

Monthly Report

A Report by the
New York Independent System Operator

April 2022

Table of Contents

Operations Performance Metrics Report

Market Operation's Report

Daily Loads

Regulatory Filings

Operations Performance Metrics Monthly Report



April 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 May 9, 2022.

Table of Contents

- ♦ **Highlights**
 - *Operations Performance*
- ♦ **Reliability Performance Metrics**
 - *Alert State Declarations*
 - *Major Emergency State Declarations*
 - *IROL Exceedance Times*
 - *Balancing Area Control Performance*
 - *Reserve Activations*
 - *Disturbance Recovery Times*
 - *Load Forecasting Performance*
 - *Wind Forecasting Performance*
 - *Wind Performance and Curtailments*
 - *BTM Solar Performance*
 - *BTM Solar Forecasting Performance*
 - *Net Wind and Solar Performance*
 - *Net Load Forecasting Performance*
 - *Lake Erie Circulation and ISO Schedules*
- ♦ **Broader Regional Market Performance Metrics**
 - *PAR Interconnection Congestion Coordination Monthly Value*
 - *PAR Interconnection Congestion Coordination Daily Value*
 - *Regional Generation Congestion Coordination Monthly Value*
 - *Regional Generation Congestion Coordination Daily Value*
 - *Regional RT Scheduling - PJM Monthly Value*
 - *Regional RT Scheduling - PJM Daily Value*
- ♦ **Market Performance Metrics**
 - *Monthly Statewide Uplift Components and Rate*
 - *RTM Congestion Residuals Monthly Trend*
 - *RTM Congestion Residuals Daily Costs*
 - *RTM Congestion Residuals Event Summary*
 - *RTM Congestion Residuals Cost Categories*
 - *DAM Congestion Residuals Monthly Trend*
 - *DAM Congestion Residuals Daily Costs*
 - *DAM Congestion Residuals Cost Categories*
 - *NYCA Unit Uplift Components Monthly Trend*
 - *NYCA Unit Uplift Components Daily Costs*
 - *Local Reliability Costs Monthly Trend & Commitment Hours*
 - *TCC Monthly Clearing Price with DAM Congestion*
 - *ICAP Spot Market Clearing Price*
 - *UCAP Awards*

April 2022 Operations Performance Highlights

- Peak load of 18,249 MW occurred on 4/7/2022 HB 17
- All-time winter capability period peak load of 25,738 MW occurred on 01/07/2014 HB 18
- 0.75 hours of Thunderstorm Alerts were declared
- 5 hours of NERC TLR level 3 curtailment
- To reduce risks from COVID-19, the NYISO continues to take several actions to maintain critical business operations and protect the health and well-being of our employees and stakeholders.
- Revised Total East Stability, Central East Stability and Central East Voltage Collapse limits due to topology changes associated with AC Transmission Public Policy Segment A buildout were employed in EMS/BMS. The limits were presented and approved for use at the April Operating Committee meeting.
- NYISO began securing 6 new facilities associated with Gordon Rd station, due to AC Transmission Public Policy Segment A, in the Real-Time Market on 04/27/2022 and in the Day-Ahead Market execution occurring on 04/28/2022 for the 04/29/2022 market day. Refer to NYISO posting Attachment A of the Outage Scheduling manual for facility details.
- NYISO began securing W. Hempstead-Malverne 69kV (#353) & Deposit-Indian Head 69kV (#675) facilities in the Real-Time Market on 04/27/2022 and in the Day-Ahead Market execution occurring on 04/28/2022 for the 04/29/2022 market day.

The following table identifies the estimated production cost savings associated with the Broader Regional Market initiatives.

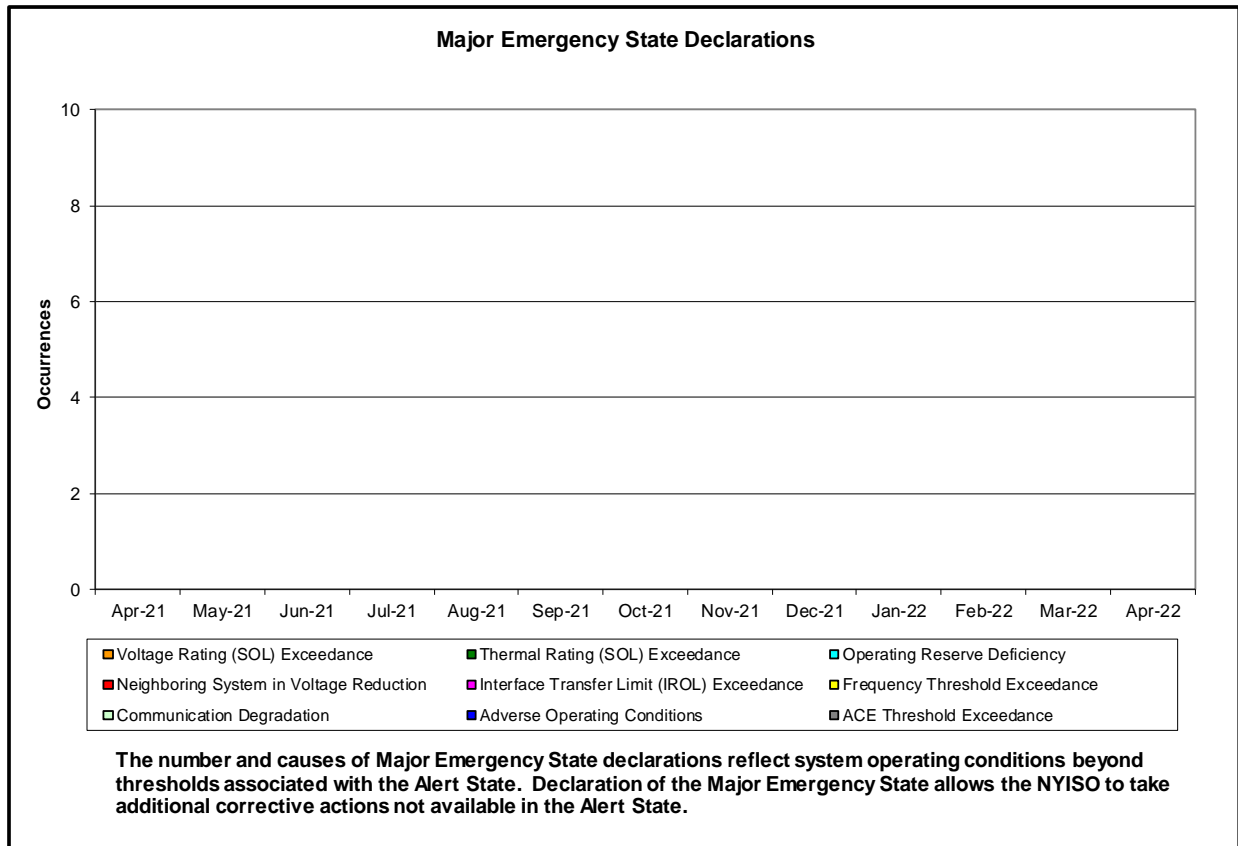
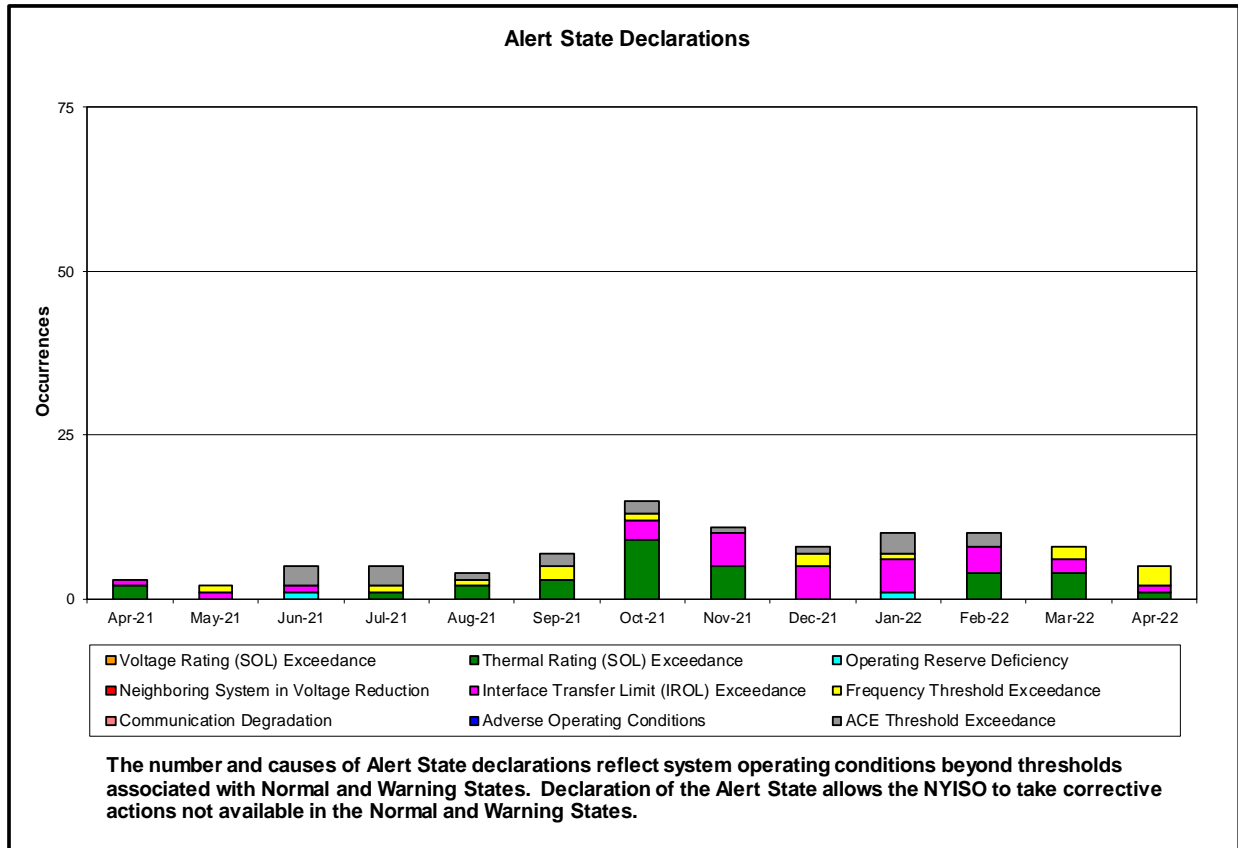
	Current Month Value (\$M)	Year-to-Date Value (\$M)
NY Savings from PJM-NY Congestion Coordination	\$6.20	\$12.68
NY Savings from PJM-NY Coordinated Transaction Scheduling	(\$0.39)	(\$0.92)
NY Savings from NE-NY Coordinated Transaction Scheduling	(\$0.41)	\$1.73
Total NY Savings	\$5.40	\$13.49
Regional Savings from PJM-NY Coordinated Transaction Scheduling	\$0.66	\$2.50
Regional Savings from NE-NY Coordinated Transaction Scheduling	\$0.06	\$1.76
Total Regional Savings	\$0.71	\$4.26

- Statewide uplift cost monthly average was (\$0.79)/MWh.
- The following table identifies the Monthly ICAP spot market prices and the price delta.

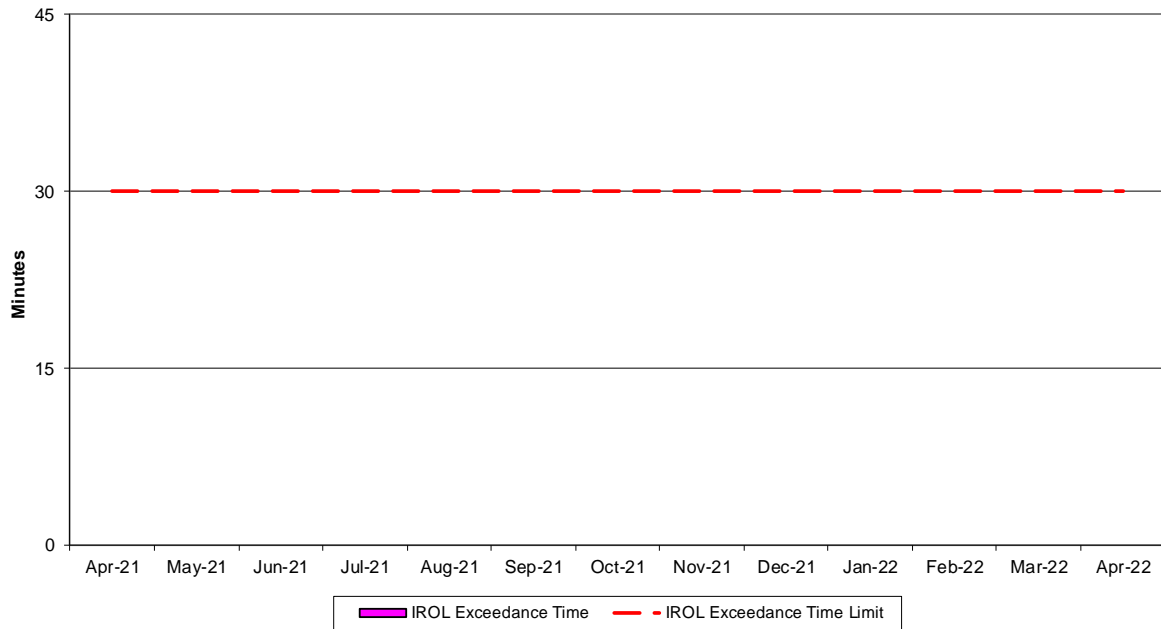
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
May 2022 Spot Price	\$2.72	\$3.46	\$3.70	\$5.93
October 2021 Spot Price	\$4.21	\$4.21	\$5.07	\$9.28
Delta	(\$1.49)	(\$0.75)	(\$1.37)	(\$3.35)

- Price changes from October 2021 to May 2022 are driven by changes in supply as well as Capability Year inputs such as demand curve parameters, Locational Capacity Requirements, the Installed Reserve Margin and the load forecast.

Reliability Performance Metrics

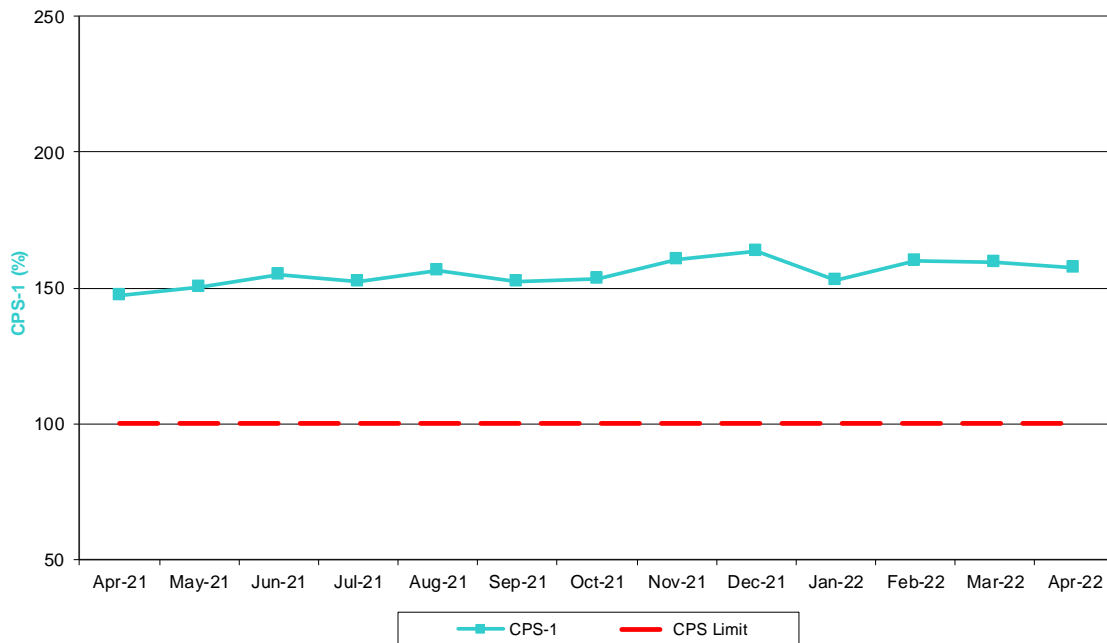


NERC IROL Time Over Limit



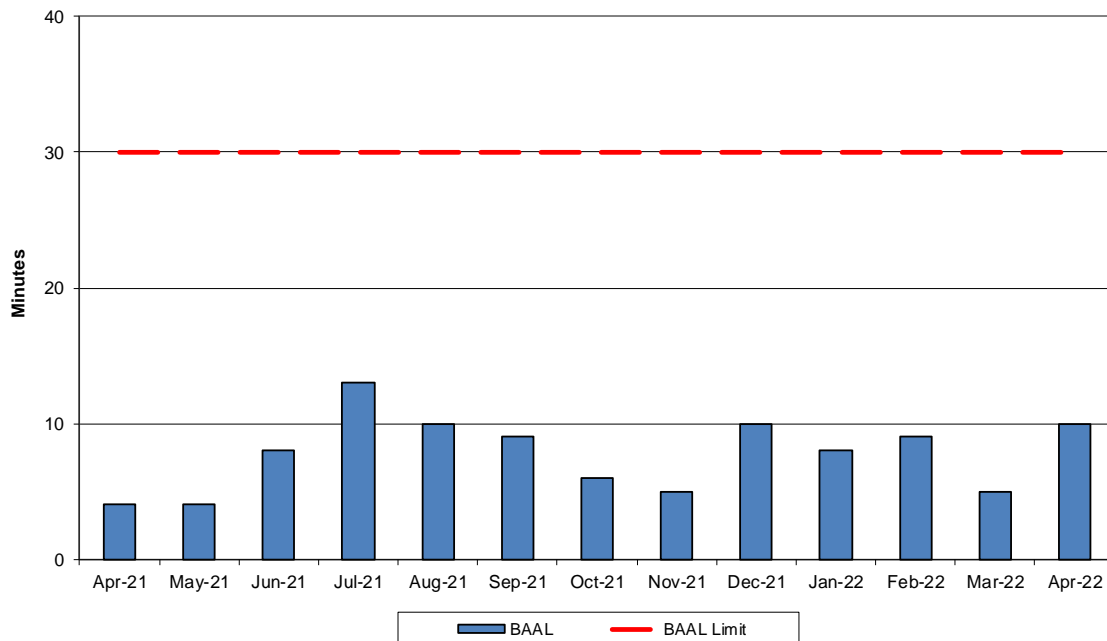
For IROL exceedances leading to Major Emergency State declarations, the maximum IROL exceedance time is identified. IROL exceedances of less than thirty minutes are considered NERC compliant.

NERC Control Performance Standards



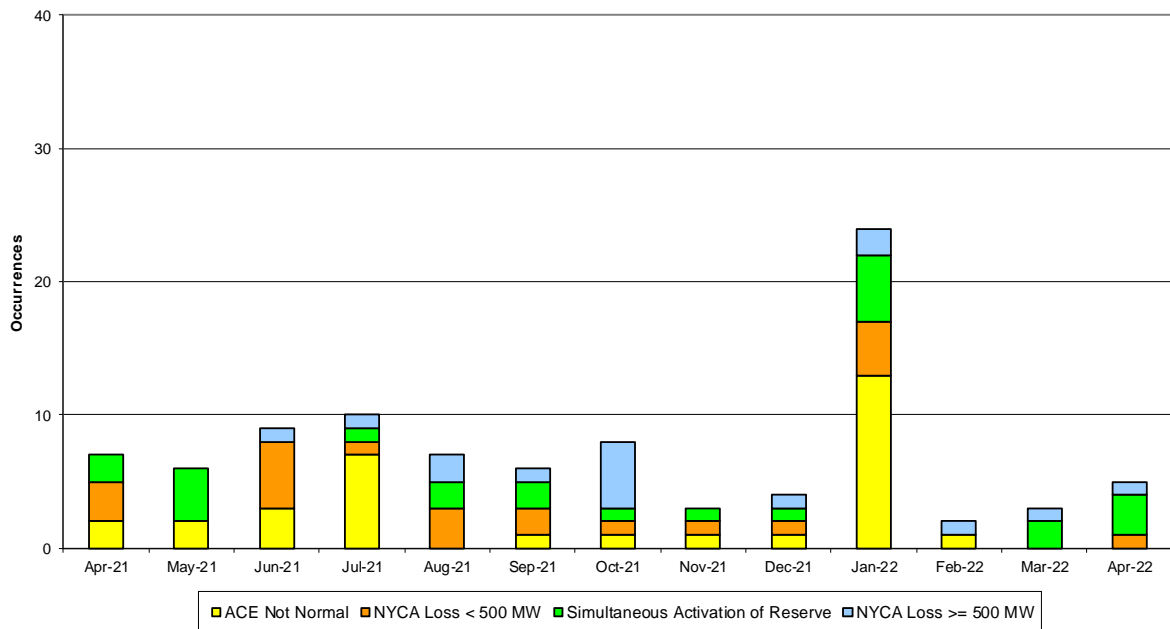
The value of NERC Control Performance Standards (CPS-1) is an indicator of the NYISO Area resource and demand balancing. Values exceeding the identified threshold are NERC compliant.

NERC Balancing Authority ACE Limit Standard



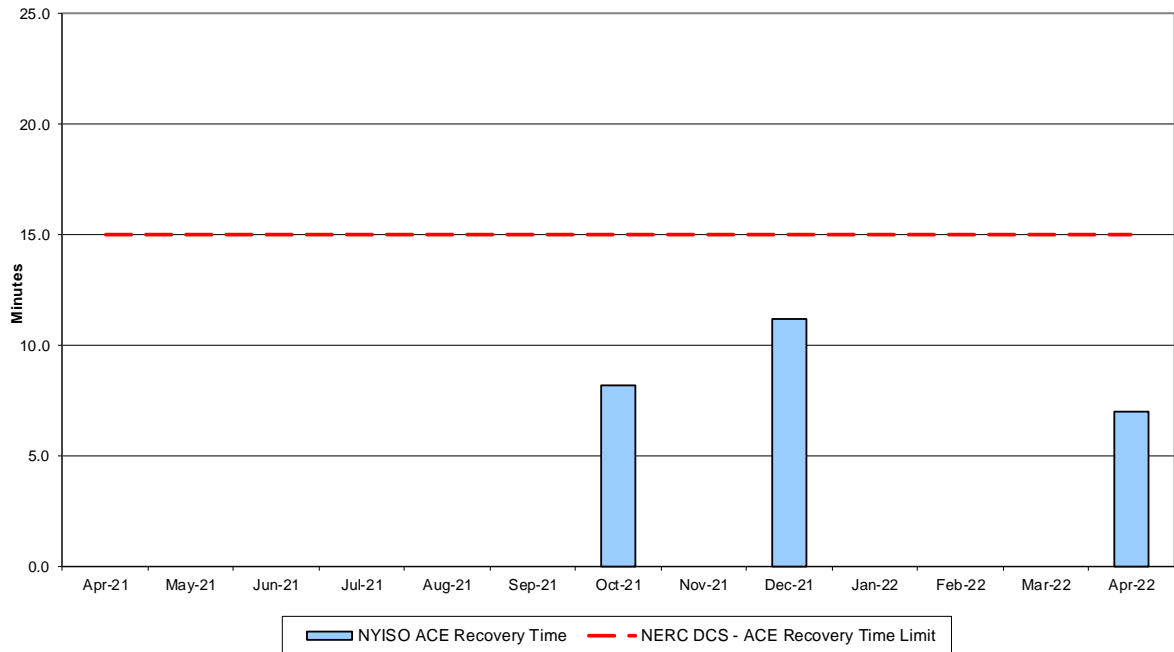
The amount of time the clock-minute average ACE exceeds the clock-minute Balancing Authority ACE Limit (BAAL) is an indicator of the NYISO Area resource and demand balancing. The maximum BAAL exceedance time is identified. BAAL exceedances of less than 30 consecutive clock-minutes are NERC compliant.

Reserve Activations



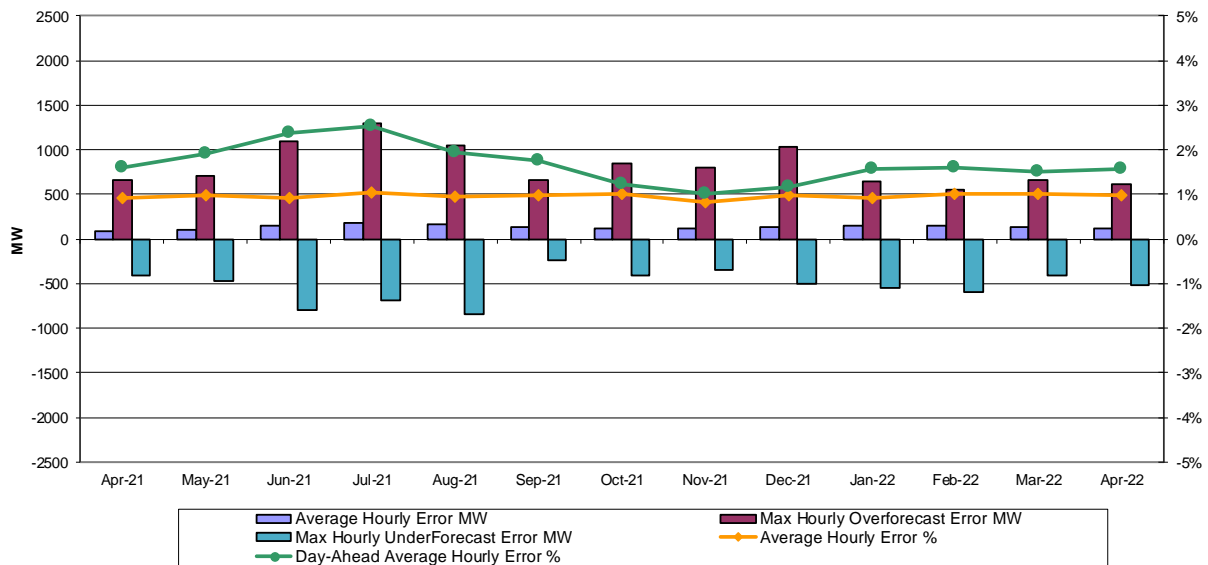
NYISO Reserve Activations are indicators of the need to respond to unexpected operational conditions within the NYISO Area or to assist a neighboring Area (Simultaneous Activation of Reserves) by activating an immediate resource and demand balancing operation.

