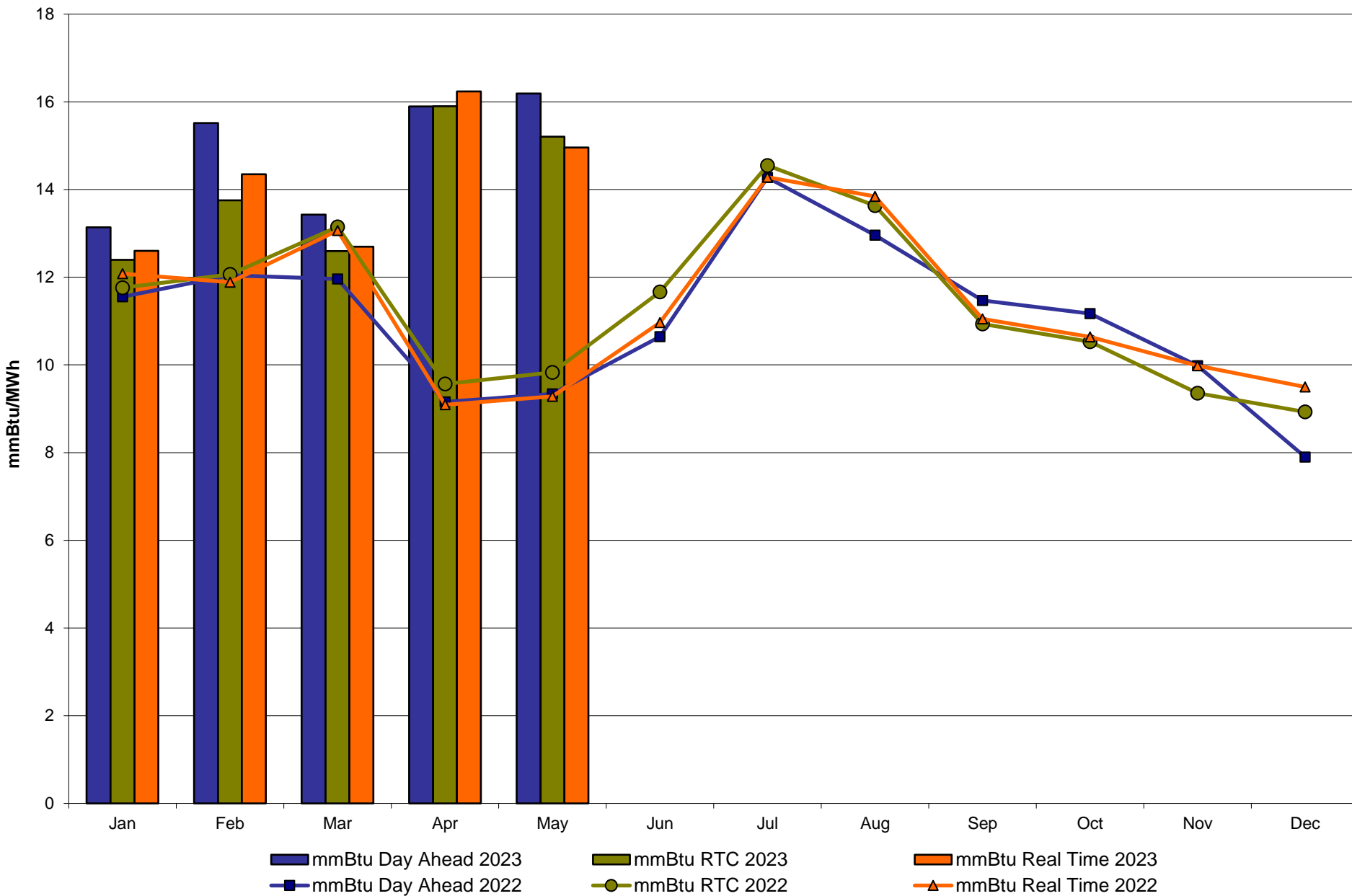
**NYISO In City Energy Mitigation (NYC Zone) 2022 - 2023**  
**Monthly megawatt hours mitigated**