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

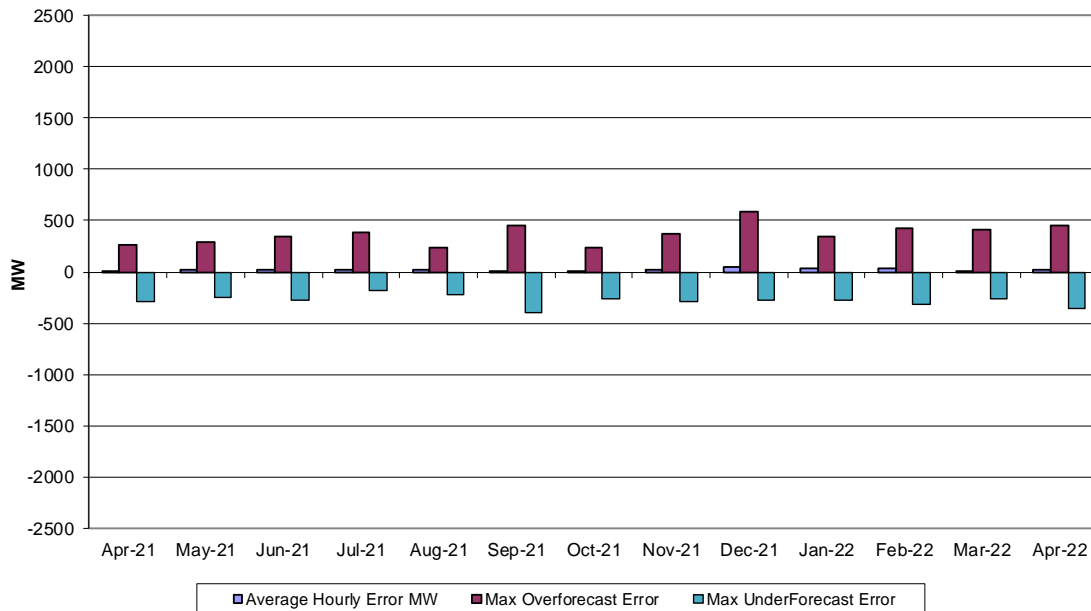


Hourly Error MW - Value of the difference between the hourly average actual load demand and the average hour ahead forecast load demand.

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

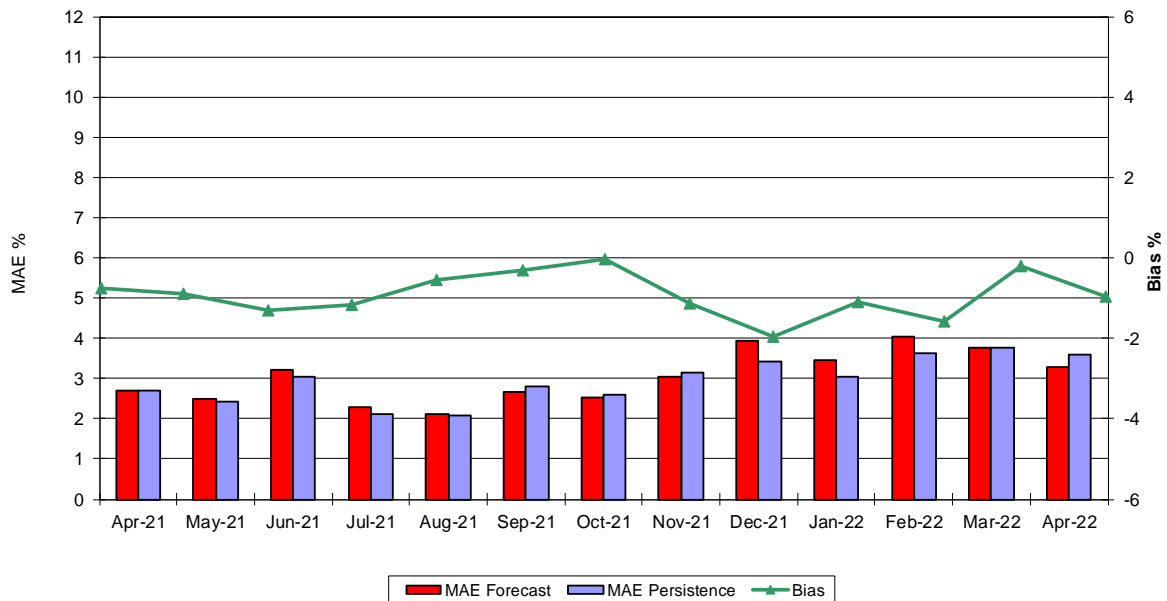
Day-Ahead Average Hourly Error % - Average across all hours of the month of the absolute value of the difference between actual load demand and the Day-Ahead forecast load demand, divided by the actual load demand.

Wind Forecast Performance Hour Ahead MW Error

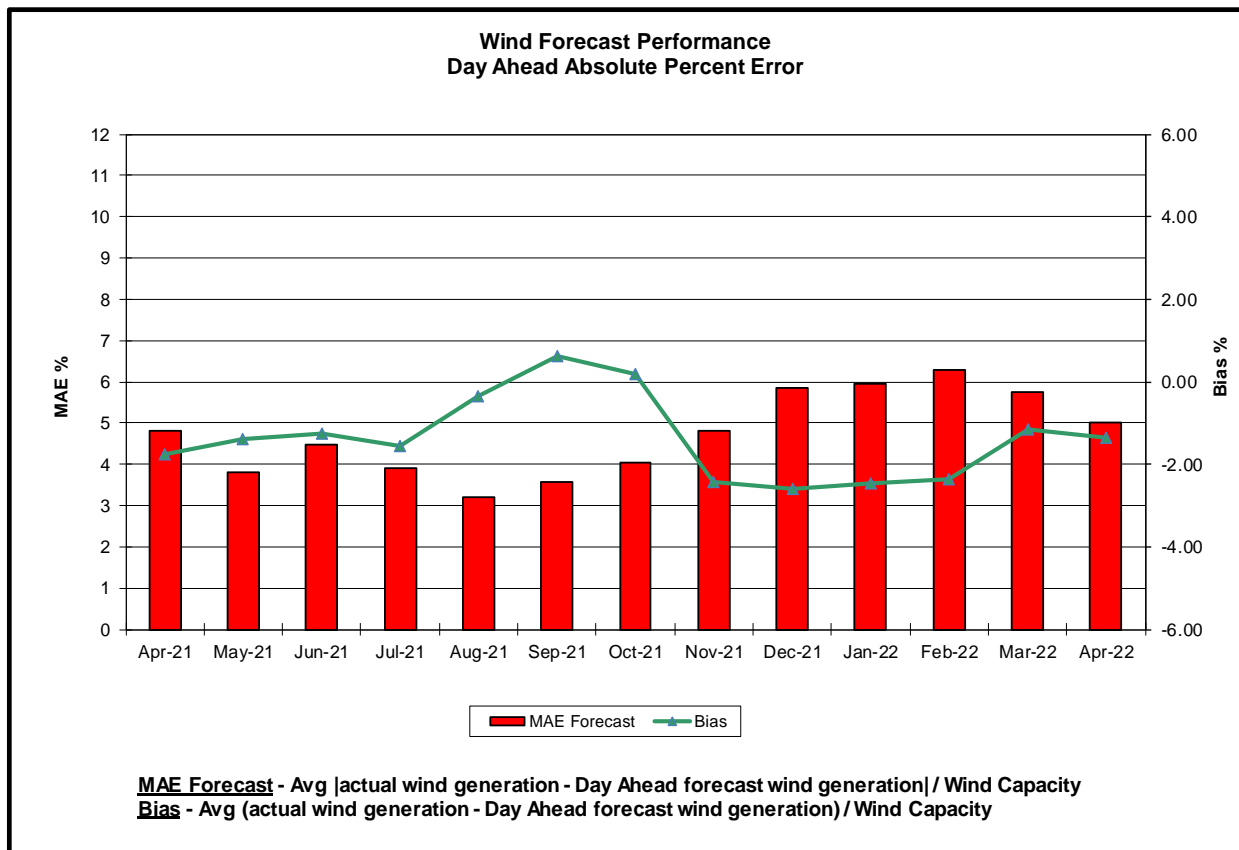
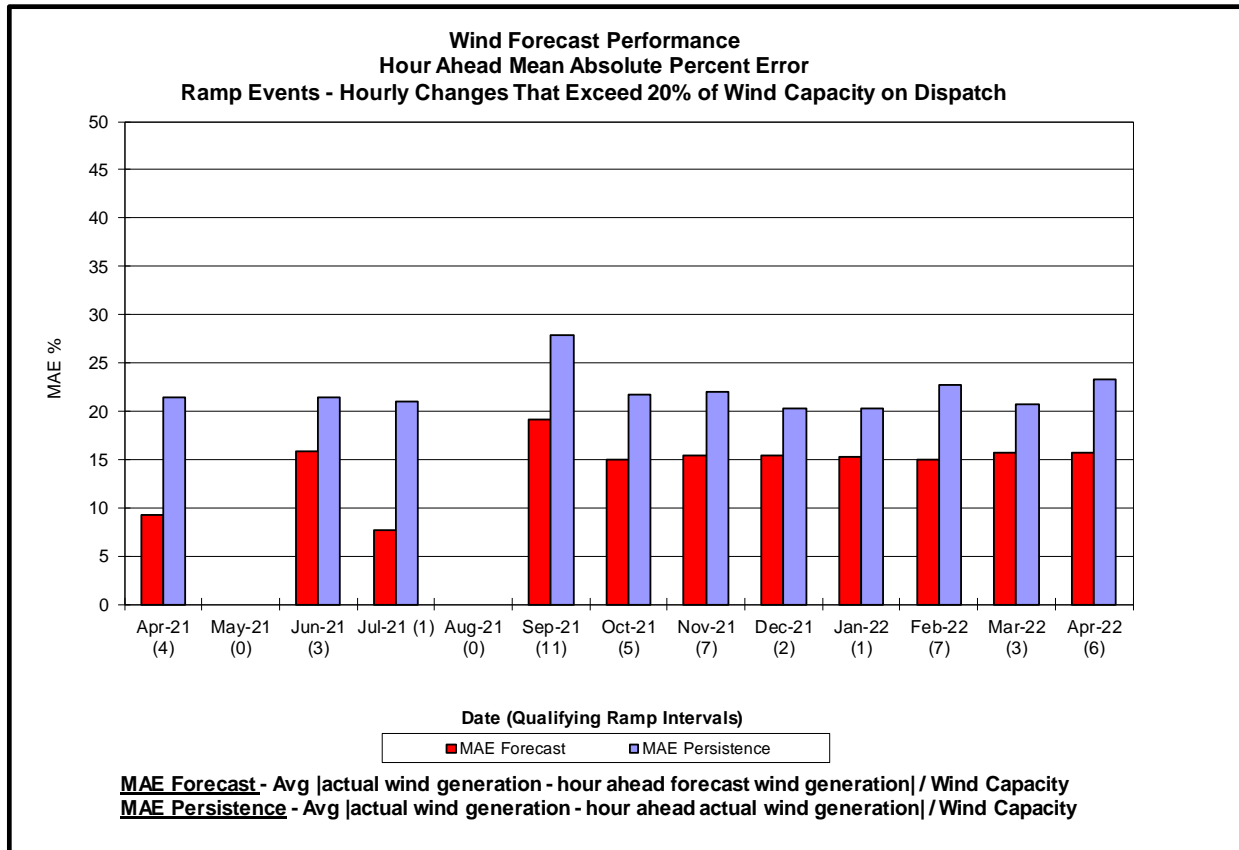


Hourly Error MW - Value of the difference between the hourly average actual wind generation and the average hour ahead forecast wind generation.

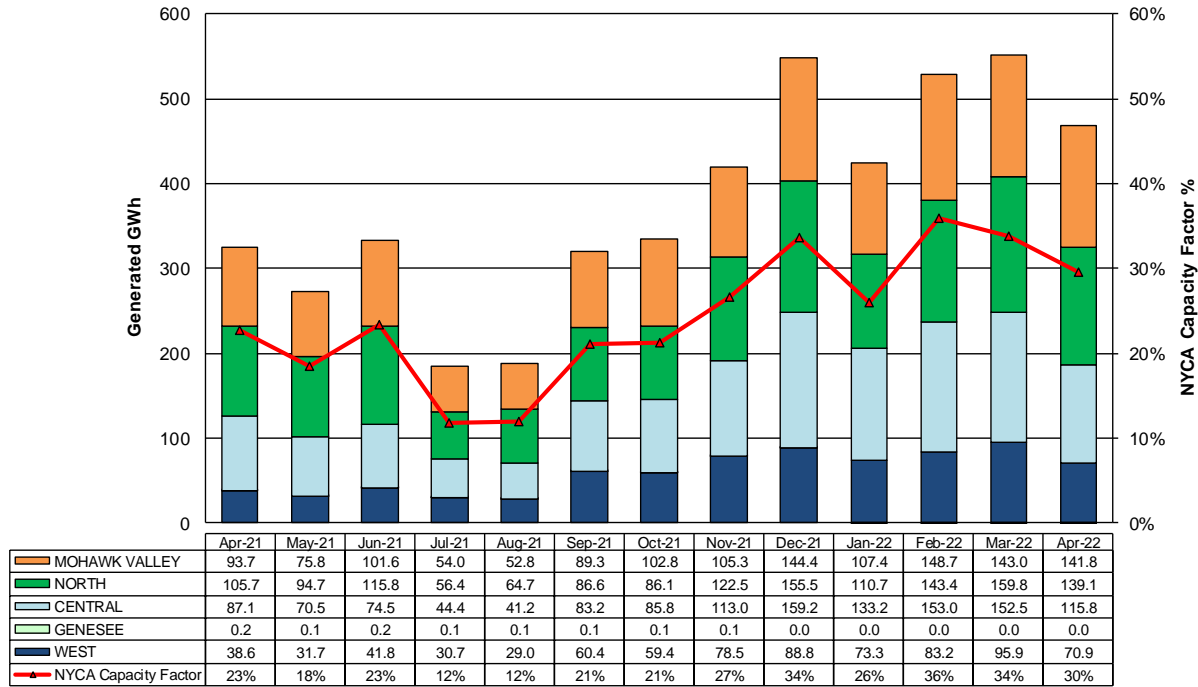
Wind Forecast Performance Hour Ahead Percent Error



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

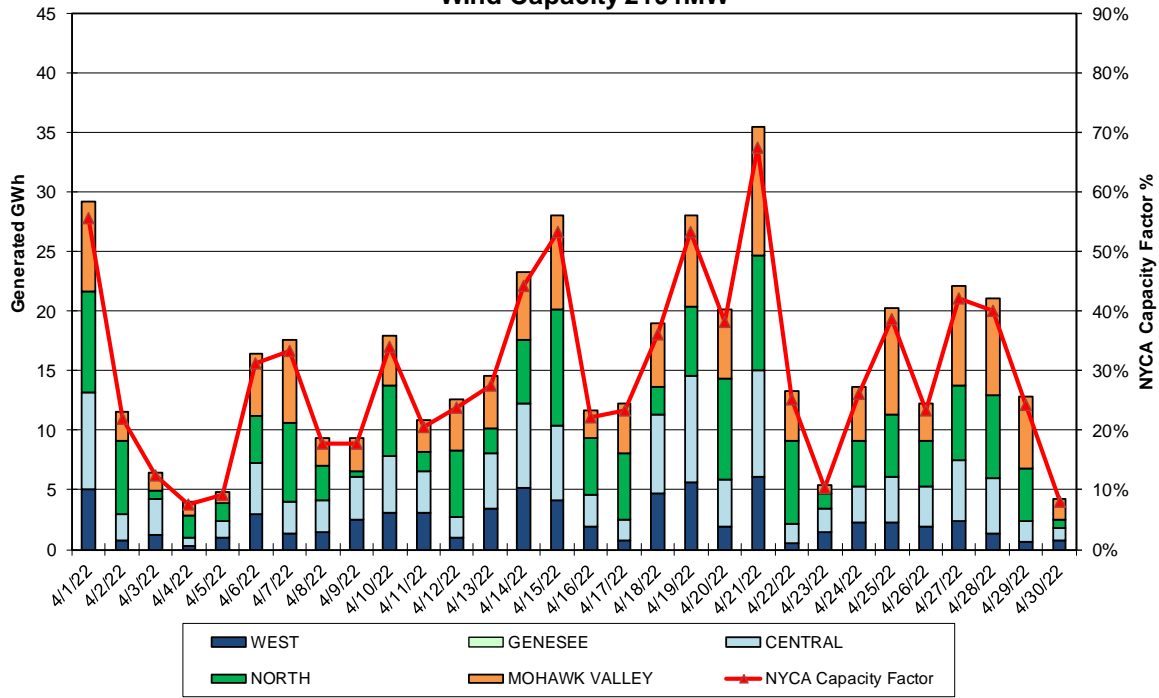


Wind Performance Monthly Production and Capacity Factor Wind Capacity 2191MW

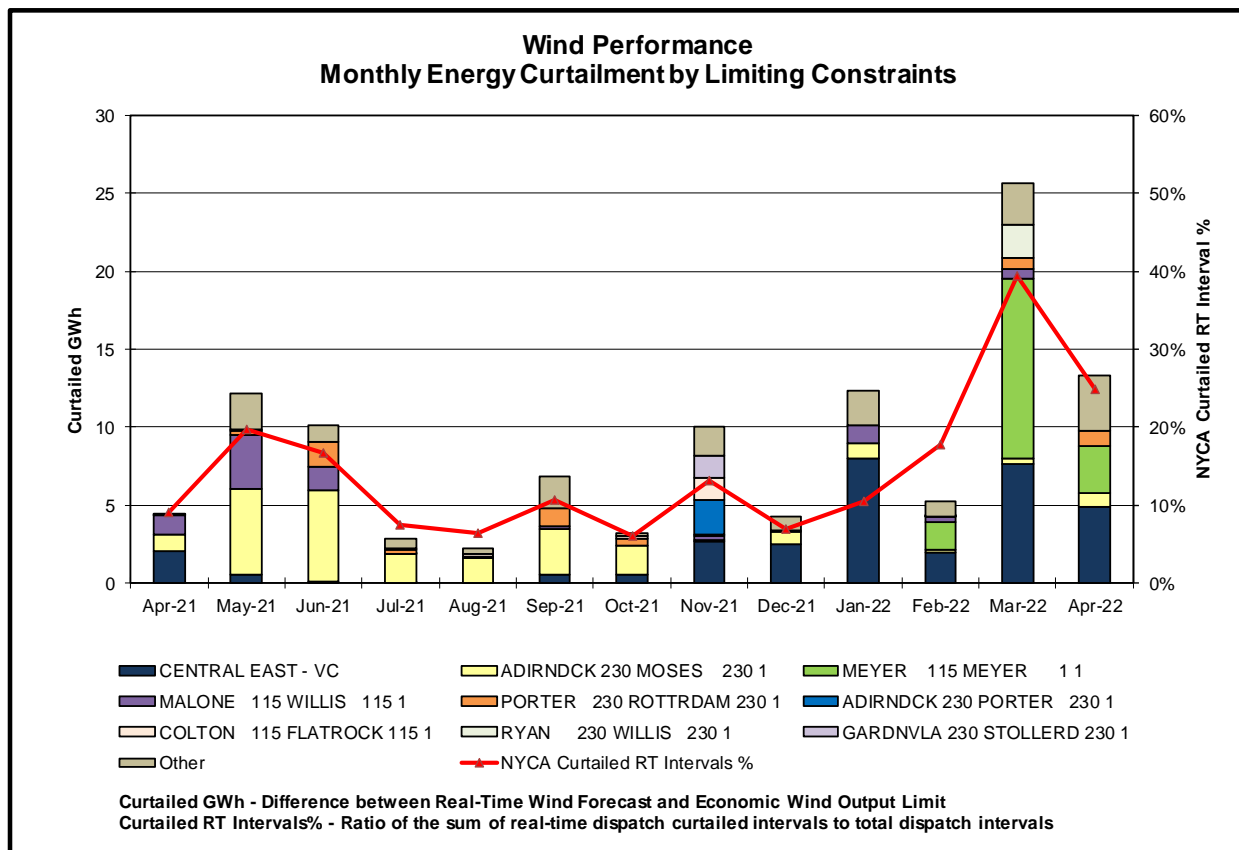
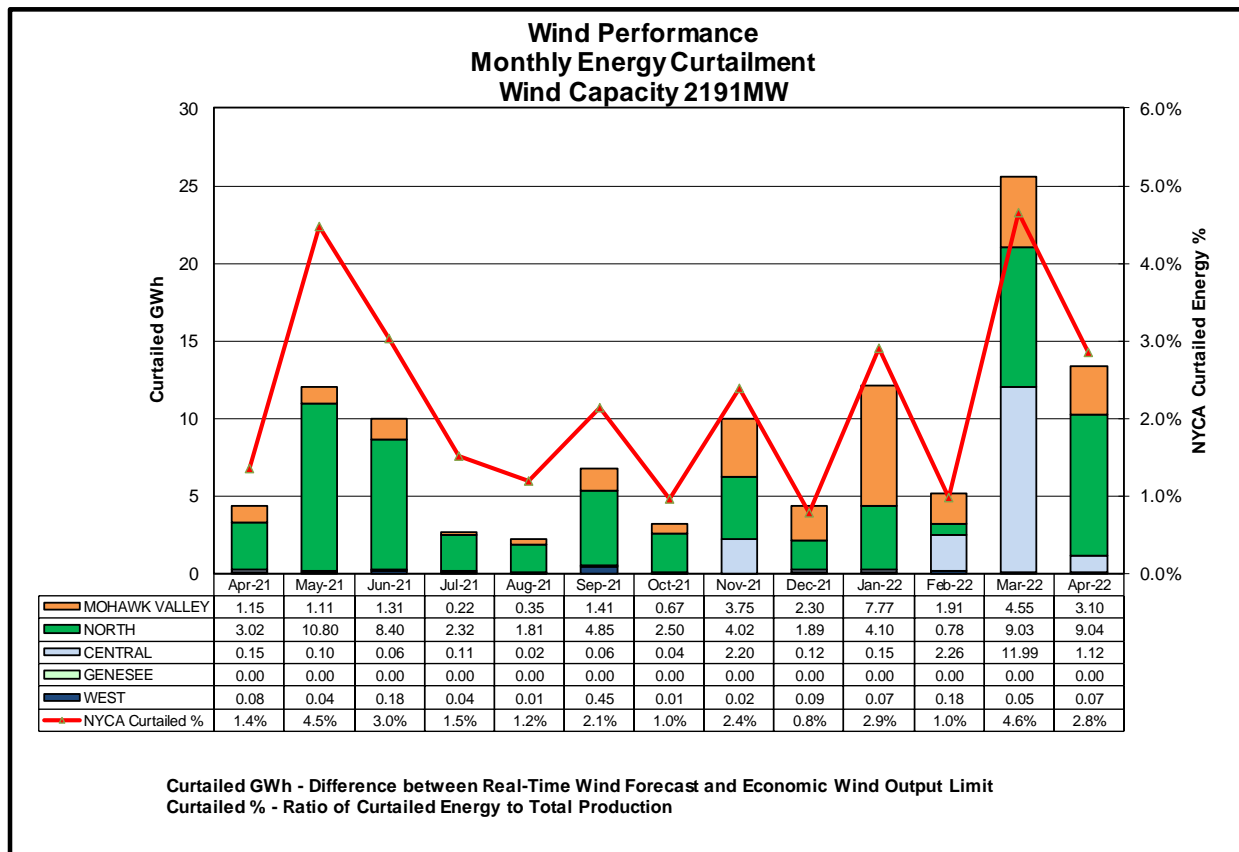