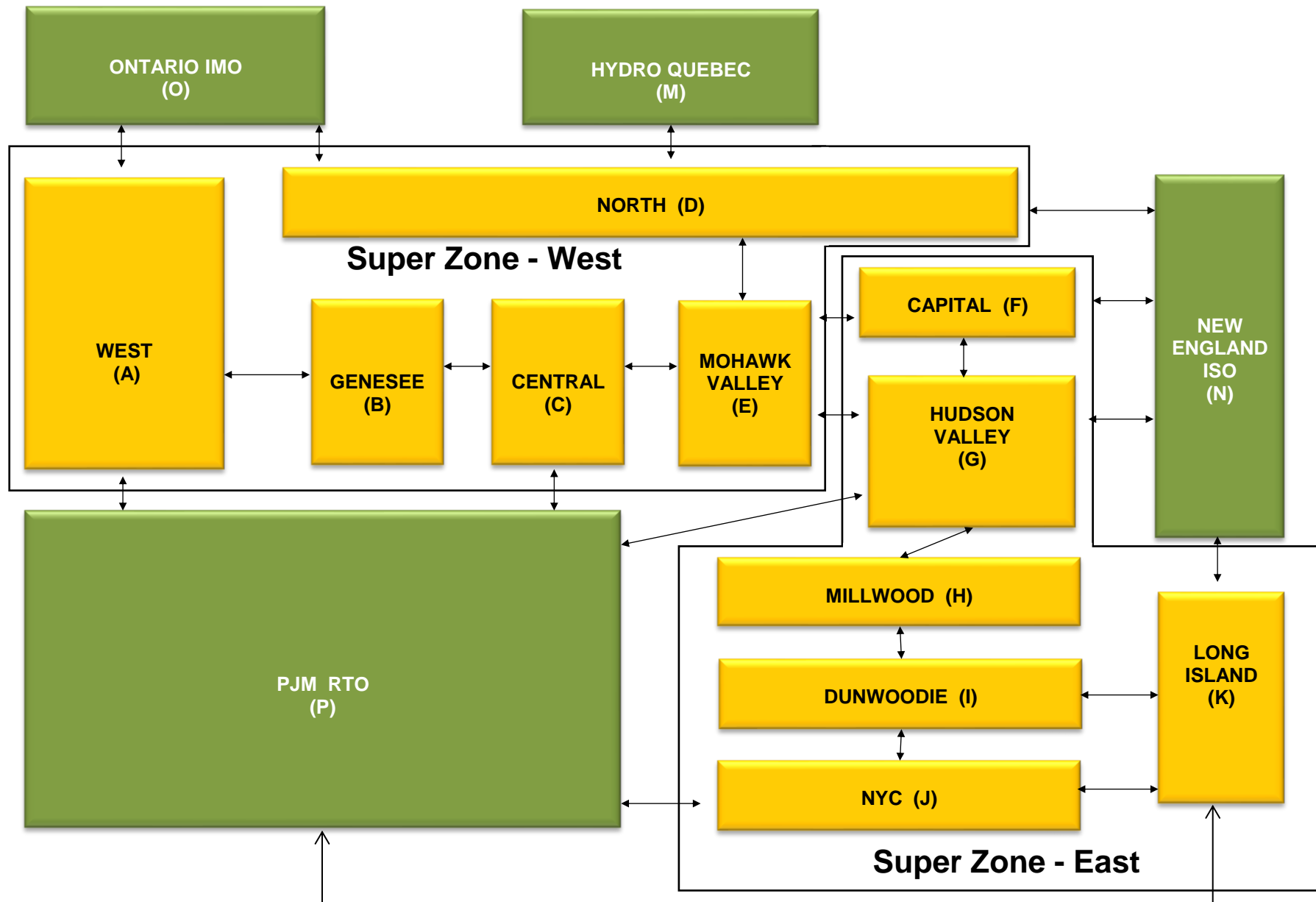
# NYISO Average Daily DAM Load Bid Summary



## Monthly Implied Heat Rate 2022-2023



# NYISO LBMP ZONES

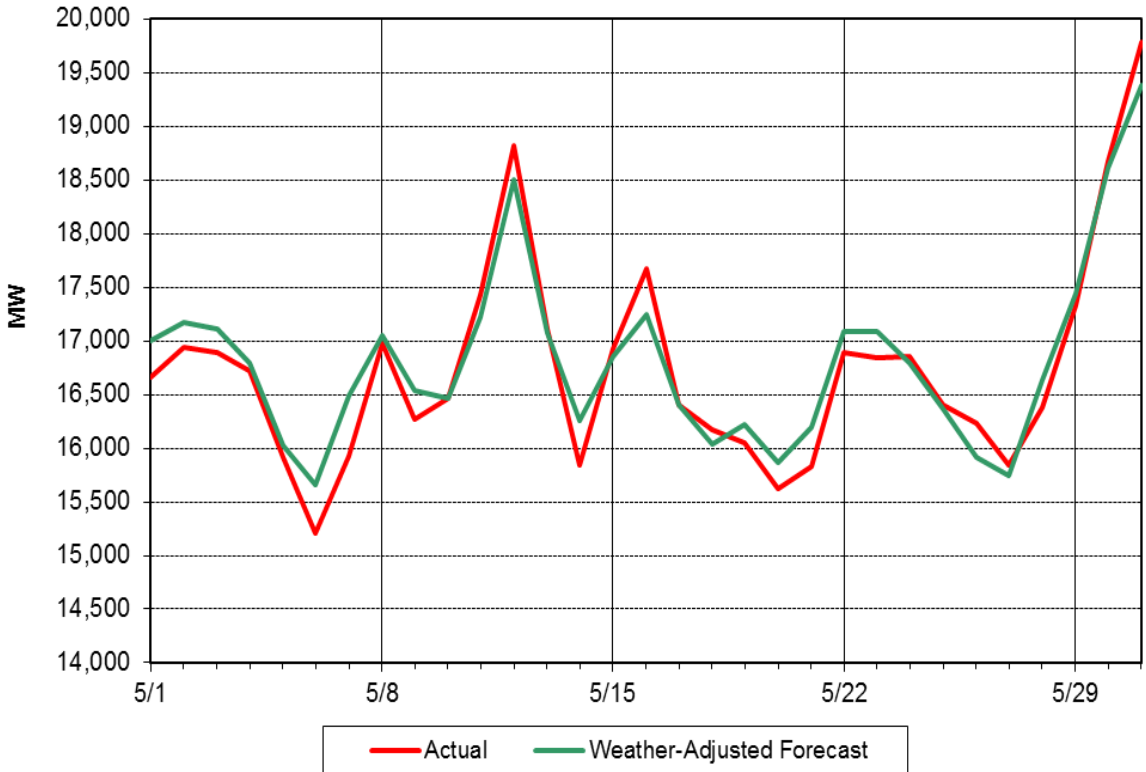




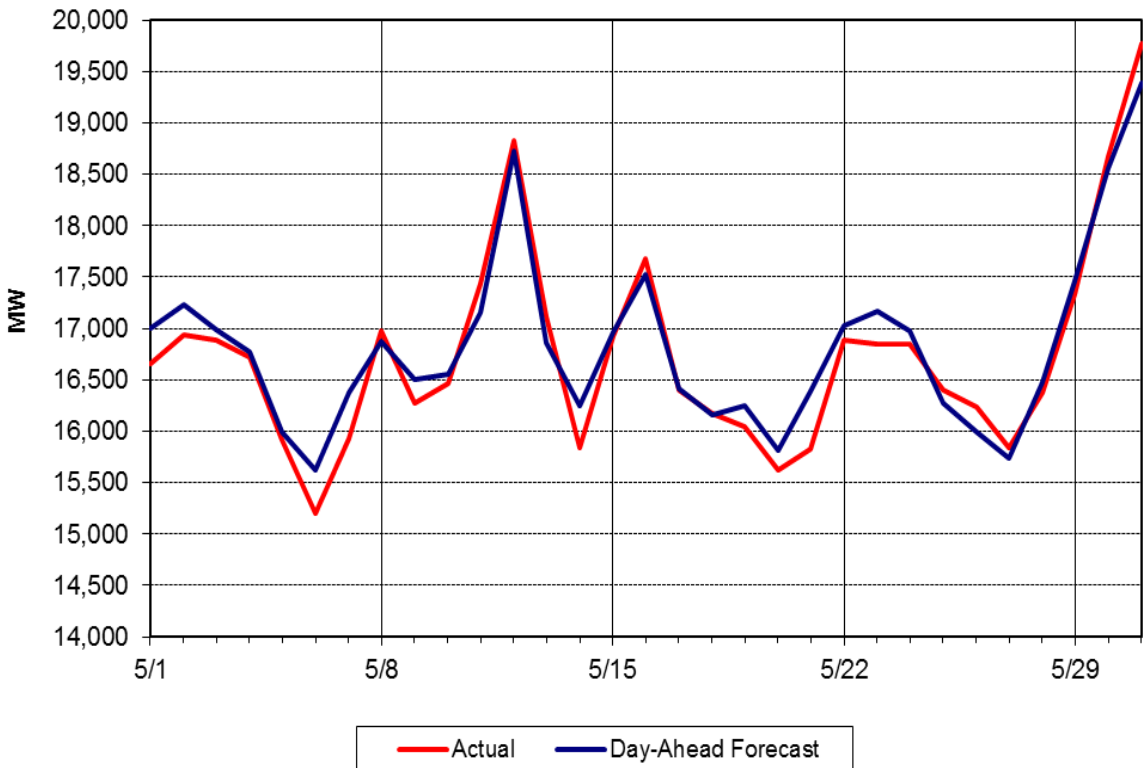
**Billing Codes for Chart C**

<b>Chart - C Category Name</b>	<b>Billing