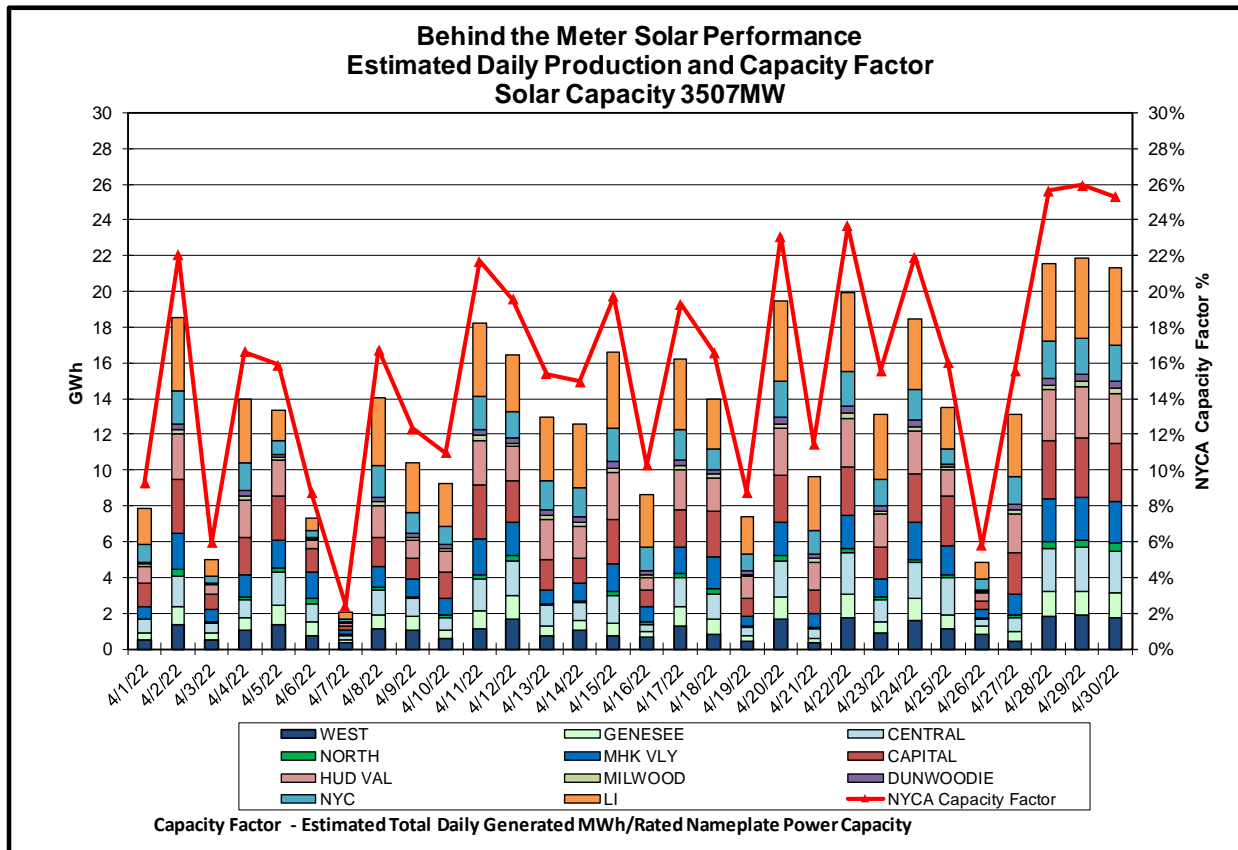
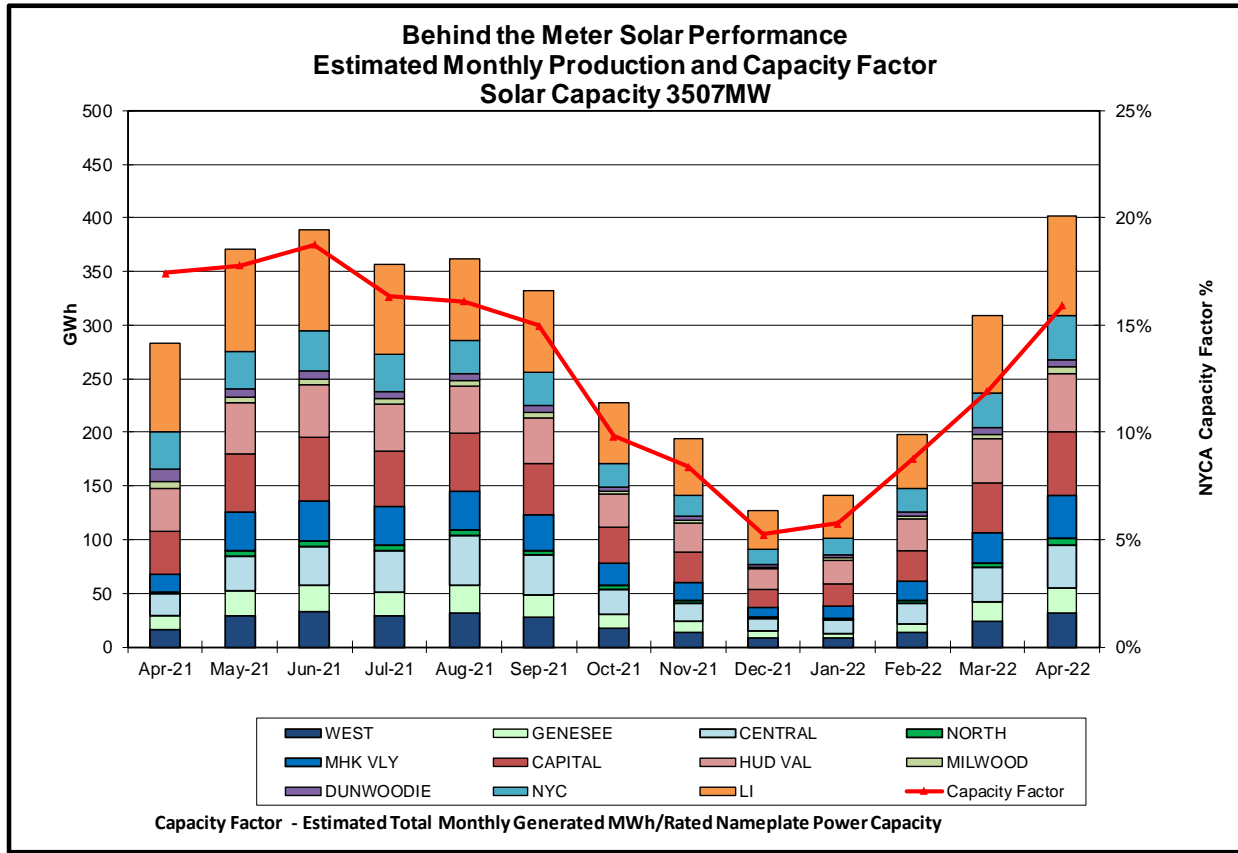
Capacity Factor - Total Monthly Generated MWh/Rated Nameplate Power Capacity

Wind Performance Daily Production and Capacity Factor Wind Capacity 2191MW

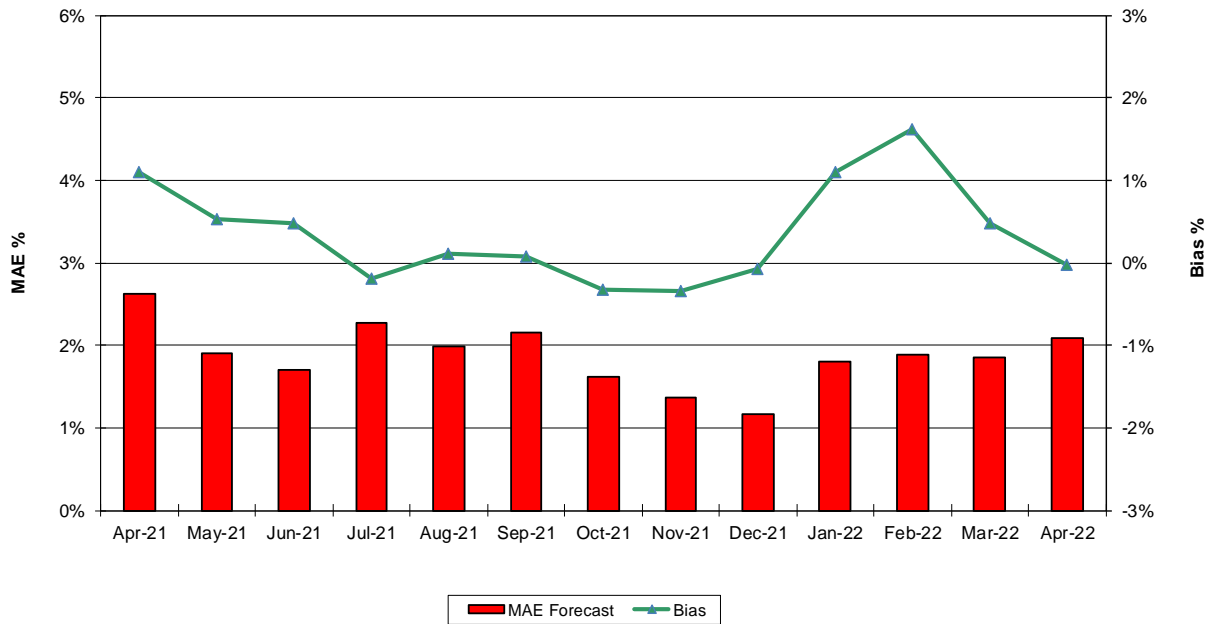


Capacity Factor - Total Daily Generated MWh/Rated Nameplate Power Capacity



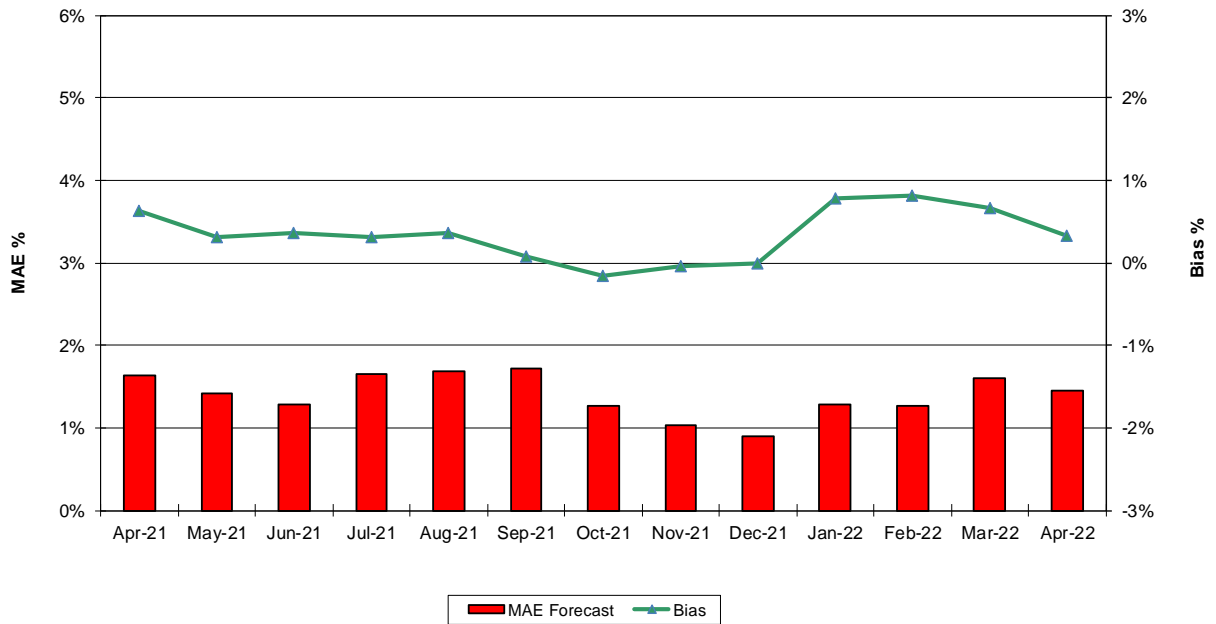


Behind the Meter Solar Forecast Performance Day Ahead Percent Error

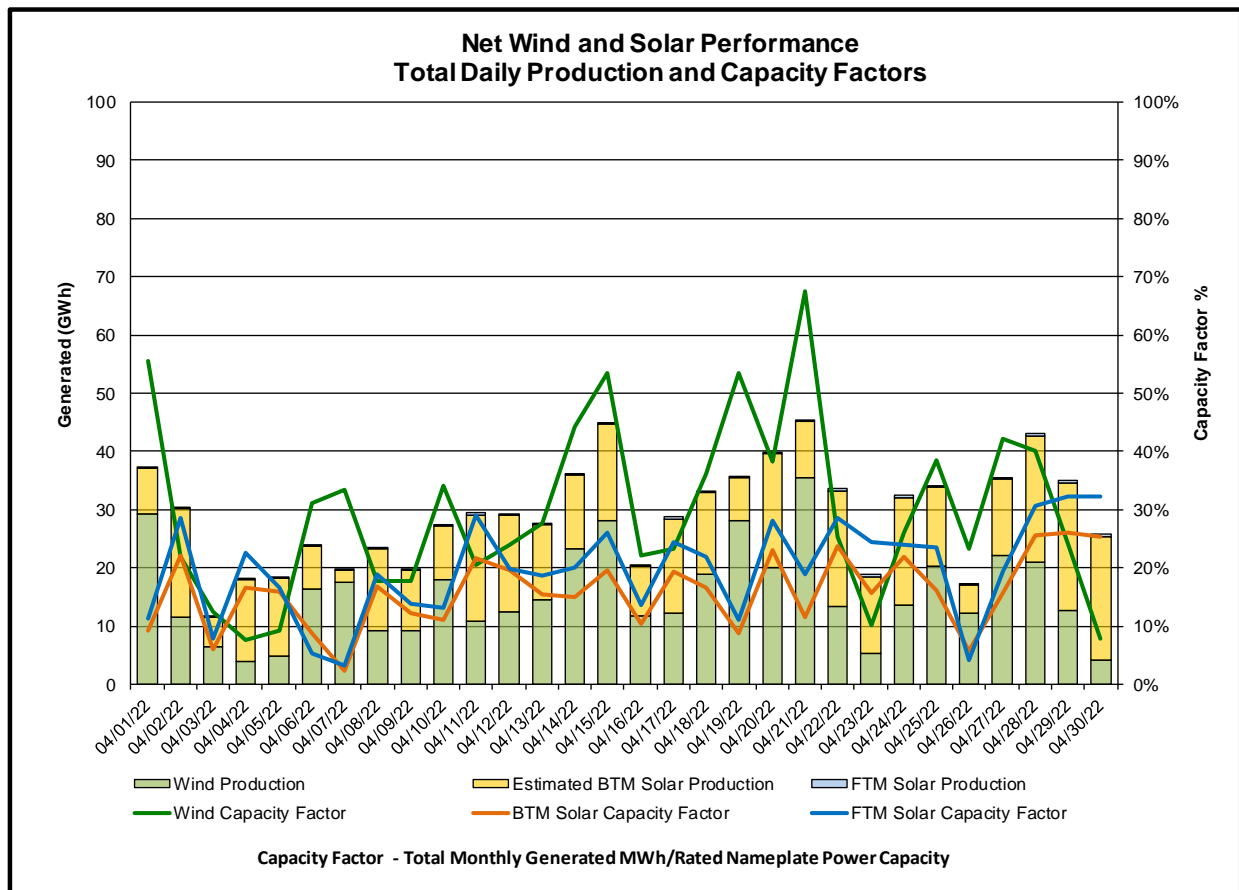
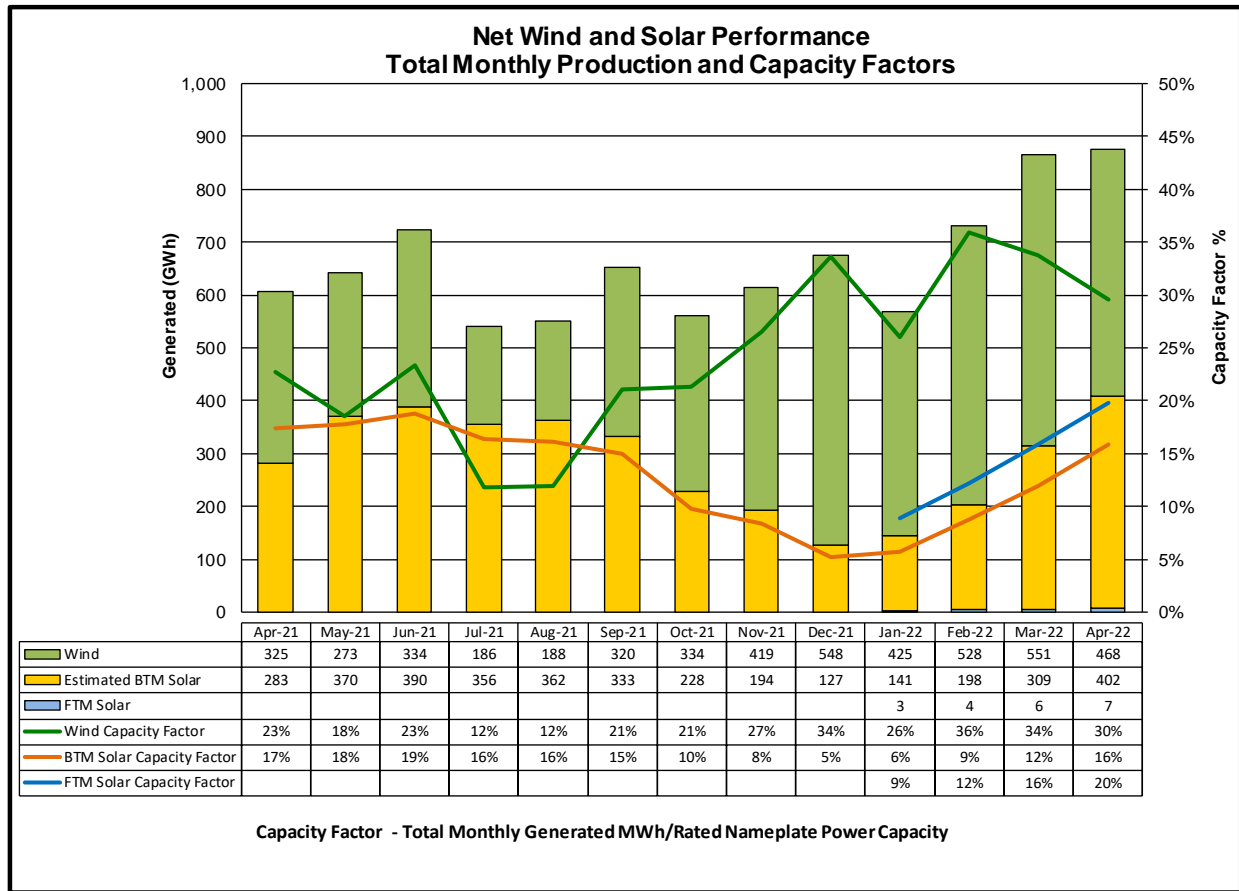


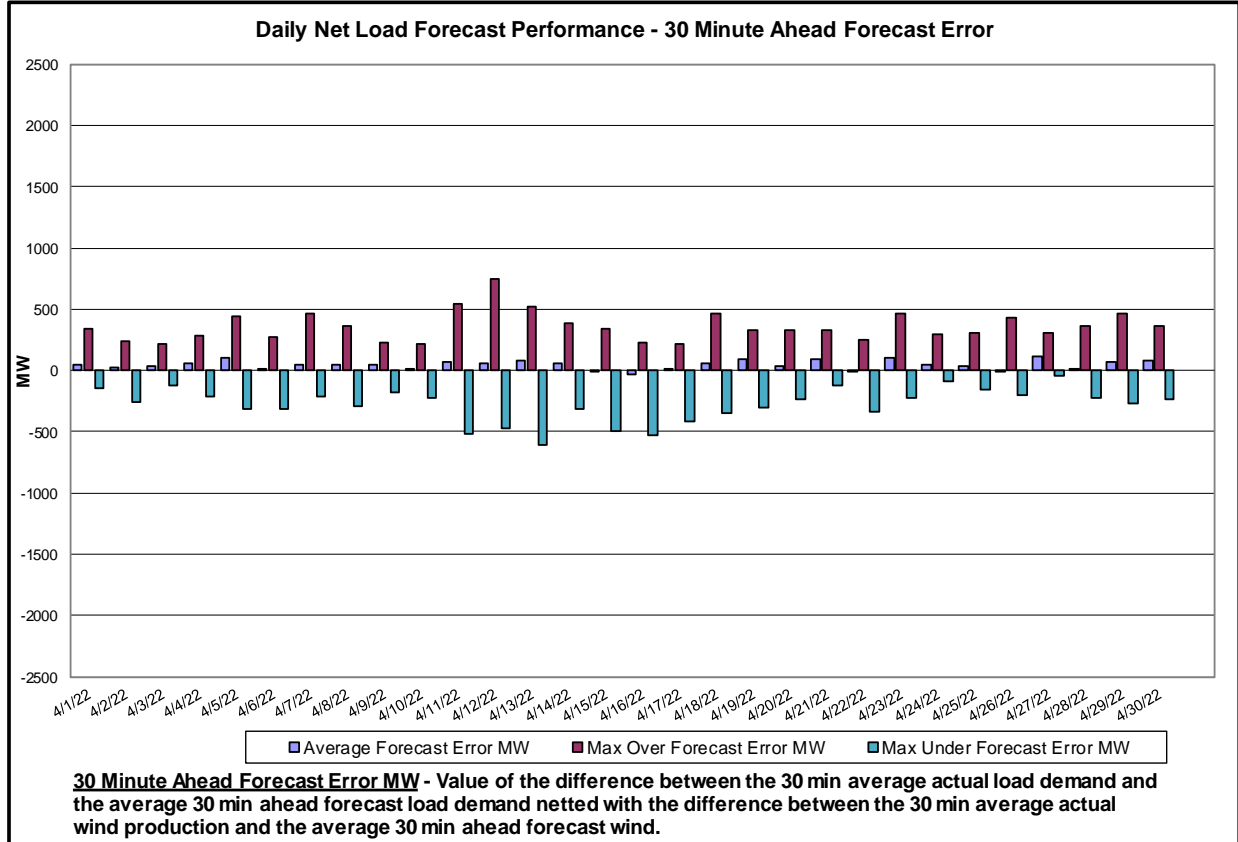
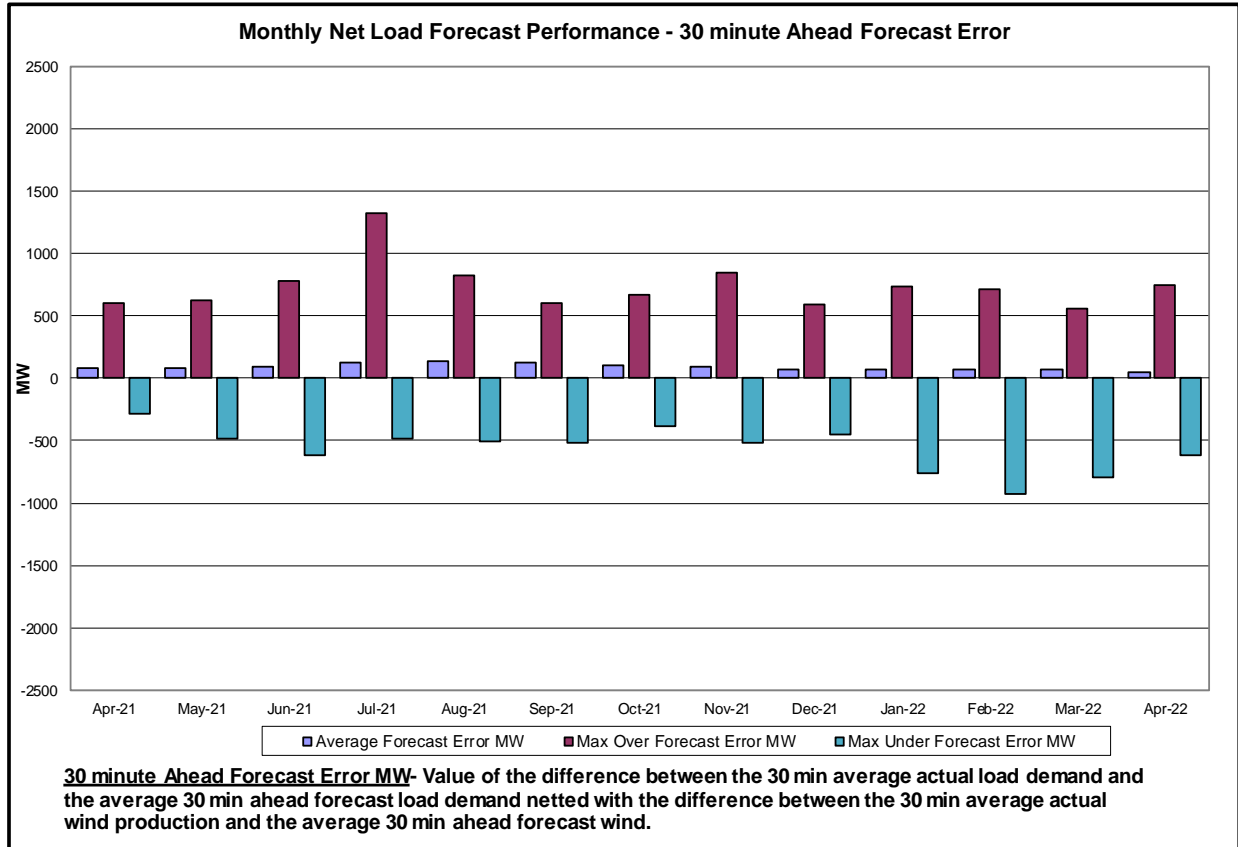
MAE Forecast - Avg |est. actual solar generation - Day Ahead forecast solar generation| / Solar Capacity
Bias - Avg (est. actual solar generation - Day Ahead forecast solar generation) / Solar Capacity