Code</b>	<b>Billing Category Name</b>
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

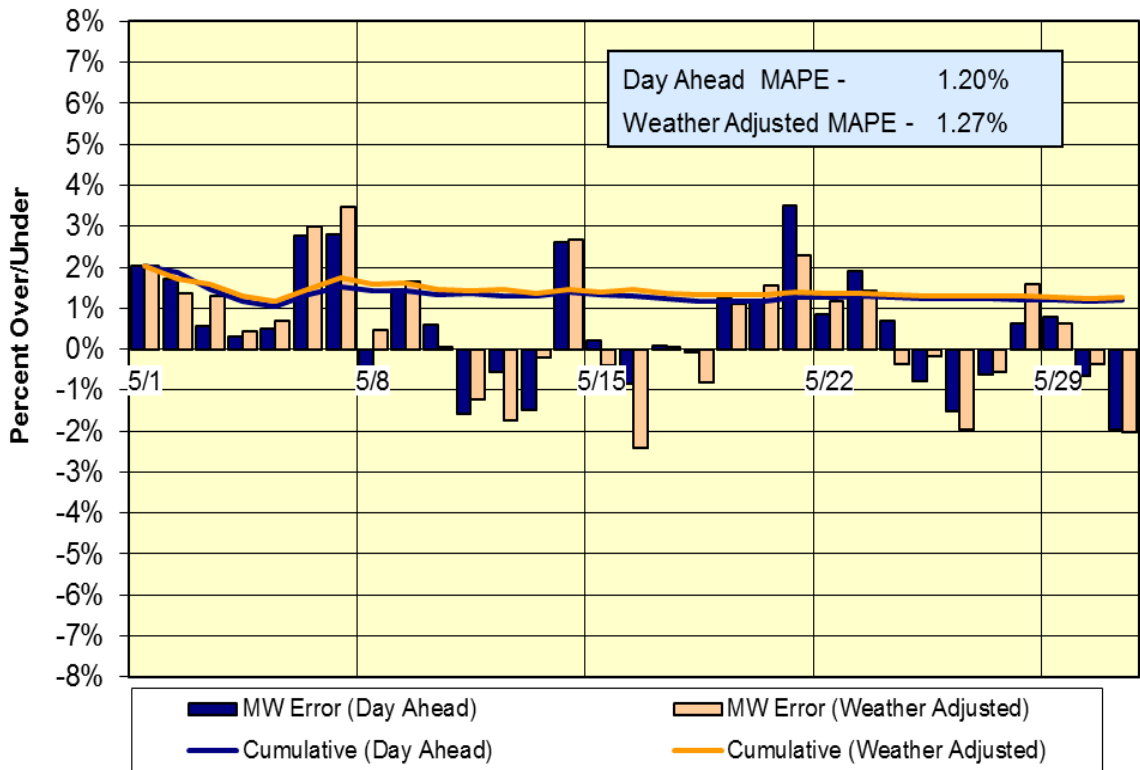
**NYISO Daily Peak Load - May 2023**  
**Actual vs. Weather-Adjusted Forecast**