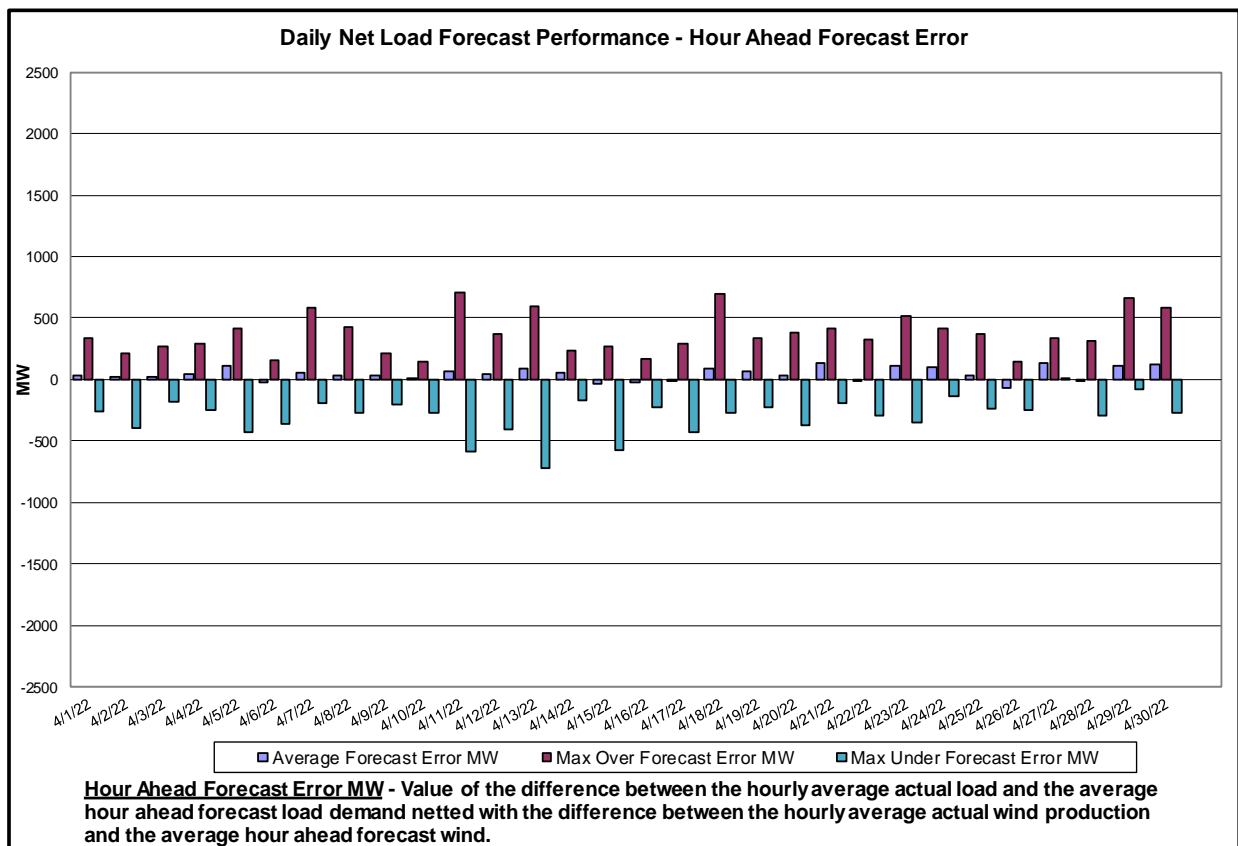
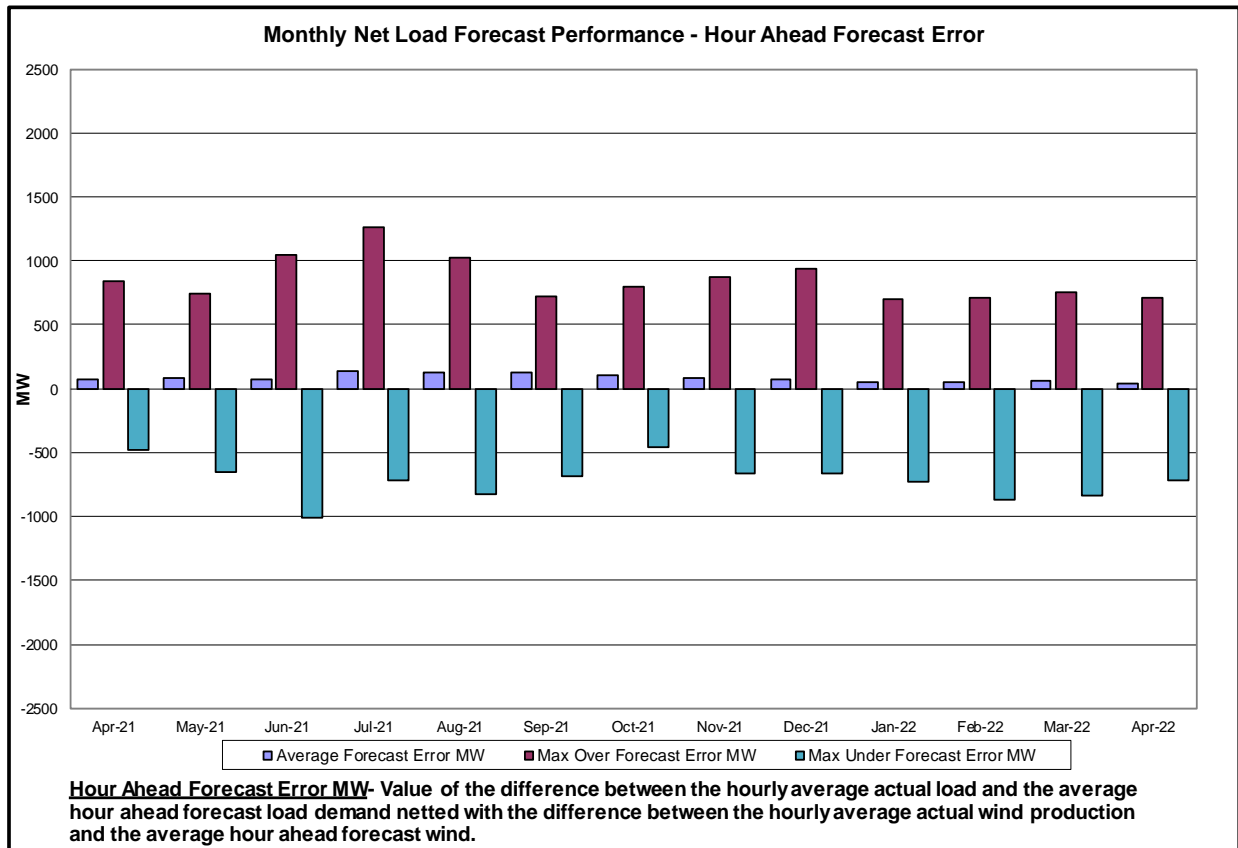
Behind the Meter Solar Forecast Performance Hour Ahead Percent Error

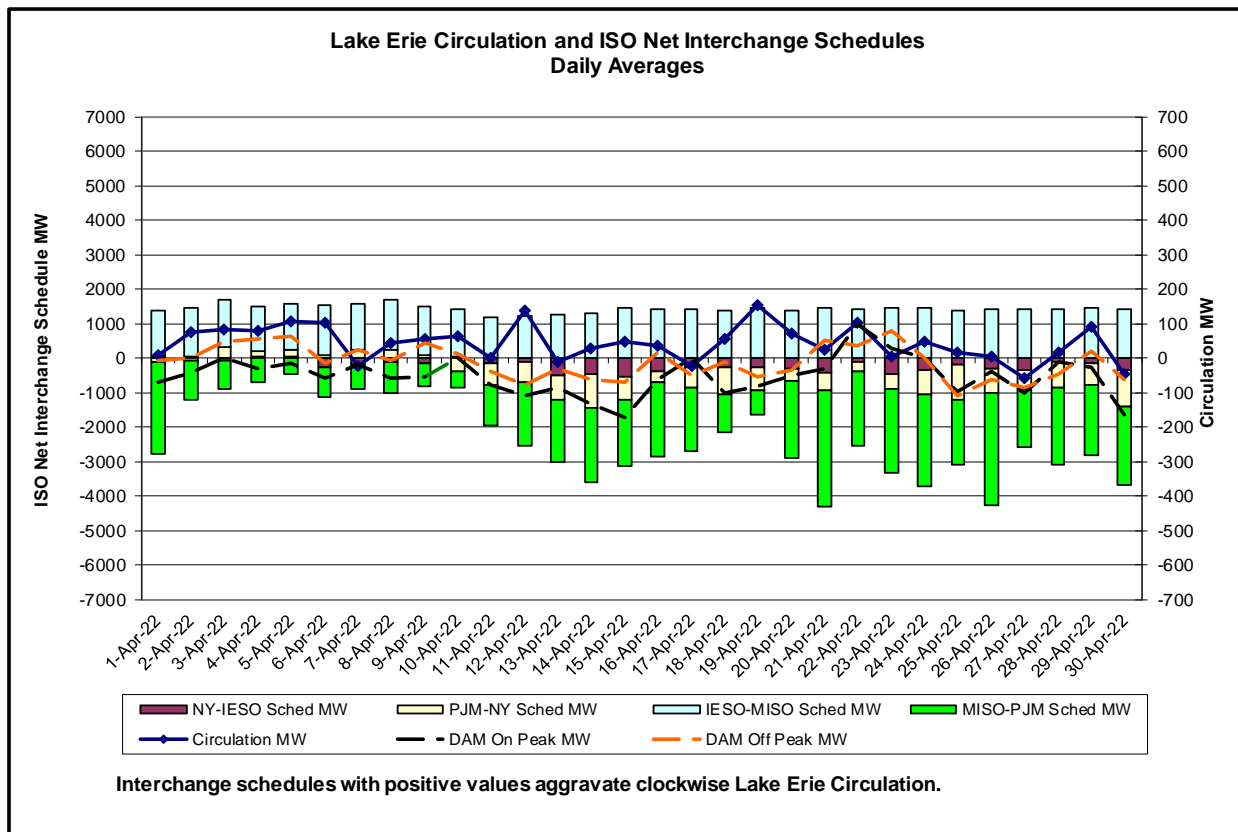
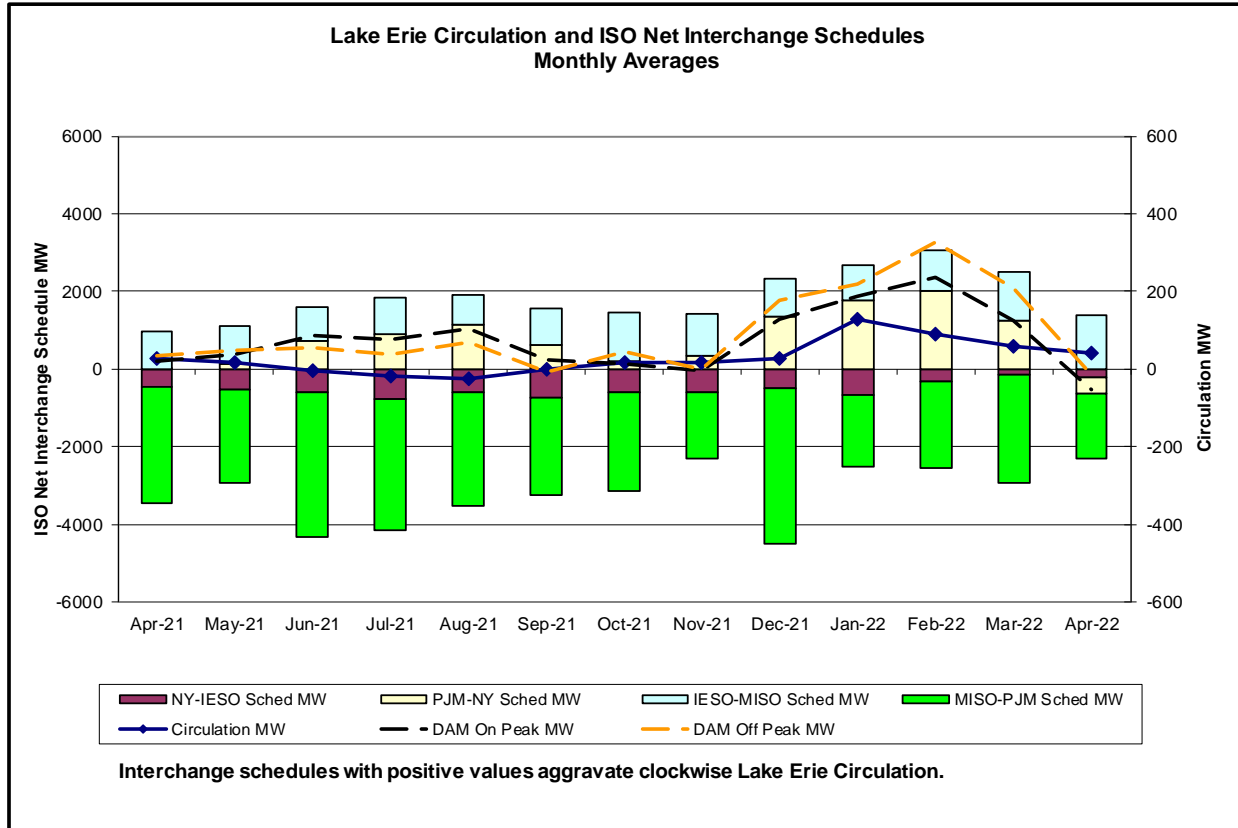


MAE Forecast - Avg |est. actual solar generation - Hour Ahead forecast solar generation| / Solar Capacity
Bias - Avg (est. actual solar generation - Hour Ahead forecast solar generation) / Solar Capacity

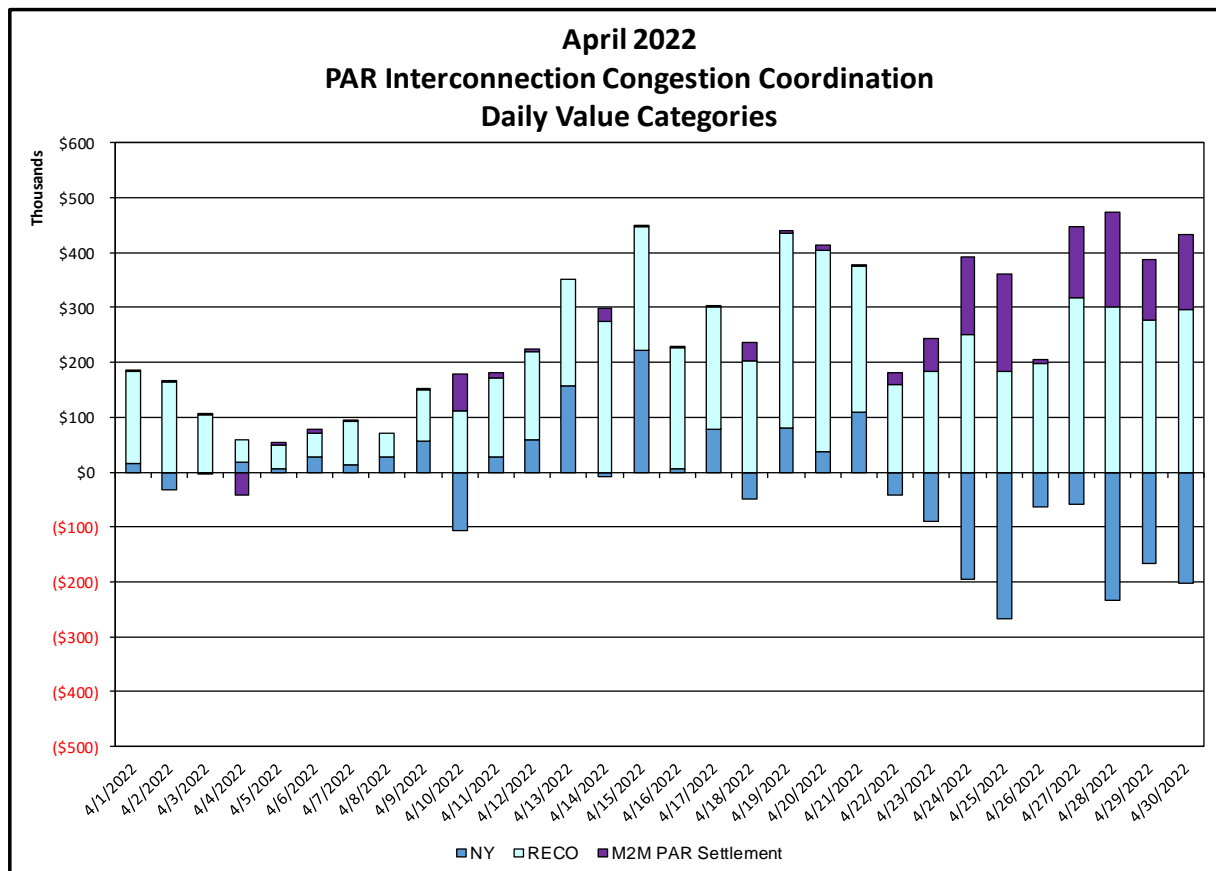
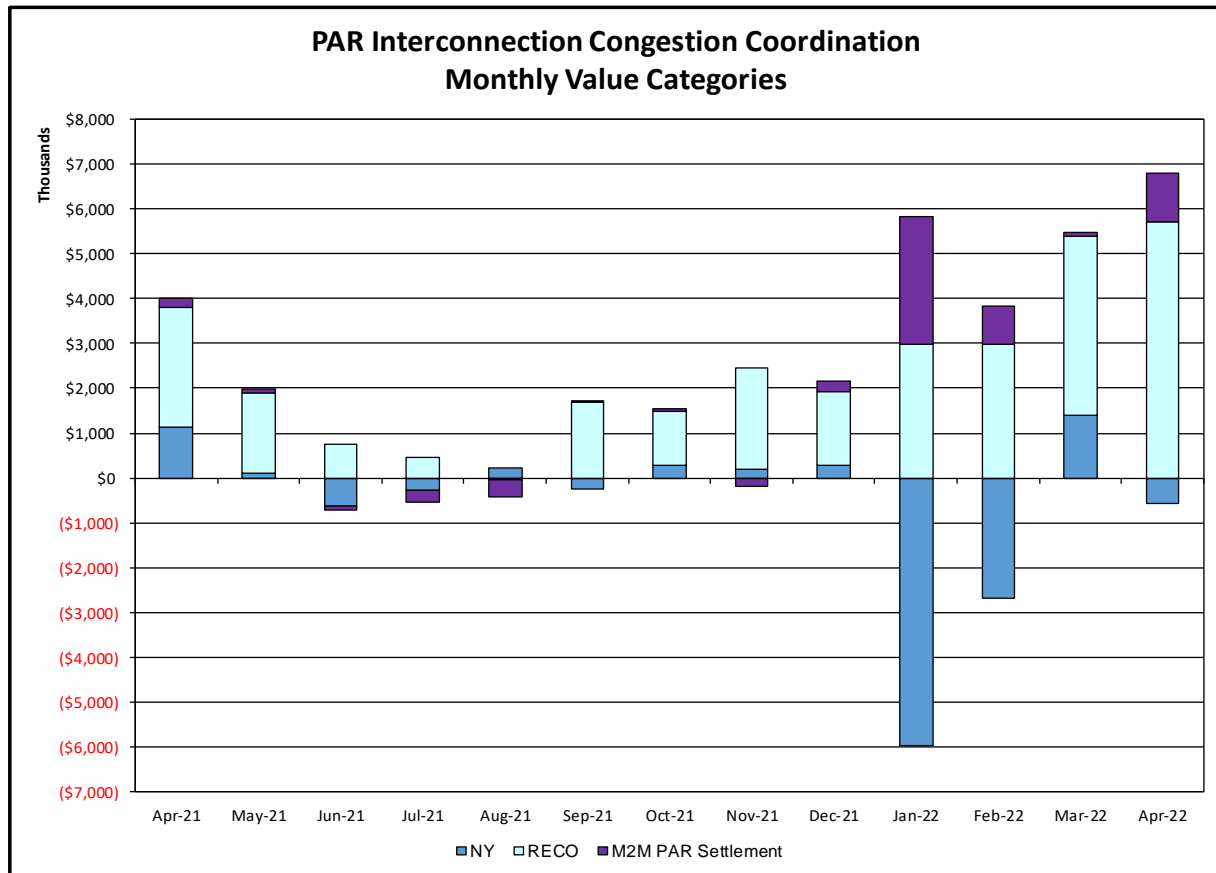




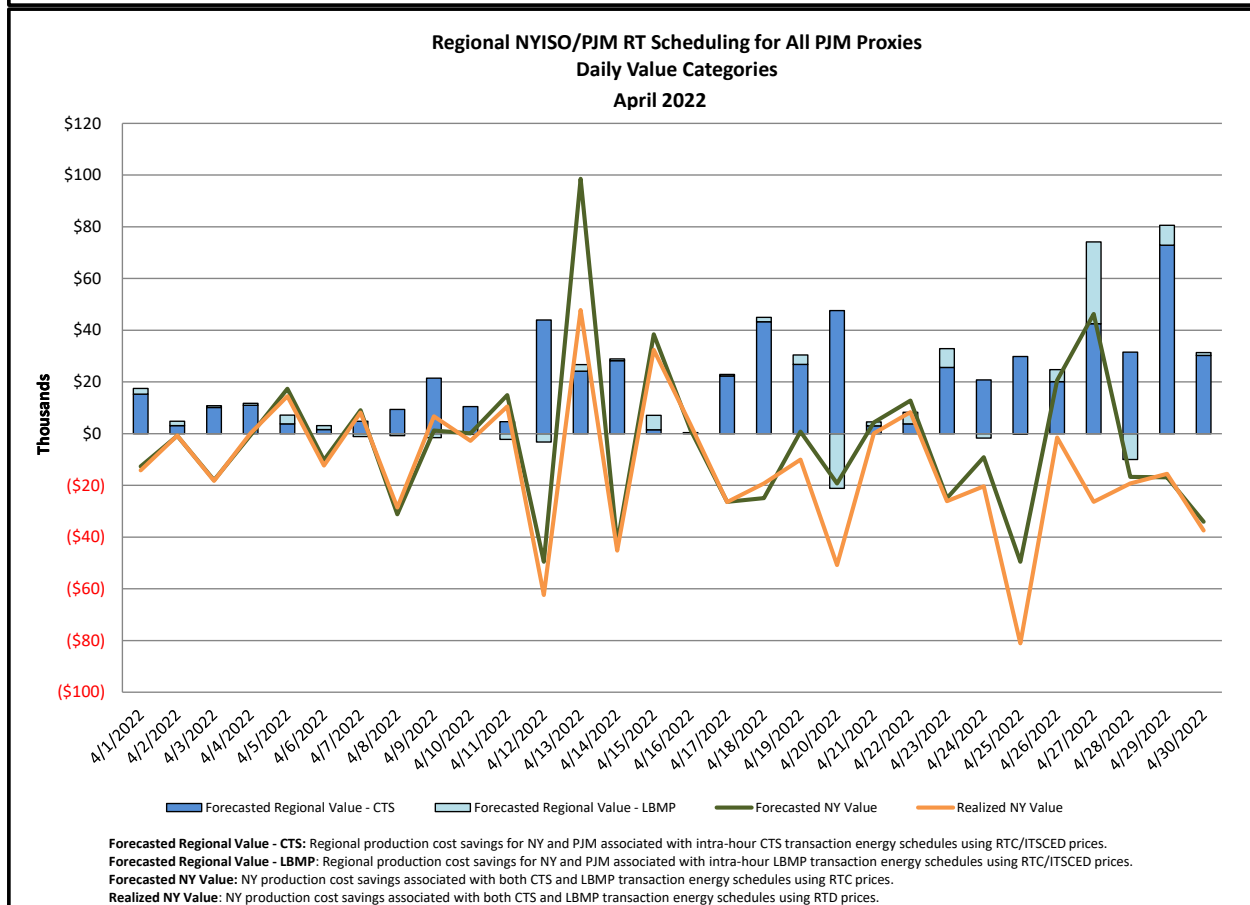
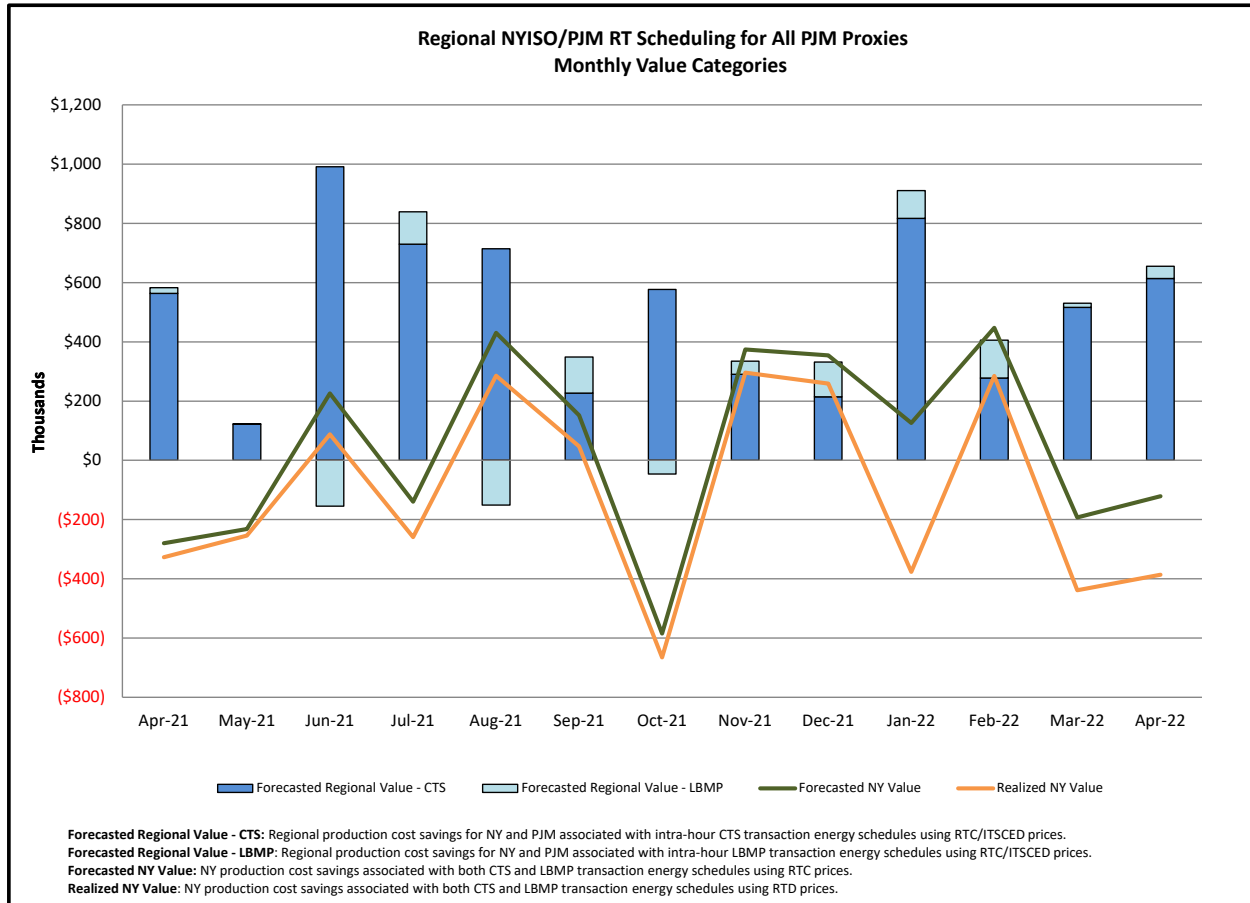




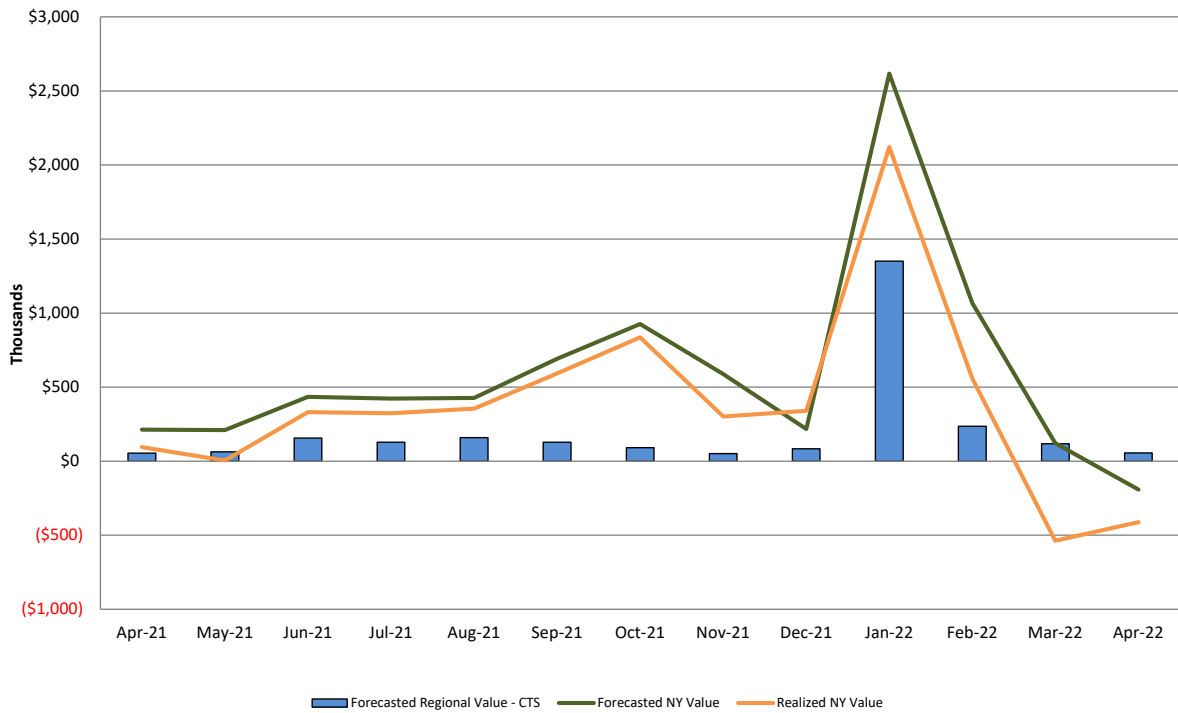
Broader Regional Market Performance Metrics



<u>PAR Interconnection Congestion Coordination</u>	
<u>Category</u>	<u>Description</u>
NY	Represents the value NY realizes from Market-to-Market PAR Coordination when experiencing congestion. This is the estimated savings to NY for additional deliveries into NY
RECO	Represents the value of PJM's obligation to deliver 80% of service to RECO load over Ramapo 5018. This is the estimated reduction in NYCA congestion due to the PJM delivery of RECO over Ramapo 5018.
M2M PAR Settlement	Market-to-Market PAR Coordination settlement on coordinated flowgates. Through April 2017 this value was included in the NY and RECO categories. The positive sign convention indicates settlement to NY while the negative indicates settlement to PJM.

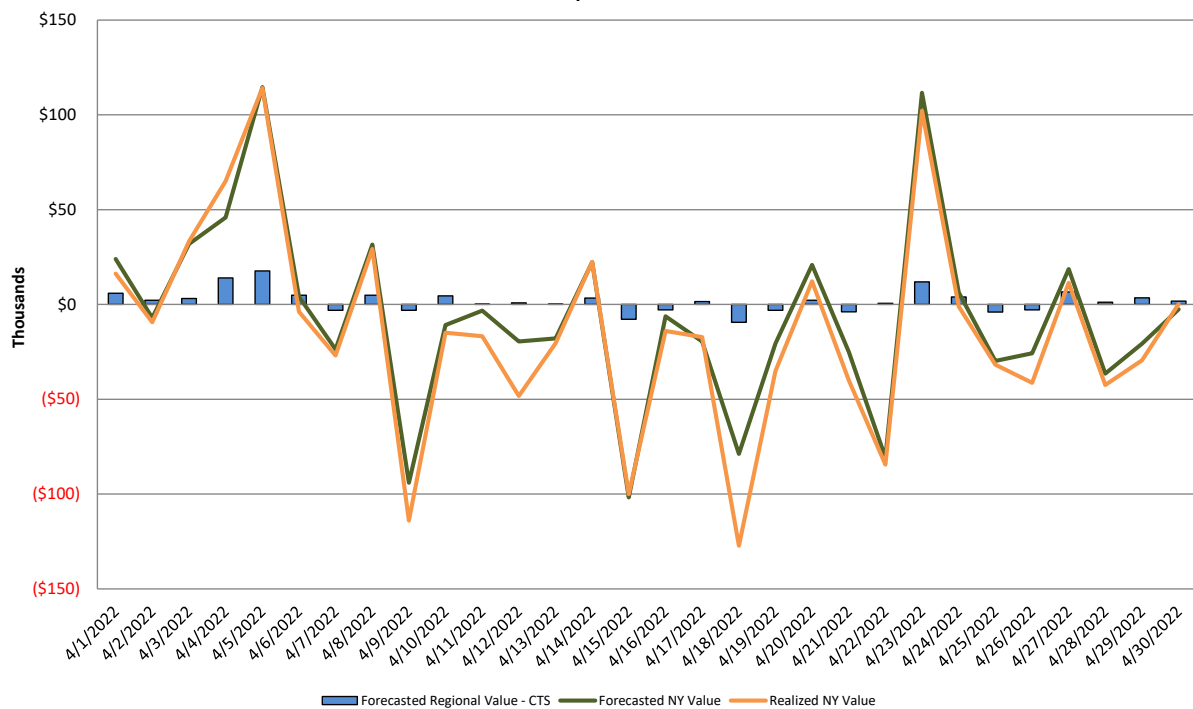


Regional NYISO/NE RT Scheduling for ISO-NE AC Monthly Value Categories



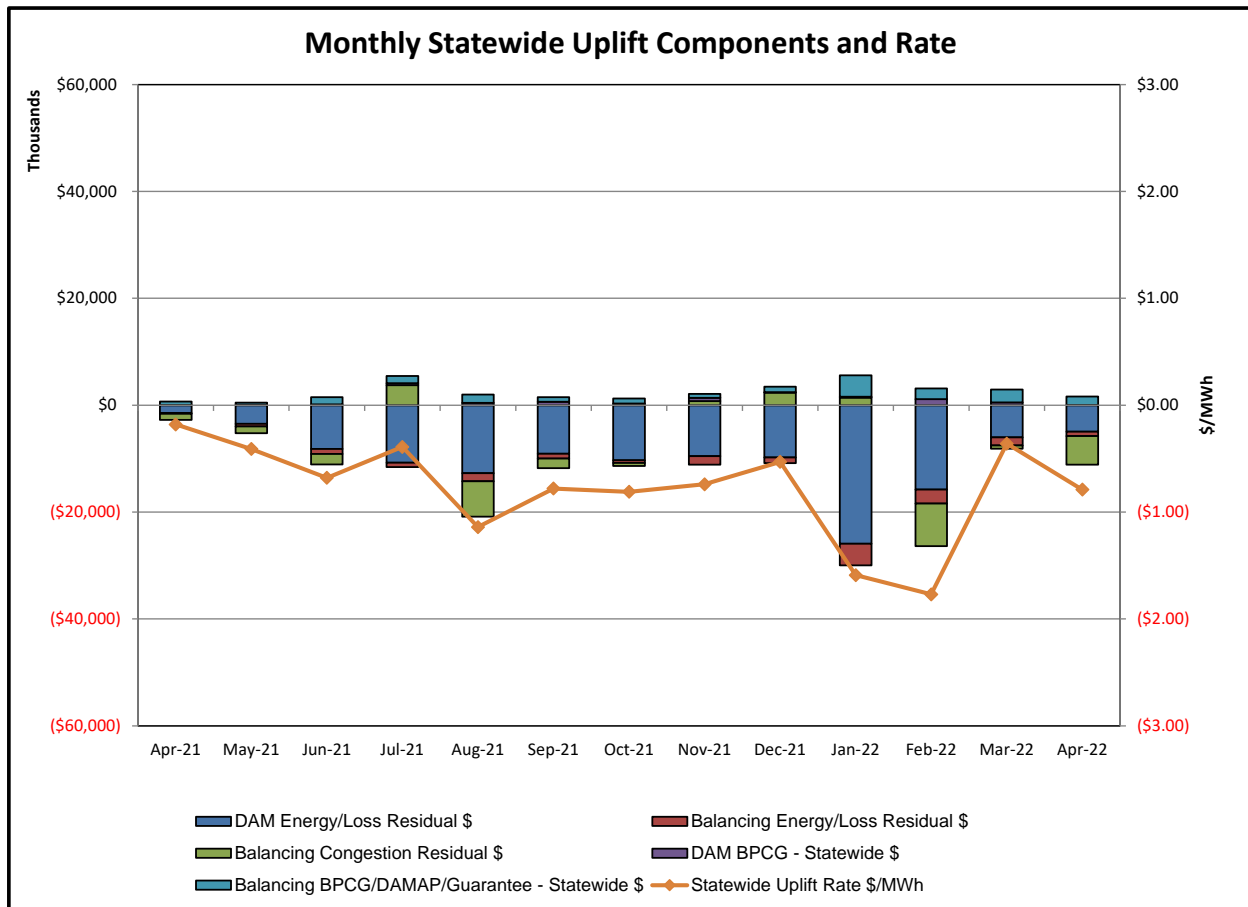
Forecasted Regional Value - CTS: Regional production cost savings for NY and NE associated with intra-hour CTS transaction energy schedules using RTC prices and NE forecasted prices.
Forecasted NY Value: NY production cost savings associated with CTS transaction energy schedules using RTC prices.
Realized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

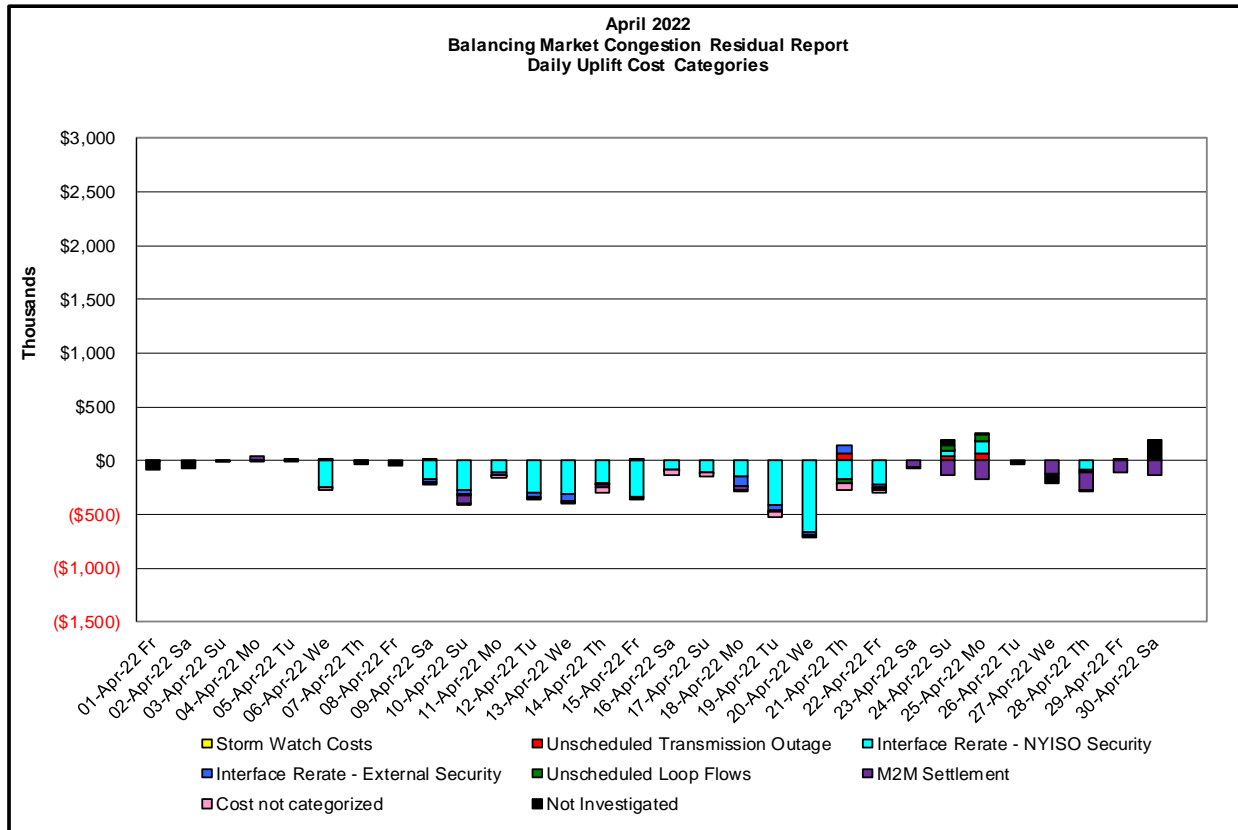
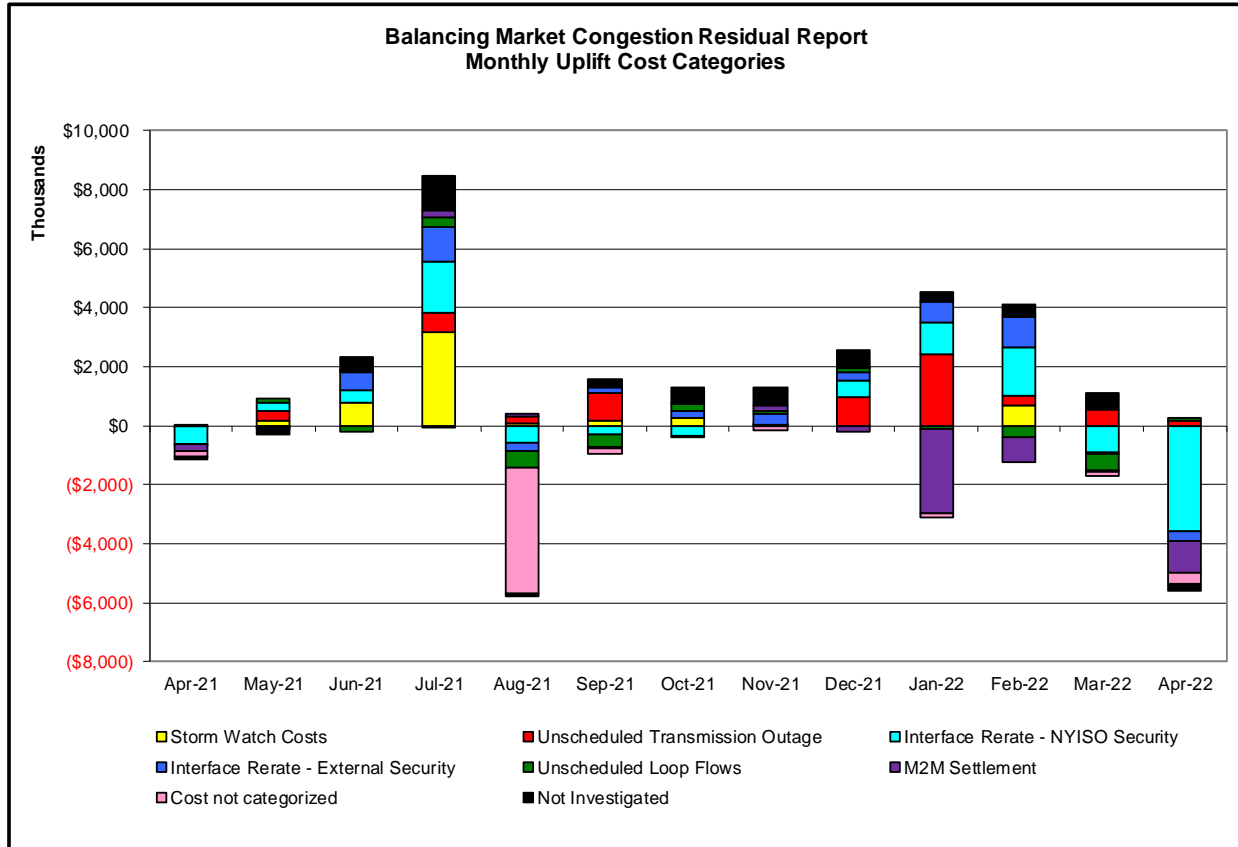
Regional NYISO/NE RT Scheduling for ISO-NE AC Daily Value Categories April 2022



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

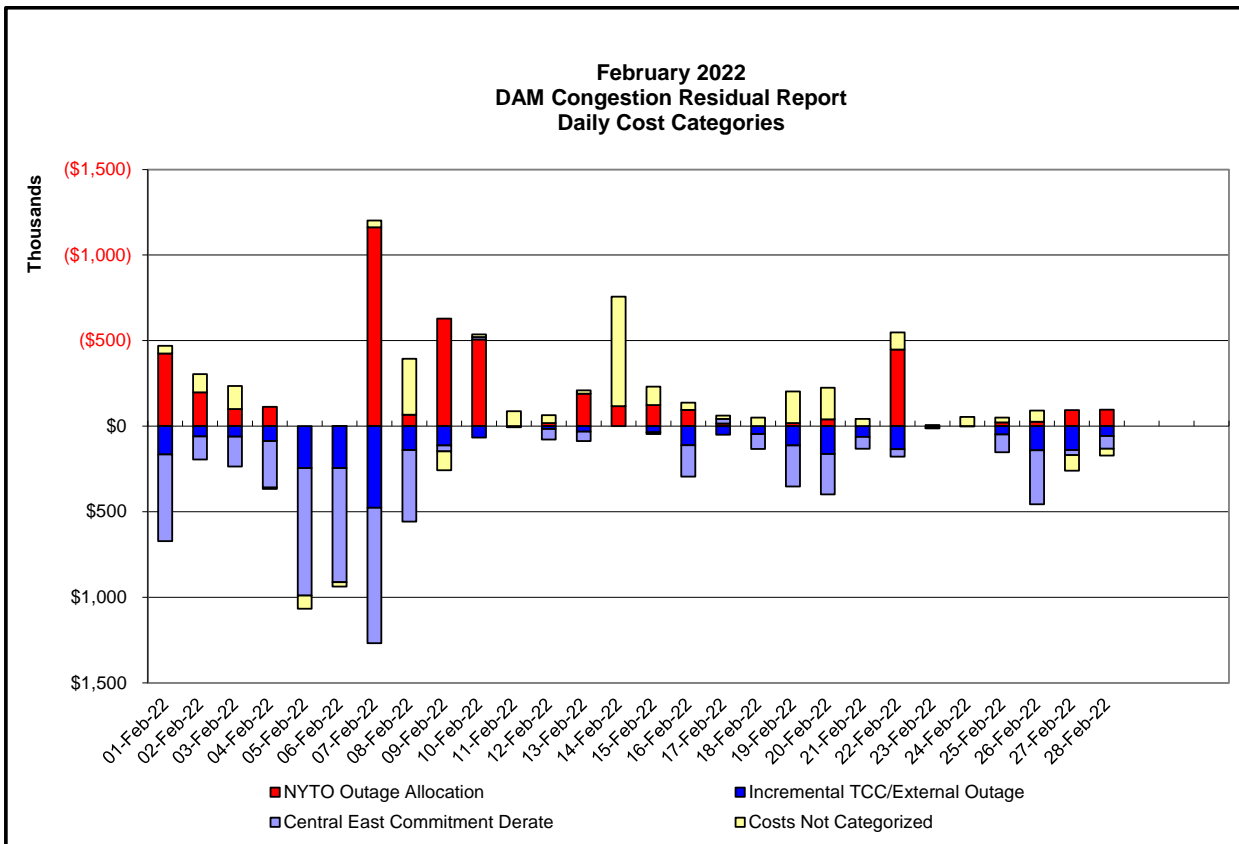
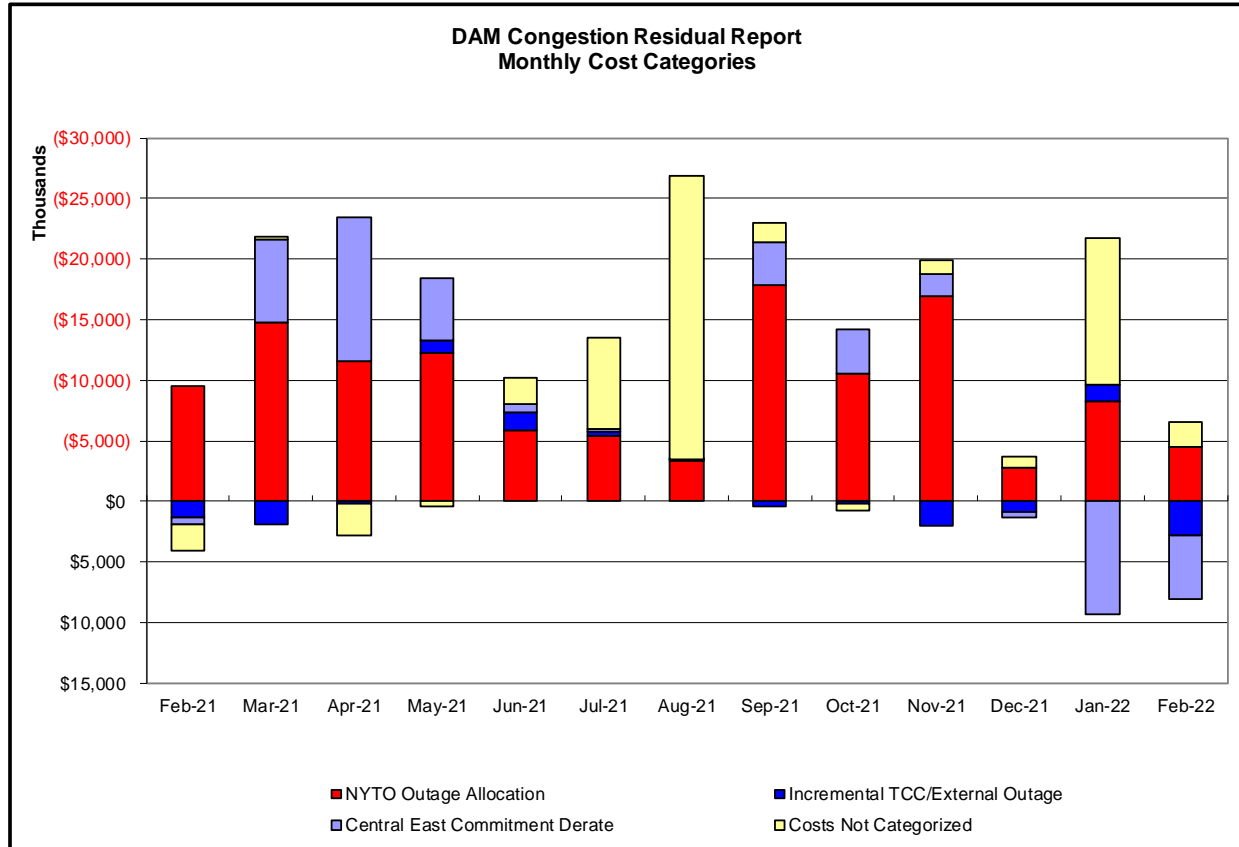




Day's investigated in April:6,9,10,11,12,13,14,15,16,17,18,19,20,21,22,25,28		
Event	Description	April Dates
Red	Early return to service of Porter-Rotterdam 230kV (#30)	25
	Extended outage of Marcy-Fraser-Coopers Corners 345kV (#UCC2-41)	21
	Extended outage of Niagara-Packard 115kV (#195)	25
Cyan	Derate Central East	6,14,19,25
	Derate Cricket Valley-Pleasant Valley 345kV (#F83) I/o Cricket Valley-Pleasant Valley 345kV (#F84)	14,18,19,25,28
	Derate Dunwoodie-Shore Rd 345kV (#Y50)	6,19,25
	Derate Foxhills-Greenwood 138kV (#29232) I/o SCB:GOETH(9):G23L&26&R26	19
	Derate Lake Success - ShoreRd 138kV (#367)	18
	Derate Meyer 115kV (#Bk4) I/o SCB:STONYRDG(72/B102)72&BK1	19
	NYCA DNI Ramp Limit	9-15,18,19,21,22,28
	Uprate Central East	6,9-22,28
	Uprate Foxhills-Greenwood 138kV (#29232) I/o Foxhills-Willowbrook 138kV (#29211&BK1)	15
	Uprate Foxhills-Greenwood 138kV (#29232) I/o SCB:GOETH(9):G23L&26&R26	6,10-16,18
	HQ_CHAT DNI Ramp Limit	9
	HQ_CHAT-NY Scheduling Limit	9
Blue	IESO_AC DNI Ramp Limit	22
	NE_AC Active DNI Ramp Limit	6,9,10,12,14-16,21,22,28
	NE_AC-NY Scheduling Limit	10,11,14,19,21
	NE_NNC1385-NY Scheduling Limit	20
	PJM_AC DNI Ramp Limit	9-13,18,25
	PJM_AC Scheduling Limit	18,20
	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Central East	6,9-11,13-15,18,19,21,22,25,28
Green	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West	13,19,21,25,28