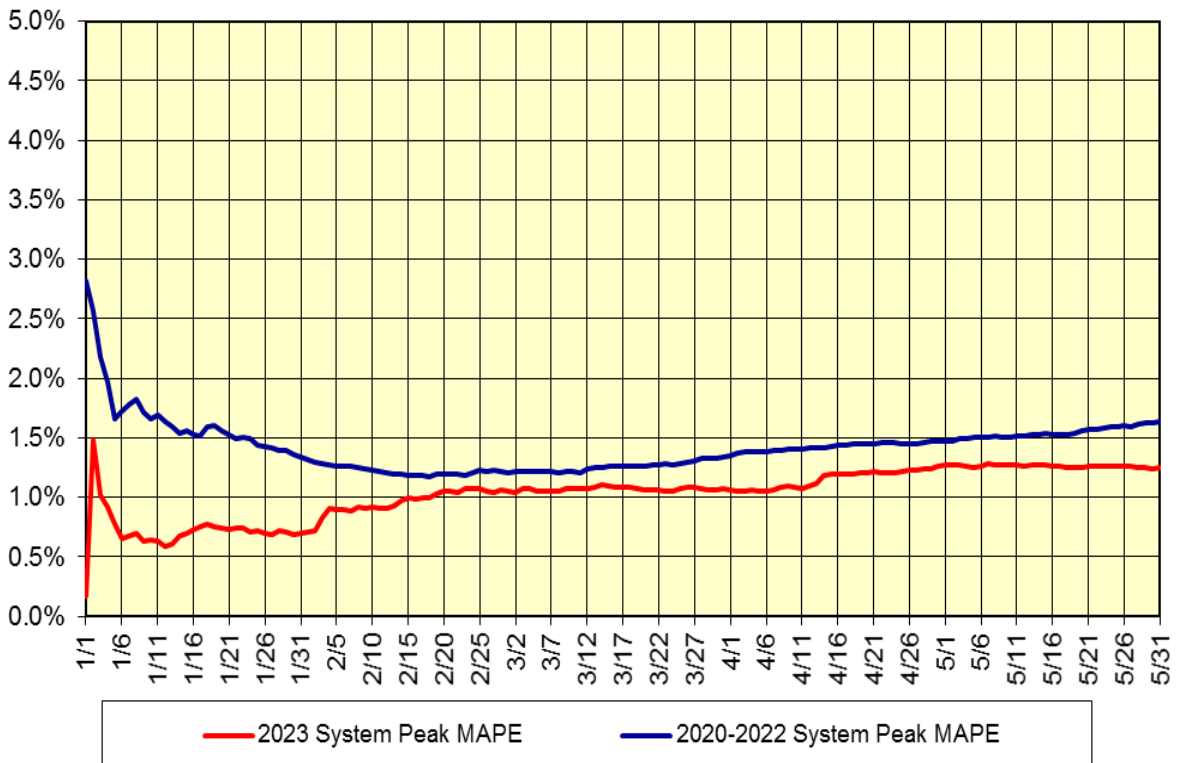
**NYISO Daily Peak Load - May 2023**  
**Actual vs. Forecast**



### Day Ahead Peak Forecast - May 2023 Percent Error - Actual & Weather-Adjusted



### Day-Ahead Forecast Accuracy - Cumulative Performance 2023 Year-to-Date



**Summary Description of Regulatory Filings, Investigations,  
Rulemakings and Related Orders in NYISO Matters – May 2023**

<b>Filing Date</b>	<b>Filing Summary</b>	<b>Docket</b>	<b>Order Summary</b>	<b>Order Date</b>
11/30/2020	NYISO Section 205 filing of the Installed Capacity Demand Curves for the 2021-2022 Capability Year and the methodologies and inputs for use in conducting annual updates for the 2022-2023, 2023-2024, and 2024-2025 Capability years.	ER21-502-001	FERC Order accepted, in part, subject to condition, NYISO tariff revisions of NYISO Demand Curve Reset 2021-2025 Capacity Year. FERC's order reversed FERC's December 16, 2022 order on remand and directed the NYISO to prospectively implement revised demand curves using a 17-year amortization period for the remainder of the 2021-2025 reset period as soon as practicable, and further directed a compliance filing on or before June 9, 2023 to i) submit tariff revisions required to implement the revised curves using a 17-year amortization period, and ii) identify the first spot auction that will utilize the revised curves.	05/19/2023
03/10/2023	NYISO Section 205 filing of proposed tariff revisions to better align the credit requirements for Virtual and External Transactions with the risk associated with the transactions.	ER23-1307-000	FERC Deficiency Letter informed the NYISO that its Section 205 filing is deficient, and directed a deficiency response within 30 days of the order date.	05/05/2023
03/16/2023	NYISO-National Grid joint Section 205 filing of an executed Small Generator Interconnection Agreement (SA No. 2756) among NYISO, National Grid, and Hawthorn Solar LLC for the Hawthorn Solar project.	ER23-1401-000	FERC Letter Order accepted the SGIA, effective March 2, 2023, as requested.	05/12/2023
03/23/2023	NYISO Section 205 filing of an executed Amended & Restated Large Generator Interconnection Agreement (SA No. 2709) among NYISO, LIPA, and LI Solar Generation for the Calverton Solar Energy Center project.	ER23-1446-000	FERC Letter Order accepting the executed Amended & Restated Agreement, effective March 9, 2023 as requested.	05/15/2023
03/24/2023	NYISO National Grid Joint 205 filing of a second amended and restated Large Generator Interconnection Agreement among NYISO, National Grid, and Ball Hill Wind for the Ball Hill Wind Facility (SA 2473).	ER23-1454-000	FERC Letter Order accepted the Second Amended and Restated Agreement effective March 10, 2023, as requested.	05/22/2023