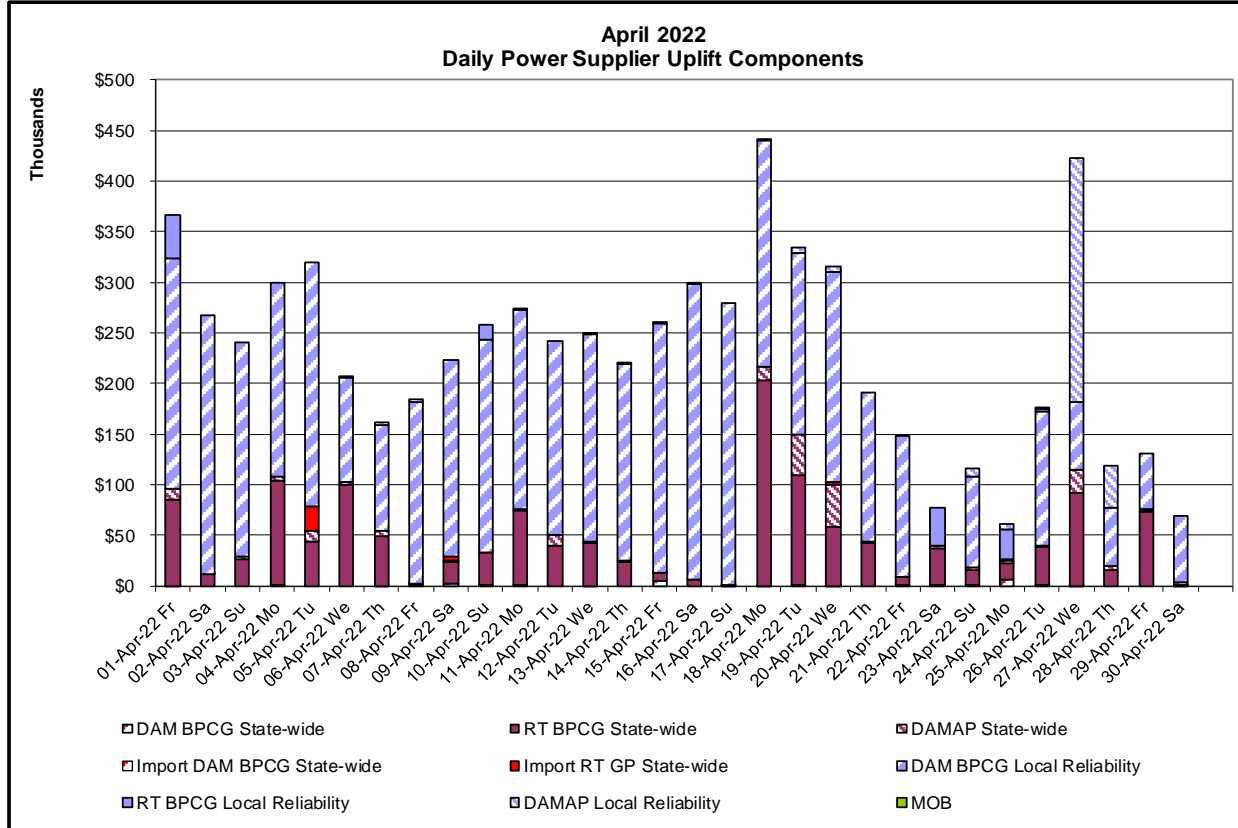
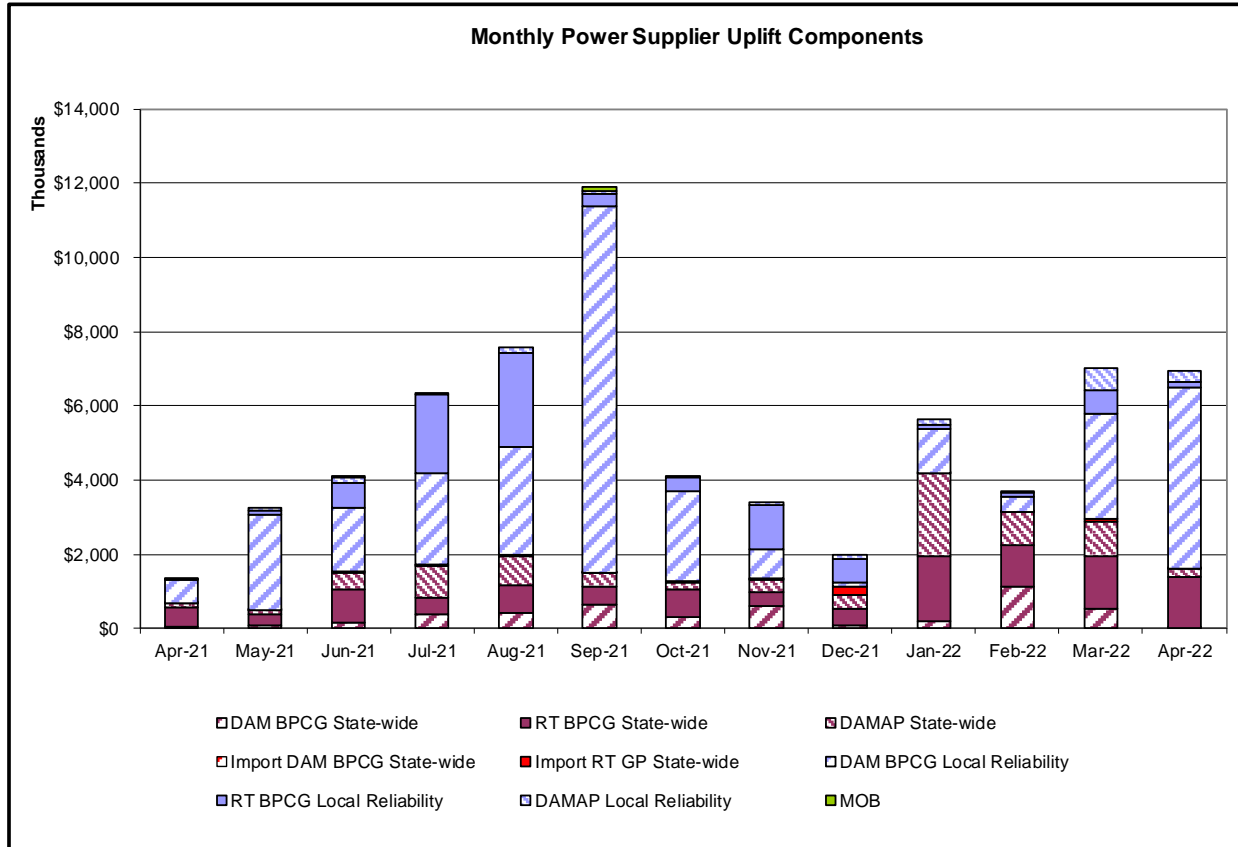
Real-Time Balancing Market Congestion Residual (Uplift Cost) Categories

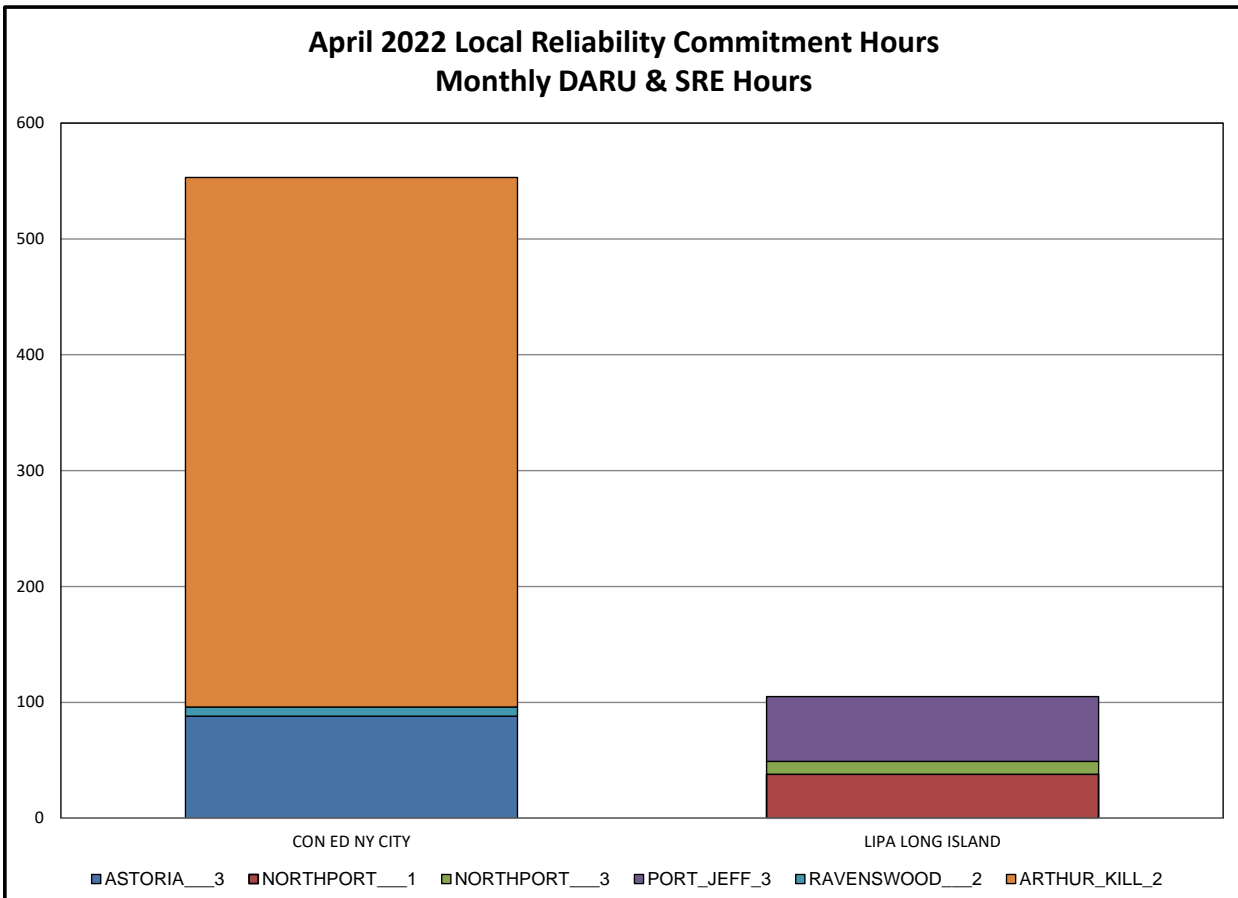
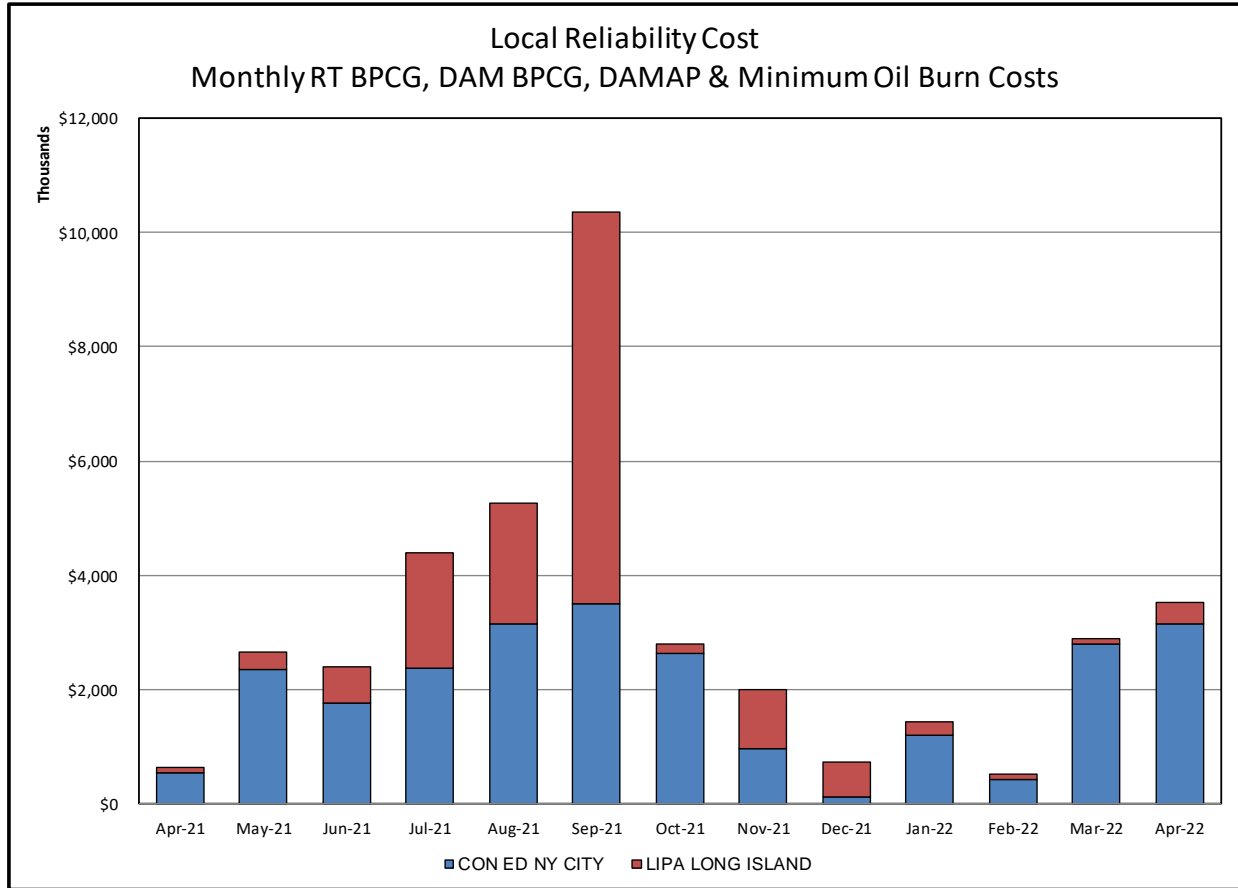
<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
Storm Watch	Zone J	Thunderstorm Alert (TSA)	TSA Activations
Transmission Outage Mismatch	Market-wide	Changes in DAM to RTM transfers related to transmission outage mismatch	Forced Line Outage, Unit AVR Outages Early Line 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	
<u>Monthly Balancing Market Congestion Report Assumptions/Notes</u>			
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			

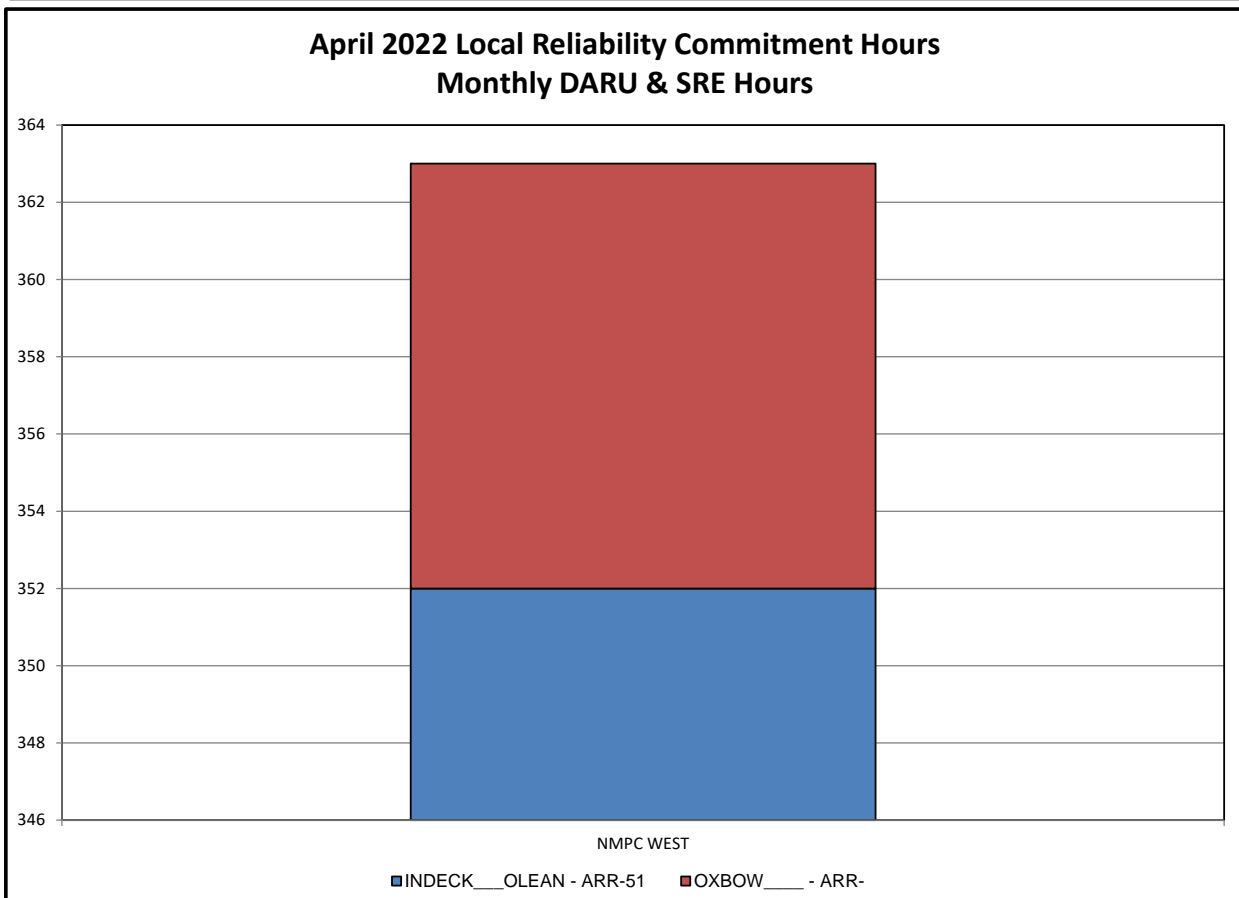
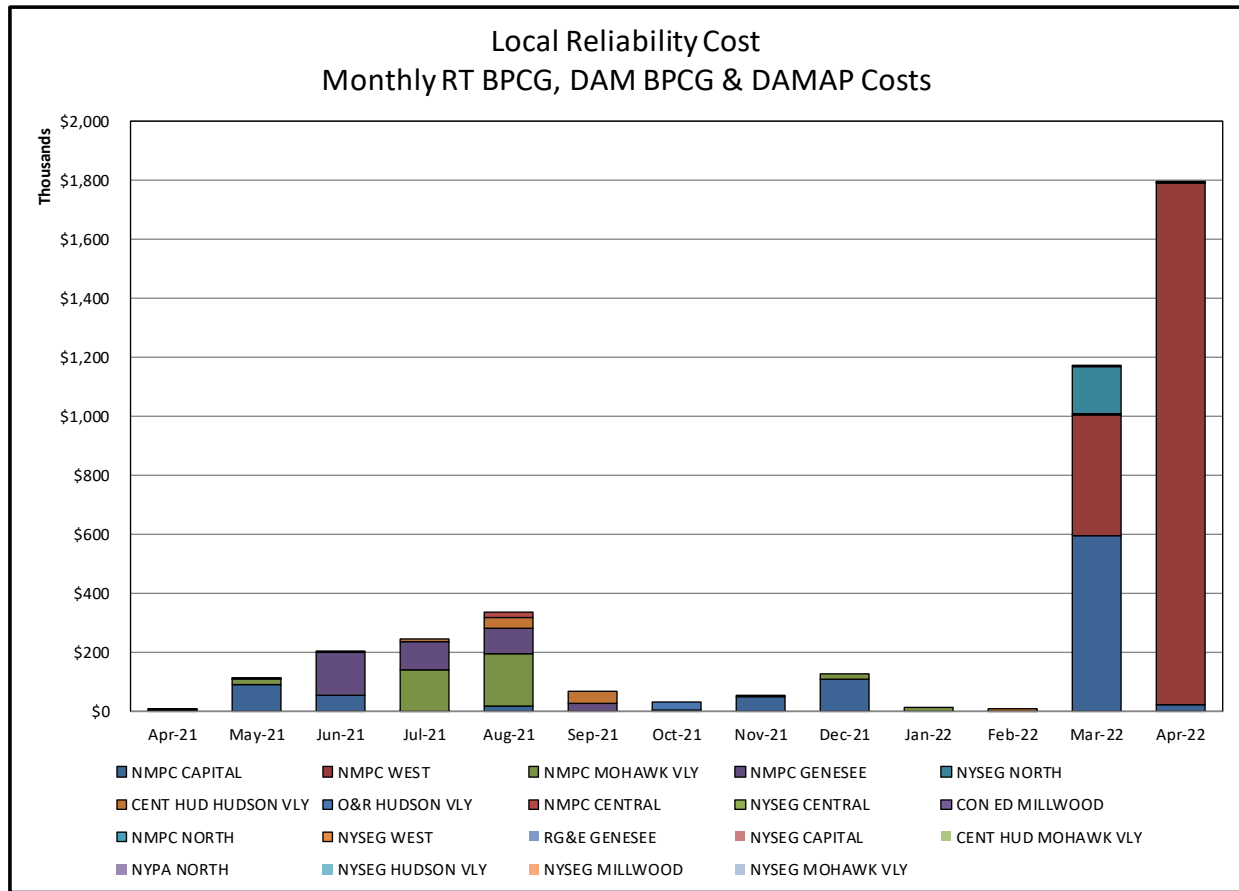


Day-Ahead Market Congestion Residual Categories

<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.	

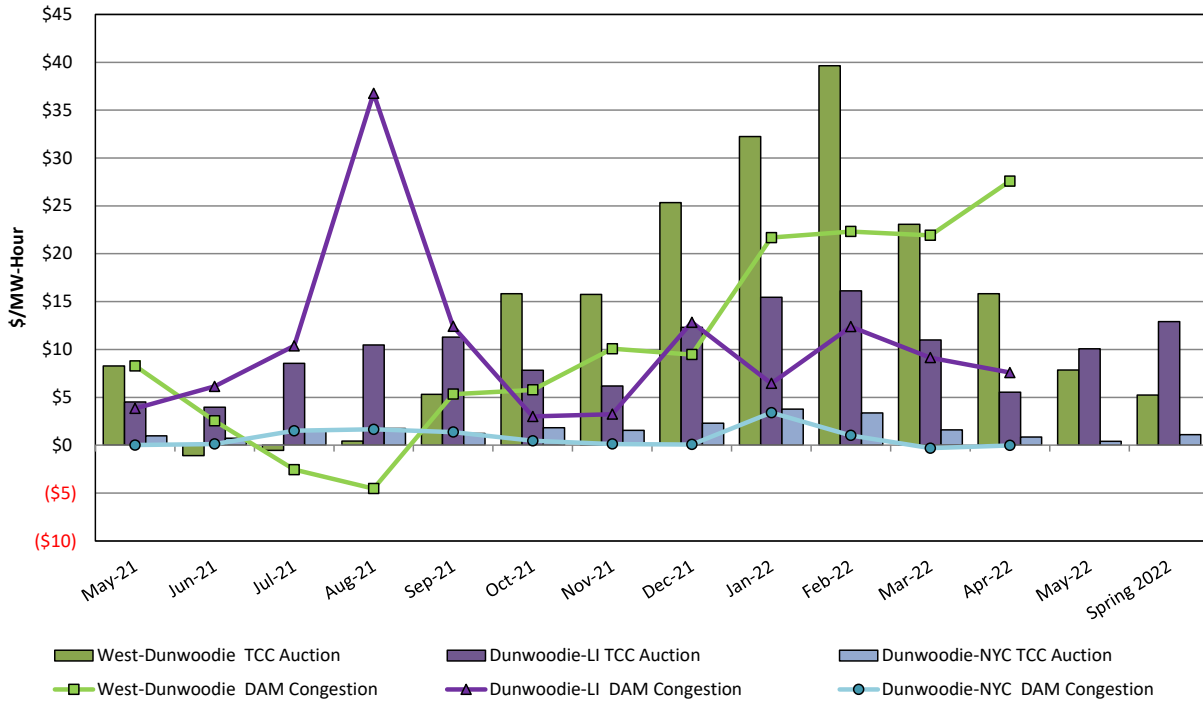






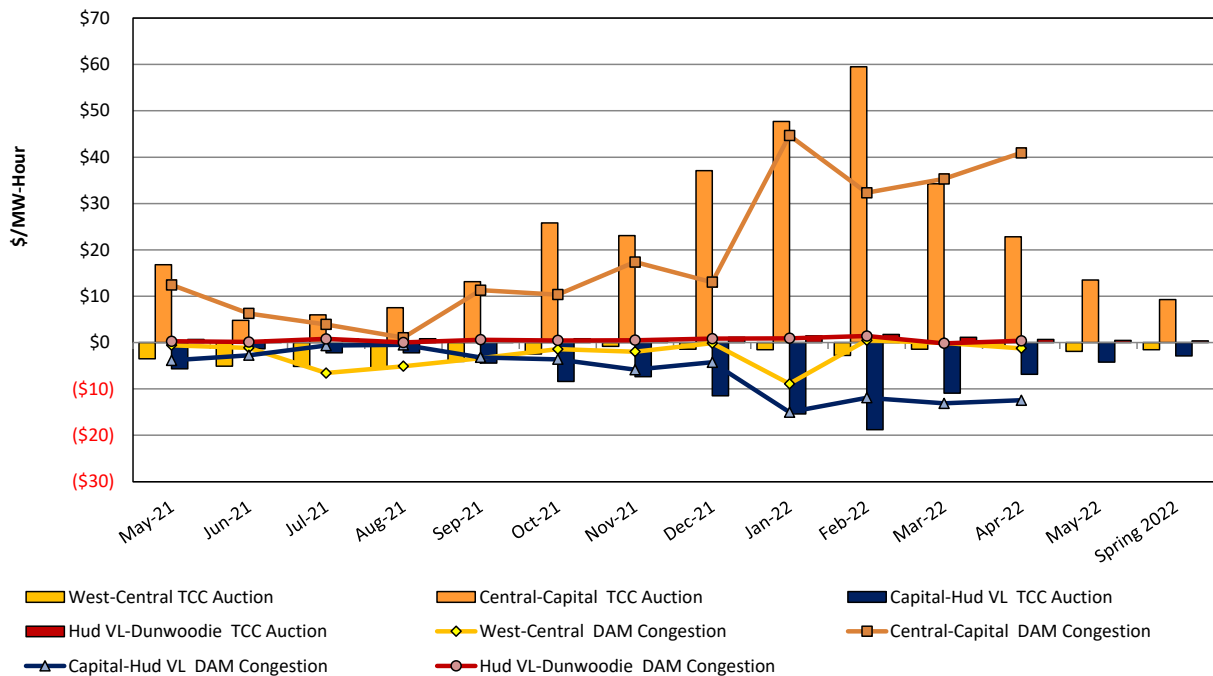
TCC & Day Ahead Market Selected Internal Path Congestion

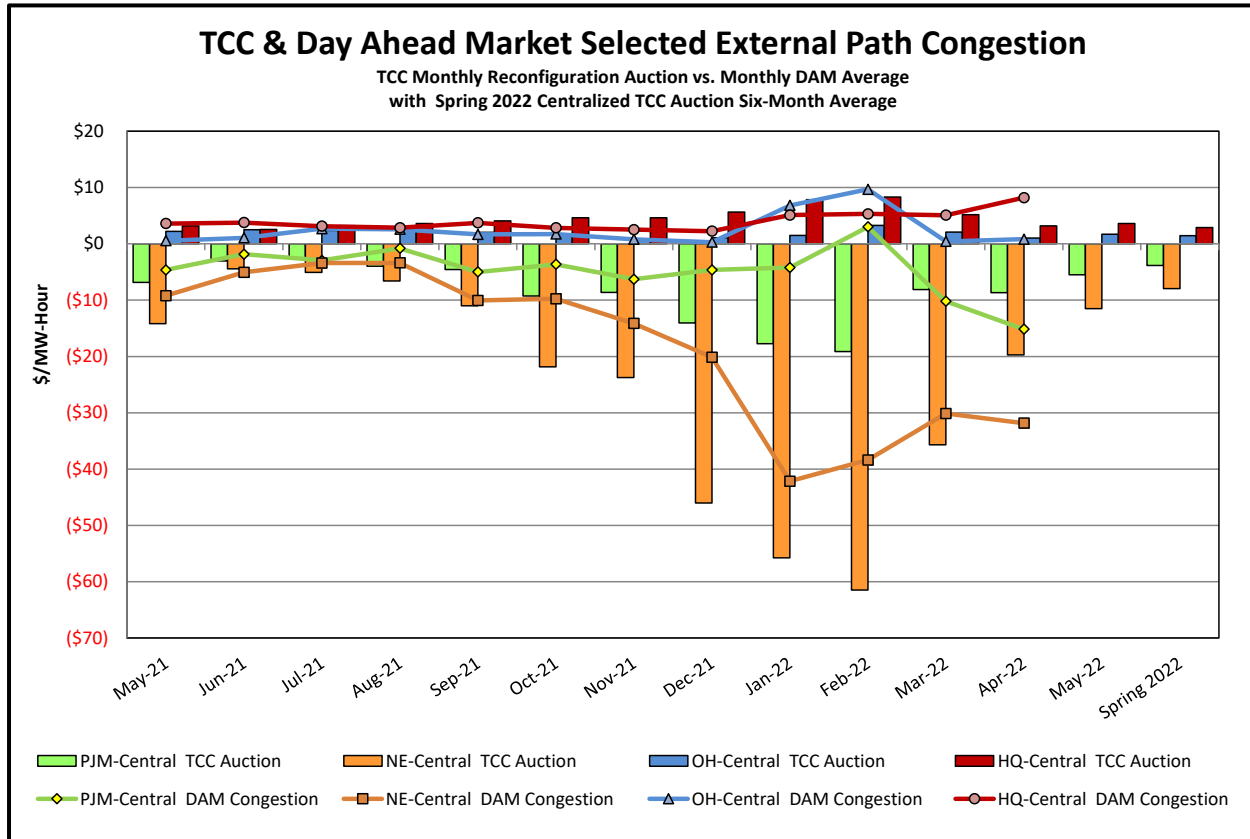
TCC Monthly Reconfiguration Auction vs. Monthly DAM Average
with Spring 2022 Centralized TCC Auction Six-Month Average

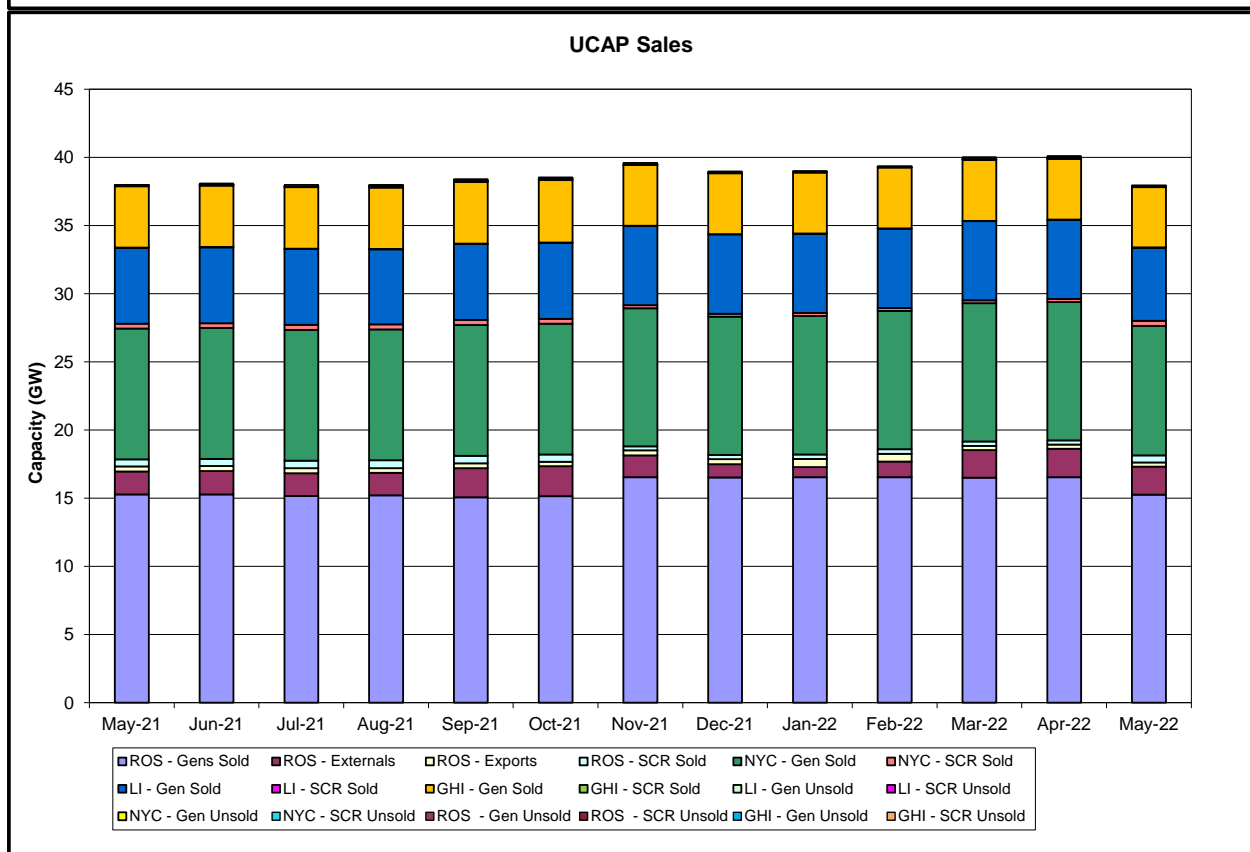
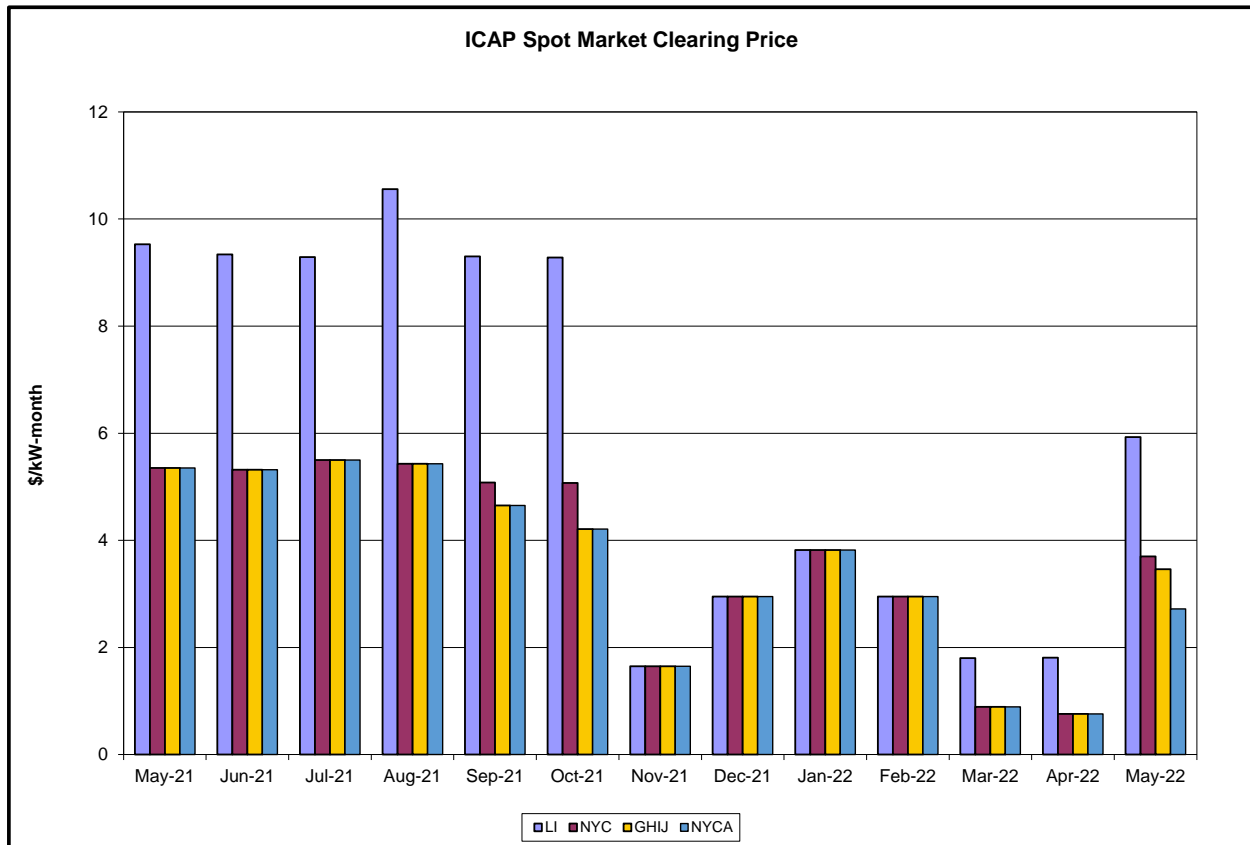


TCC & Day Ahead Market West to Dunwoodie Path Congestion

TCC Monthly Reconfiguration Auction vs. Monthly DAM Average
with Spring 2022 Centralized TCC Auction Six-Month Average





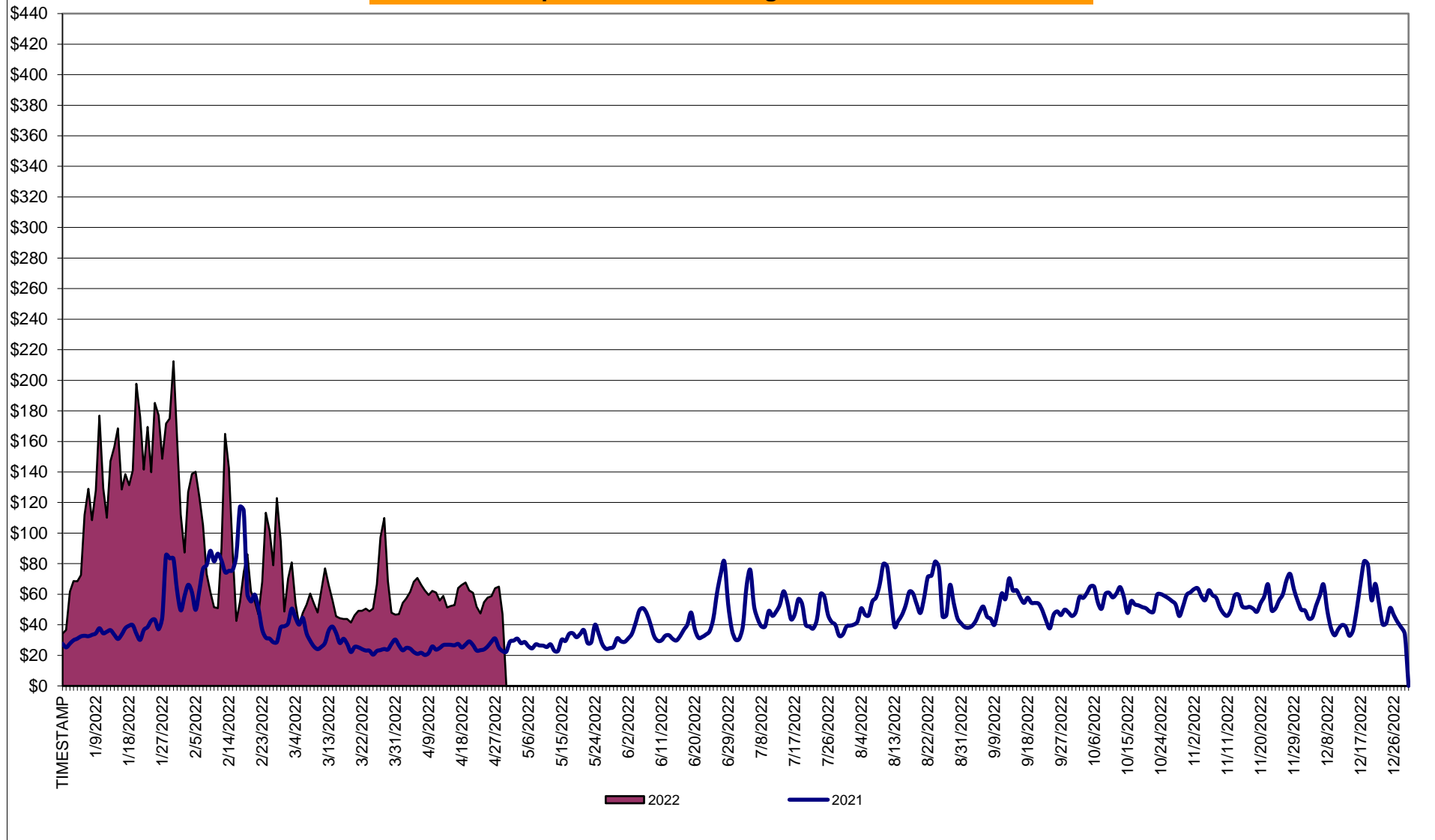


Market Performance Highlights

April 2022

- LBMP for April is \$56.46/MWh; lower than \$56.78/MWh in March 2022 and higher than \$22.79/MWh in April 2021.
 - Day Ahead Load Weighted LBMPs are higher and Real Time Load Weighted LBMPs are lower compared to March.
- April 2022 average year-to-date monthly cost of \$91.92/MWh is a 117% increase from \$42.41/MWh in April 2021.
- Average daily sendout is 359 GWh/day in April; lower than 390 GWh/day in March 2022 and higher than 354 GWh/day in April 2021.
- Natural gas prices and distillate prices are higher compared to the previous month.
 - Natural Gas (Transco Z6 NY) was \$6.13/MMBtu, up from \$4.47/MMBtu in March.
 - Natural gas prices (Transco Z6 NY) are up 187.8% year-over-year.
 - Jet Kerosene Gulf Coast was \$28.51/MMBtu, up from \$25.68/MMBtu in March.
 - Ultra Low Sulfur No.2 Diesel NY Harbor was \$28.26/MMBtu, up from \$27.02/MMBtu in March.
 - Distillate prices are up 121.9% year-over-year.
- Uplift per MWh is lower compared to the previous month.
 - Uplift (not including NYISO cost of operations) is (\$0.36)/MWh; lower than (\$0.09)/MWh in March.
 - Local Reliability Share is \$0.43/MWh, higher than \$0.27/MWh in March.
 - Statewide Share is (\$0.79)/MWh, lower than (\$0.36)/MWh in March.
 - TSA \$ per NYC MWh is \$0.00/MWh.
 - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are lower than March.

Daily NYISO Average Cost/MWh (Energy & Ancillary Services)*
2021 Annual Average \$47.59/MWh
April 2021 YTD Average \$42.41/MWh
April 2022 YTD Average \$91.92/MWh



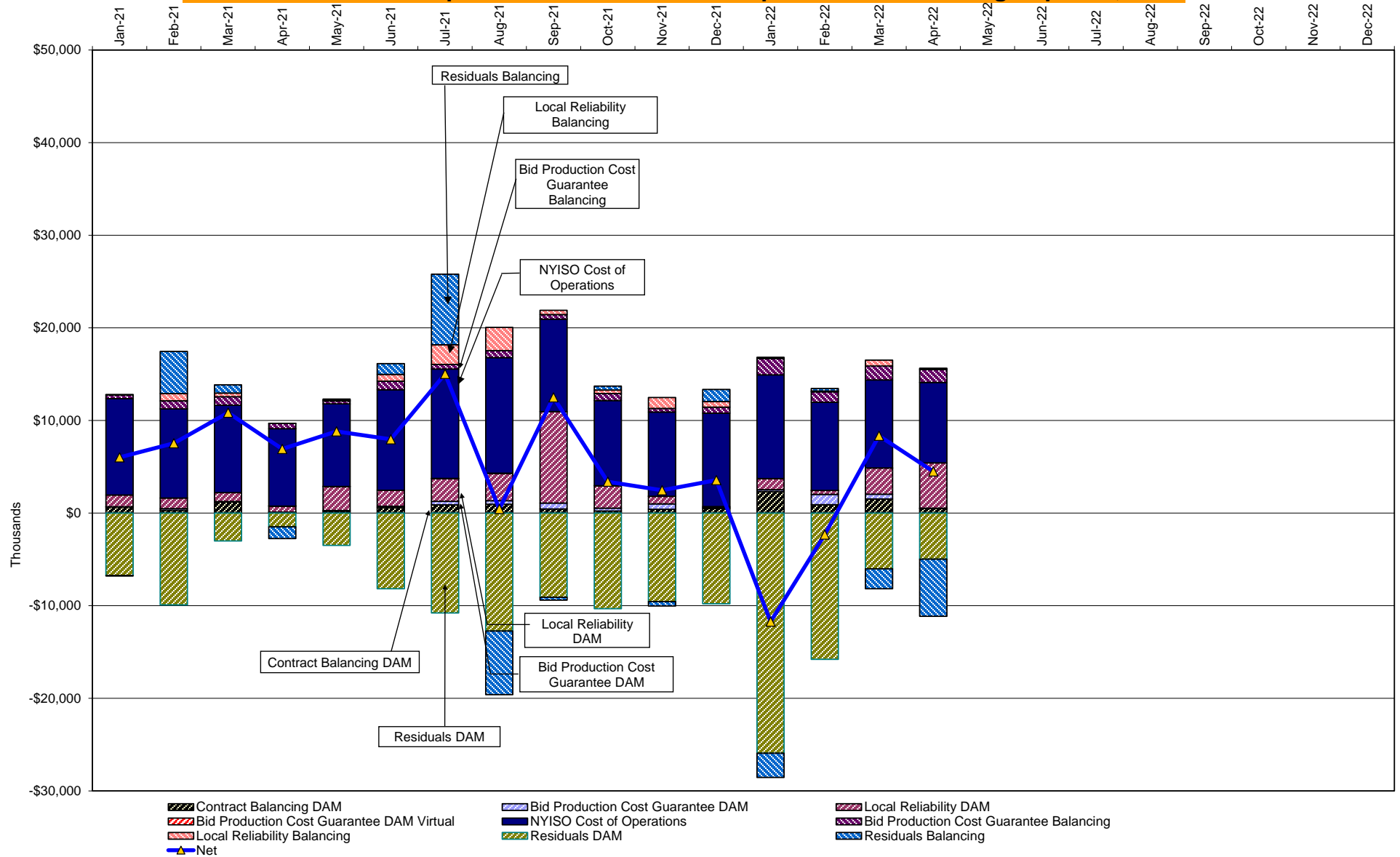
* Excludes ICAP payments.

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

2022	<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								
NTAC	1.43	0.95	1.48	1.17								
Reserve	1.26	1.21	0.83	0.81								
Regulation	0.27	0.19	0.17	0.12								
NYISO Cost of Operations	0.73	0.72	0.74	0.74								
FERC Fee Recovery	0.07	0.08	0.09	0.10								
Uplift	(1.50)	(1.73)	(0.09)	(0.36)								
Uplift: Local Reliability Share	0.09	0.04	0.27	0.43								
Uplift: Statewide Share	(1.59)	(1.77)	(0.36)	(0.79)								
Voltage Support and Black Start	0.42	0.41	0.43	0.43								
Avg Monthly Cost	137.41	95.82	60.34	59.38								
 Avg YTD Cost	137.49	118.36	100.65	91.92								
 TSA \$ per NYC MWh	0.00	2.98	0.00	0.00								
 2021	<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
Avg Monthly Cost	40.61	66.87	31.81	26.06	29.45	42.65	48.79	57.73	50.70	56.11	57.43	50.76
 Avg YTD Cost	40.69	52.99	46.57	42.41	40.10	40.59	42.05	44.63	45.34	46.35	47.29	47.59
 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: 5/12/2022 11:23 AM

NYISO Dollar Flows - Uplift - OATT Schedule 1 components - Data through April 30, 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

<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>
Day Ahead Market MWh	14,327,101	12,477,485	12,137,757	10,992,578								
DAM LSE Internal LBMP Energy Sales	57%	56%	59%	56%								
DAM External TC LBMP Energy Sales	7%	8%	3%	5%								
DAM Bilateral - Internal Bilaterals	28%	28%	29%	31%								
DAM Bilateral - Import/Non-LBMP Market Bilaterals	4%	4%	4%	5%								
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	2%	2%								
DAM Bilateral - Wheel Through Bilaterals	2%	2%	2%	2%								
Balancing Energy Market MWh	942,823	742,449	758,386	772,666								
Balancing Energy LSE Internal LBMP Energy Sales	88%	83%	76%	60%								
Balancing Energy External TC LBMP Energy Sales	16%	19%	24%	33%								
Balancing Energy Bilateral - Internal Bilaterals	1%	2%	2%	0%								
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%								
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	4%	9%	8%	7%								
Balancing Energy Bilateral - Wheel Through Bilaterals	-9%	-13%	-10%	-1%								
Transactions Summary												
LBMP	67%	66%	65%	62%								
Internal Bilaterals	26%	27%	27%	29%								
Import Bilaterals	3%	4%	4%	4%								
Export Bilaterals	2%	2%	2%	2%								
Wheels Through	1%	1%	2%	2%								
Market Share of Total Load												
Day Ahead Market	93.8%	94.4%	94.1%	93.4%								
Balancing Energy +	6.2%	5.6%	5.9%	6.6%								
Total MWh	15,269,924	13,219,933	12,896,143	11,765,244								
Average Daily Energy Sendout/Month GWh	451	429	390	359								

<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>
Day Ahead Market MWh	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%
Balancing Energy Market MWh	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%
Transactions Summary												
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%
Market Share of Total Load												
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>
<u>DAY AHEAD LBMP</u>												
Price *	\$124.39	\$85.98	\$52.41	\$55.23								
Standard Deviation	\$51.94	\$39.56	\$18.64	\$11.05								
Load Weighted Price **	\$128.16	\$88.17	\$53.69	\$55.96								
<u>RTC LBMP</u>												
Price *	\$127.16	\$85.48	\$57.58	\$57.33								
Standard Deviation	\$77.62	\$55.20	\$38.62	\$21.09								
Load Weighted Price **	\$130.45	\$88.33	\$59.03	\$58.49								
<u>REAL TIME LBMP</u>												
Price *	\$130.43	\$83.85	\$57.00	\$54.45								
Standard Deviation	\$93.35	\$57.99	\$44.52	\$20.46								
Load Weighted Price **	\$133.98	\$86.99	\$58.64	\$55.57								
Average Daily Energy Sendout/Month GWh	451	429	390	359								