Filing Date	Filing Summary	Docket	Order Summary	Order Date
03/29/2023	NYISO-National Grid Joint 205 filing of an amended and restated Small Generator Interconnection Agreement among NYISO, National Grid, and Regan Solar, LLC for the Regan Solar Project (SA 2574).	ER23-1510-000	FERC Letter Order accepted the amended and restated Agreement effective March 15, 2023, as requested.  On May 24, 2023, FERC issued an Errata notice correcting its description of the service agreement in the original order.	05/22/2023
03/31/2023	NYISO Section 205 filing of proposed Services Tariff revisions to align bidding, scheduling, and notification requirements for Installed Capacity Suppliers with Energy Duration Limitations with the new Peak Load Window established under the marginal capacity accreditation market revisions design.	ER23-1527-000	FERC Letter Order accepted the NYISO's proposed Services Tariff.	05/19/2023
05/01/2023	NYISO compliance filing to incorporate by reference North American Energy Standards Board ("NAESB") Wholesale Electric Quadrant ("WEQ") standards required by FERC's Order 676-J, and to request waivers of certain NAESB WEQ business practice standards.	ER23-1783-000, RM05-5-029, RM05-5-030		
05/03/2023	NYISO 205 filing of proposed tariff revisions regarding the retention and transfer of Capacity Resource Interconnection Service (CRIS).	ER23-1824-000		
05/05/2023	Joint 205 filing of a Transmission Facility Interconnection Agreement among NYISO, Con Edison, New York Power Authority, and CHPE LLC for the Astoria-Rainey Cable and upgrades concerning the Champlain Hudson Power Express project, SA 2772.	ER23-1839-000		
05/08/2023	NYISO Notice of Termination of IPKeys Power Partners, Inc. from the NYISO-Administered Markets.	No Docket		
05/11/2023	NYISO Section 205 filing of tariff revisions to implement enhancements to its transmission constraint pricing logic.	ER23-1863-000		
05/15/2023	NYISO informational filing re: interconnection study metrics for the first quarter of 2023 consistent with the requirements of Order Nos. 845 and 845-A.	ER19-1949-000		

Filing Date	Filing Summary	Docket	Order Summary	Order Date
05/15/2023	NYISO filing on behalf of the Eastern Interconnection Planning Collaborative (EIPC): response to post-workshop questions related to establishing interregional transfer capability.	AD23-3-000		
05/18/2023	NYISO filing of a notice of cancellation of the Second Amended and Restated Large Generator Interconnection Agreement (LGIA) in connection with the Berrians East Replacement project, among NYISO, Con Edison, and NRG Berrians East Development (SA No. 2535)	ER23-1914-000		
05/22/2023	NYISO compliance filing to fulfill the directives of FERC's April 20, 2023 Order on the NYISO's Order No. 2222 compliance filing.	ER21-2460-005		
05/31/2023	Joint NYISO-New York State Electric and Gas Corporation (NYSEG) 205 filing of an executed Small Generator Interconnection Agreement (SGIA) among NYISO, NYSEG, and Clear View Solar for the Clear View Solar project (SA2775).	ER23-2004-000		
05/31/2023	NYISO submission of its FERC Form 714 Annual Electric Balancing Authority Area and Planning Area Report for the 2022 reporting year.	FERC Form 714		