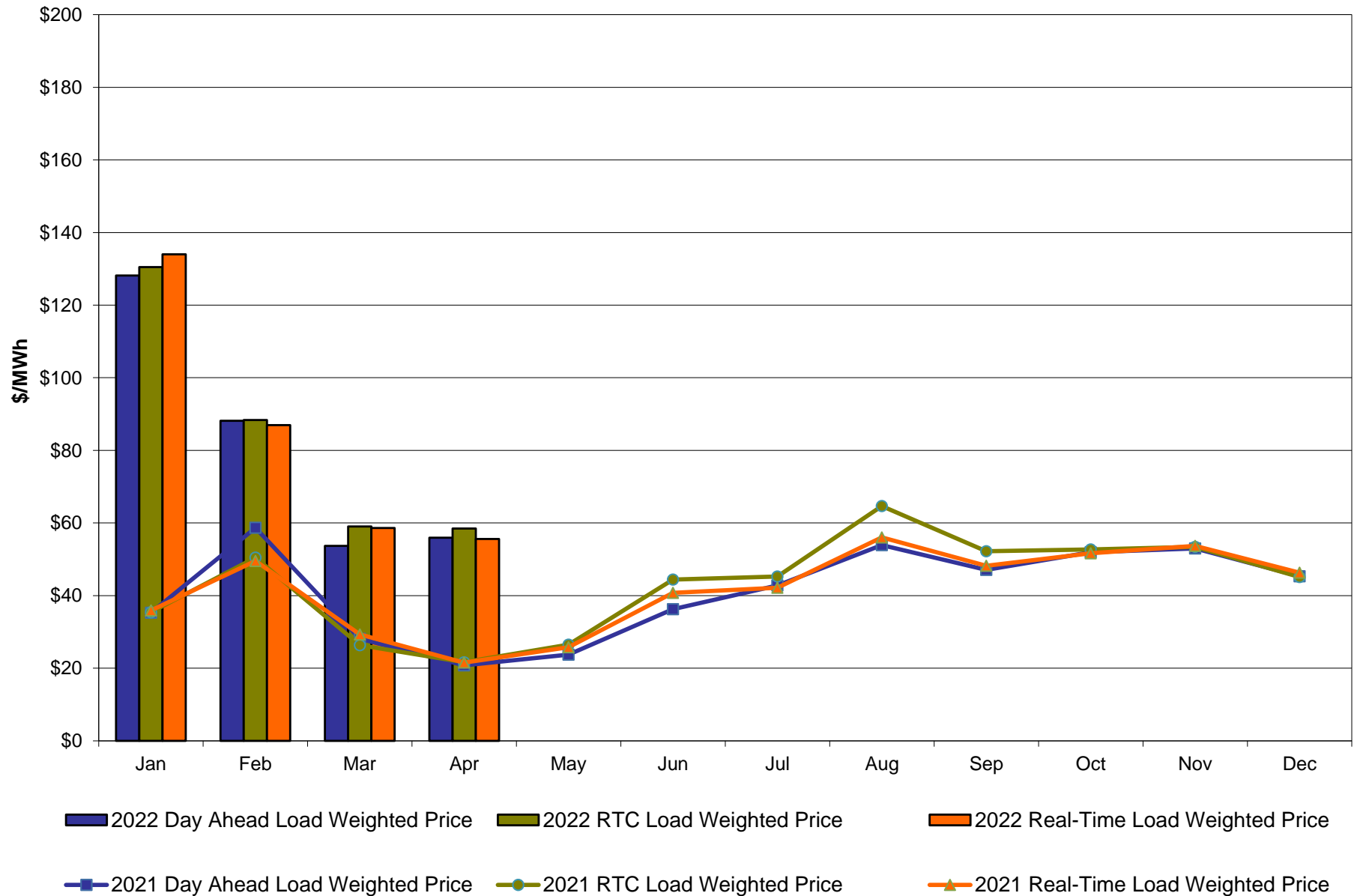
NYISO Markets 2021 Energy Statistics

	<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>
<u>DAY AHEAD LBMP</u>												
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
<u>RTC LBMP</u>												
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
<u>REAL TIME LBMP</u>												
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

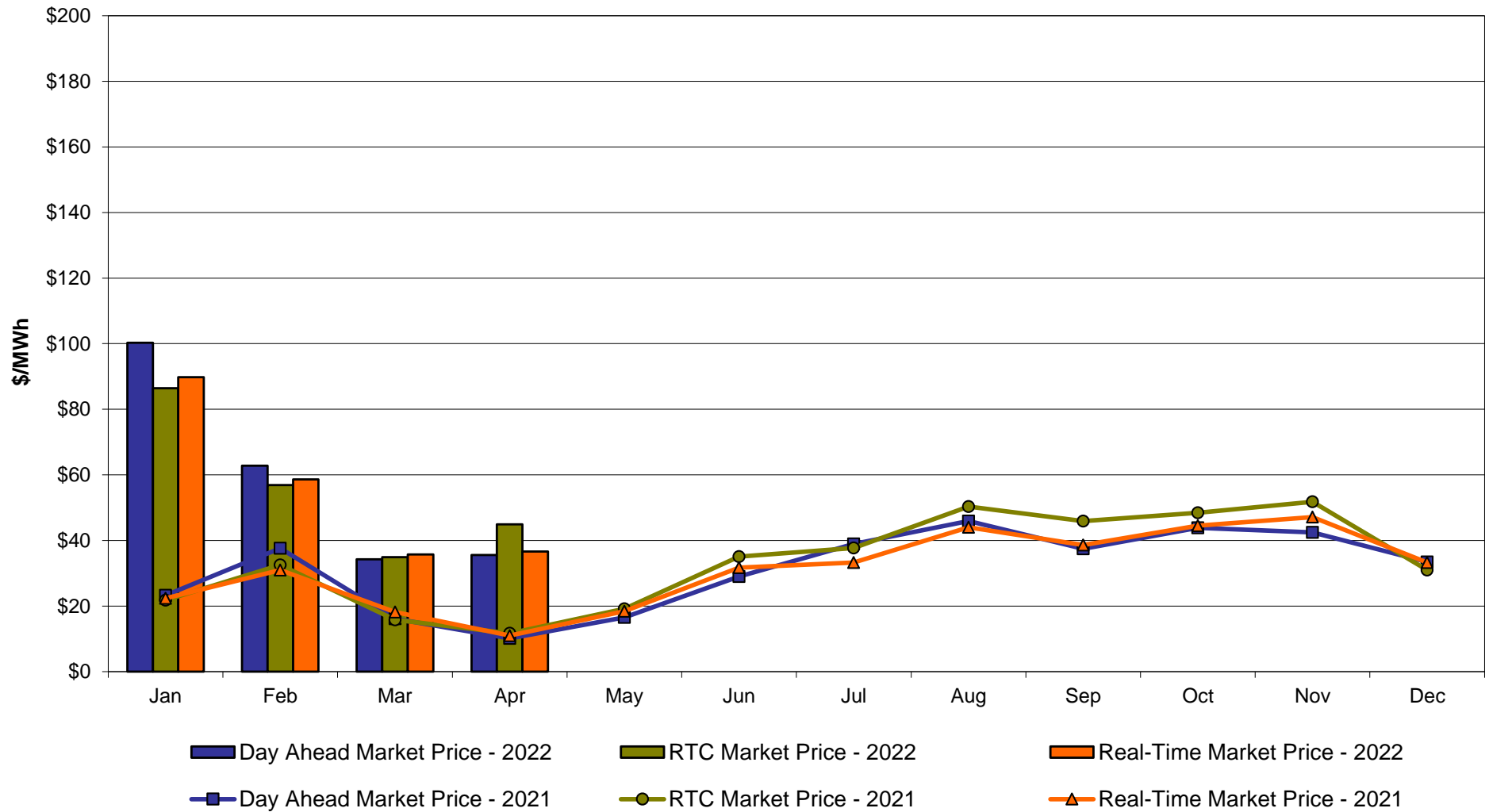


April 2022 Zonal LBMP Statistics for NYISO (\$/MWh)

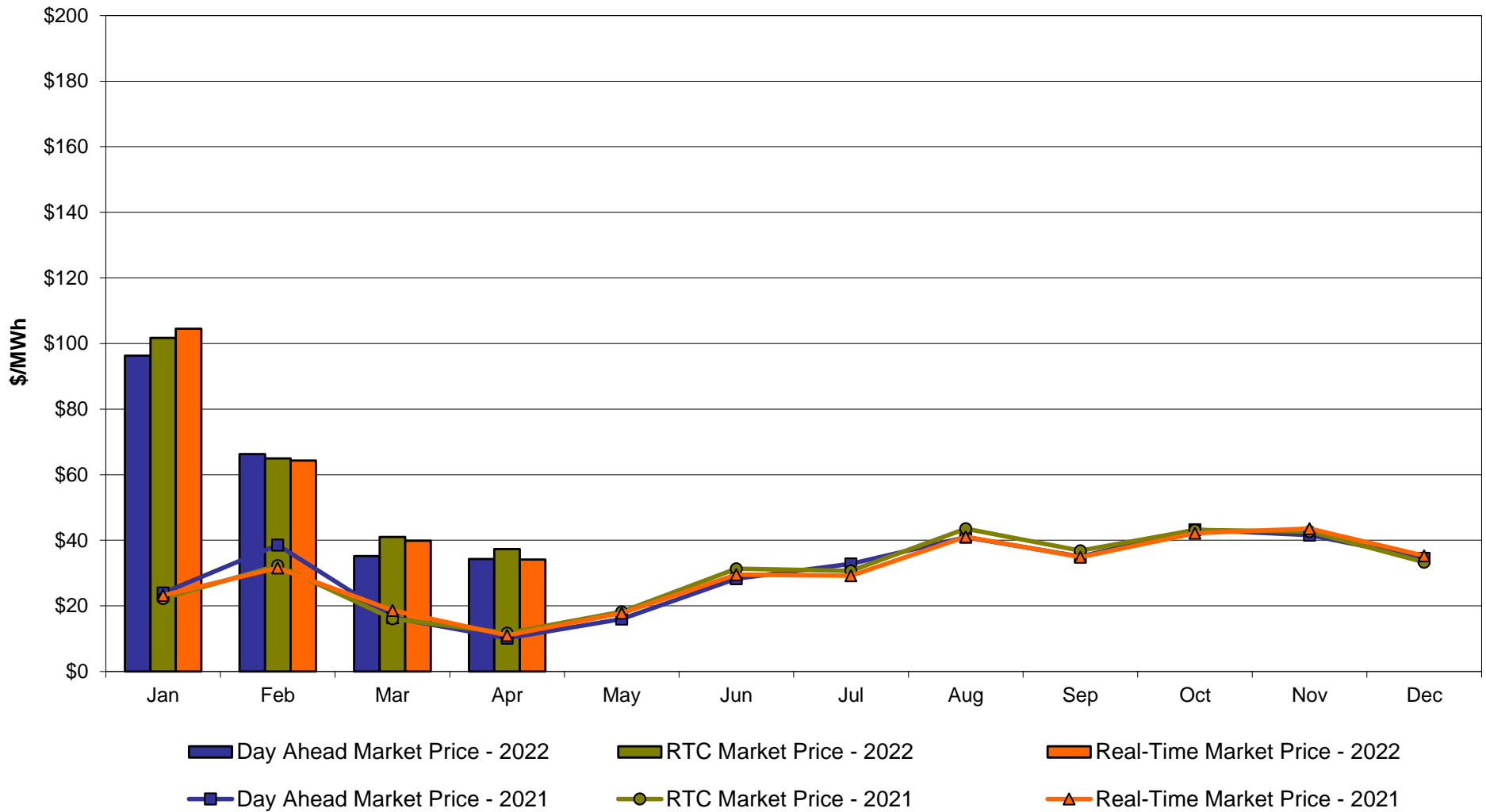
	<u>WEST</u> <u>Zone A</u>	<u>GENESEE</u> <u>Zone B</u>	<u>NORTH</u> <u>Zone D</u>	<u>CENTRAL</u> <u>Zone C</u>	<u>MOHAWK</u> <u>VALLEY</u> <u>Zone E</u>	<u>CAPITAL</u> <u>Zone F</u>	<u>HUDSON</u> <u>VALLEY</u> <u>Zone G</u>	<u>MILLWOOD</u> <u>Zone H</u>	<u>DUNWOODIE</u> <u>Zone I</u>	<u>NEW YORK</u> <u>CITY</u> <u>Zone J</u>	<u>LONG</u> <u>ISLAND</u> <u>Zone K</u>
<u>DAY AHEAD LBMP</u>											
Unweighted Price *	35.60	32.47	23.67	34.31	35.42	76.10	64.09	64.84	64.76	64.88	72.91
Standard Deviation	14.28	12.77	14.21	13.22	13.24	17.47	12.61	12.84	12.79	12.71	15.60
<u>RTC LBMP</u>											
Unweighted Price *	44.95	32.94	24.38	37.30	37.04	75.44	63.62	64.46	64.40	64.53	79.76
Standard Deviation	58.94	24.02	26.06	27.44	27.29	24.11	17.07	17.38	17.33	17.29	63.21
<u>REAL TIME LBMP</u>											
Unweighted Price *	36.61	31.63	24.08	34.16	34.53	73.45	62.85	63.72	63.66	63.81	73.52
Standard Deviation	32.62	24.78	27.07	25.19	24.77	26.51	19.85	20.26	20.24	20.31	48.22
	<u>ONTARIO</u> <u>IESO</u>	<u>HYDRO</u> <u>QUEBEC</u> <u>(Wheel)</u>	<u>HYDRO</u> <u>QUEBEC</u> <u>(Import/Export)</u>	<u>PJM</u>	<u>NEW</u> <u>ENGLAND</u>	<u>CROSS</u> <u>SOUND</u> <u>CABLE</u> <u>Controllable</u> <u>Line</u>	<u>NORTHPORT-</u> <u>NORWALK</u> <u>Controllable</u> <u>Line</u>	<u>NEPTUNE</u> <u>Controllable</u> <u>Line</u>	<u>LINDEN VFT</u> <u>Controllable</u> <u>Line</u>	<u>HUDSON</u> <u>Controllable</u> <u>Line</u>	<u>Dennison</u> <u>Controllable</u> <u>Line</u>
<u>DAY AHEAD LBMP</u>											
Unweighted Price *	32.77	24.60	24.60	50.10	66.95	72.50	69.55	72.76	63.28	64.82	23.42
Standard Deviation	12.37	14.80	14.80	10.64	13.04	15.58	14.19	15.57	12.24	12.77	13.91
<u>RTC LBMP</u>											
Unweighted Price *	30.77	25.17	25.17	52.52	64.23	78.67	79.29	79.47	62.20	62.18	23.91
Standard Deviation	21.25	25.71	25.71	22.23	17.42	63.72	62.57	62.55	17.94	17.75	26.31
<u>REAL TIME LBMP</u>											
Unweighted Price *	31.13	24.73	24.73	50.08	62.08	72.56	68.87	73.44	61.10	63.73	23.46
Standard Deviation	23.15	27.12	27.12	22.40	28.39	49.65	51.68	47.82	27.33	20.16	28.35

* Straight LBMP averages

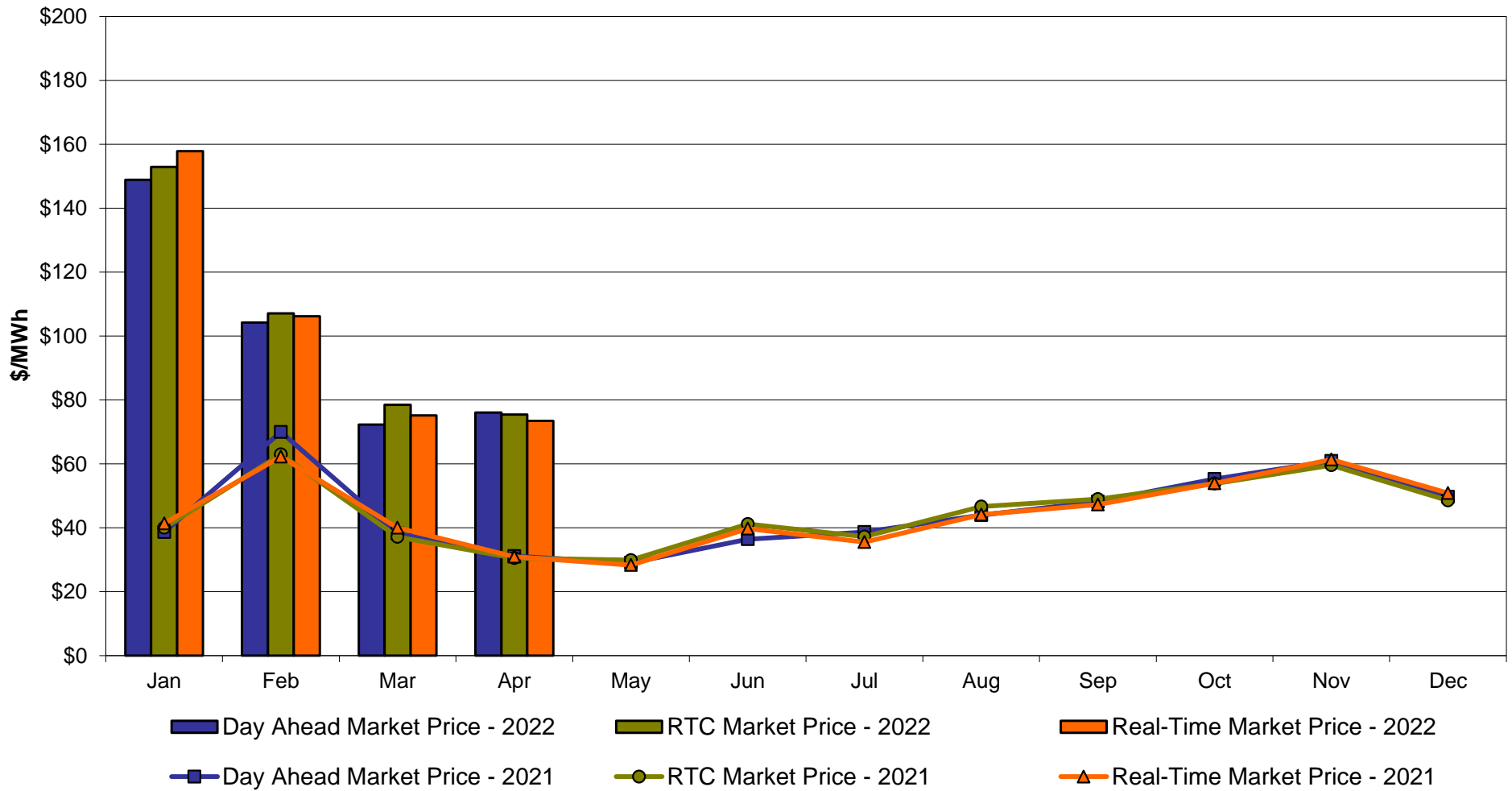
West Zone A Monthly Average LBMP Prices 2021 - 2022



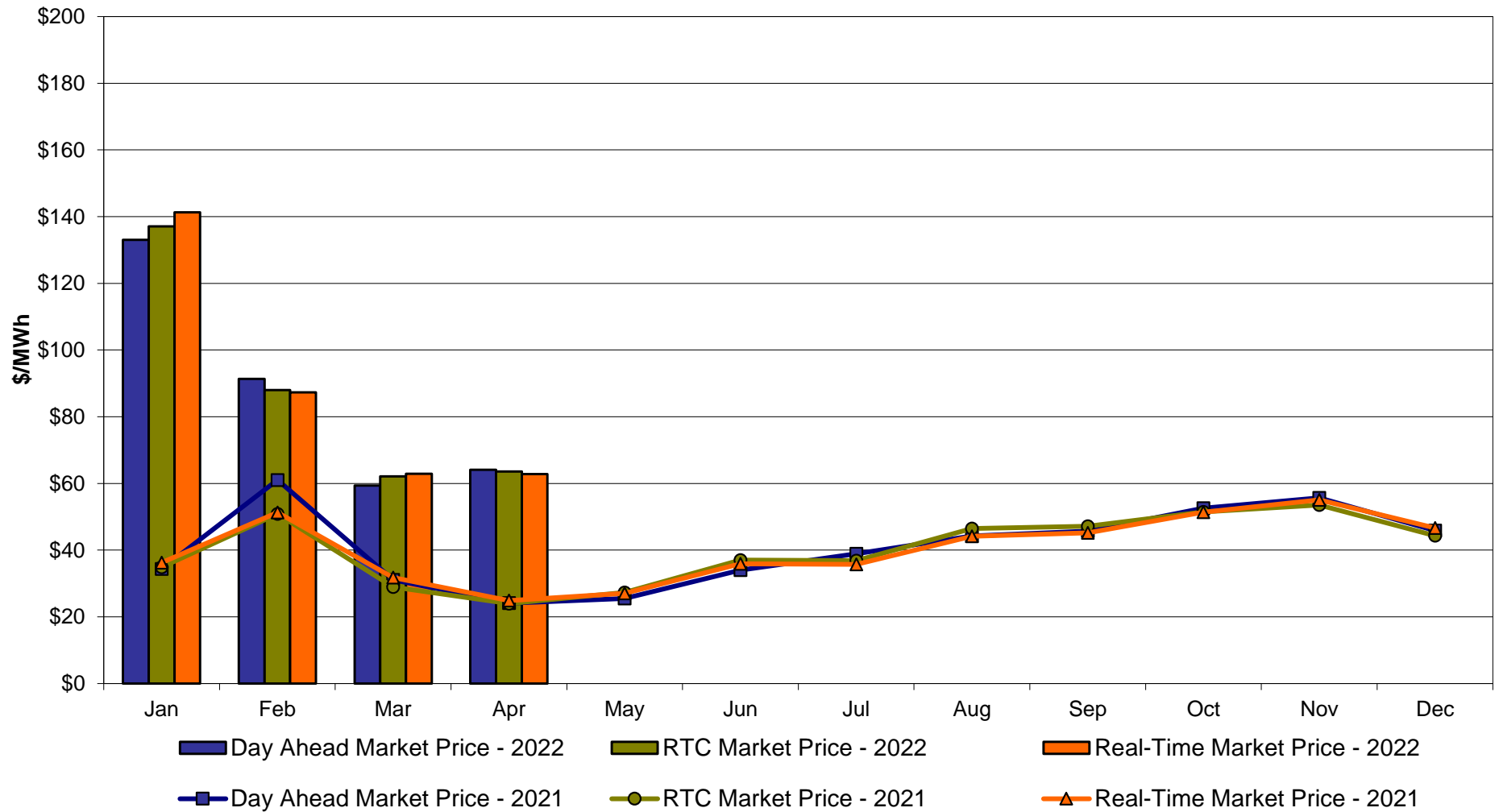
Central Zone C Monthly Average LBMP Prices 2020 - 2021



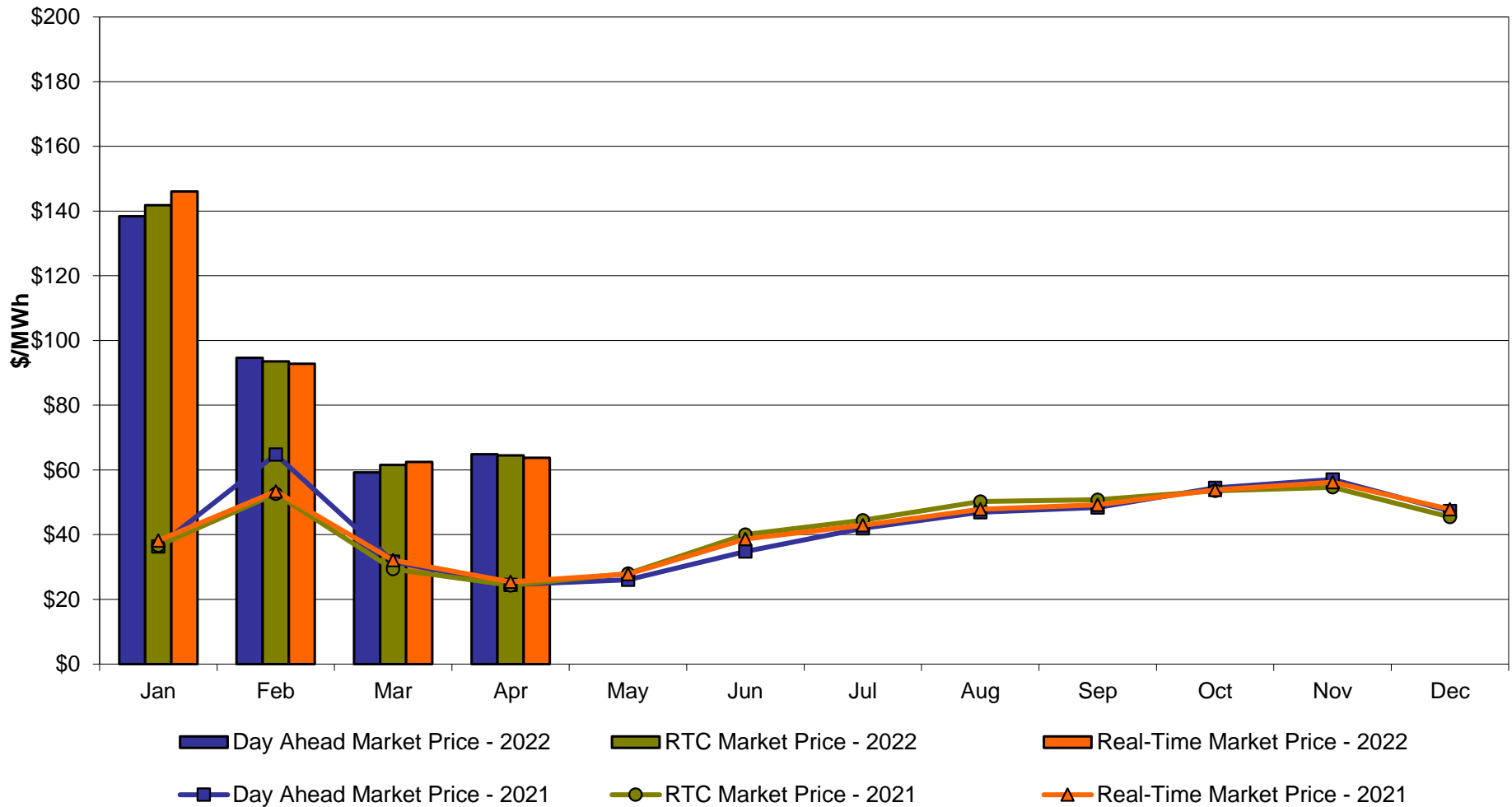
Capital Zone F **Monthly Average LBMP Prices 2021 - 2022**



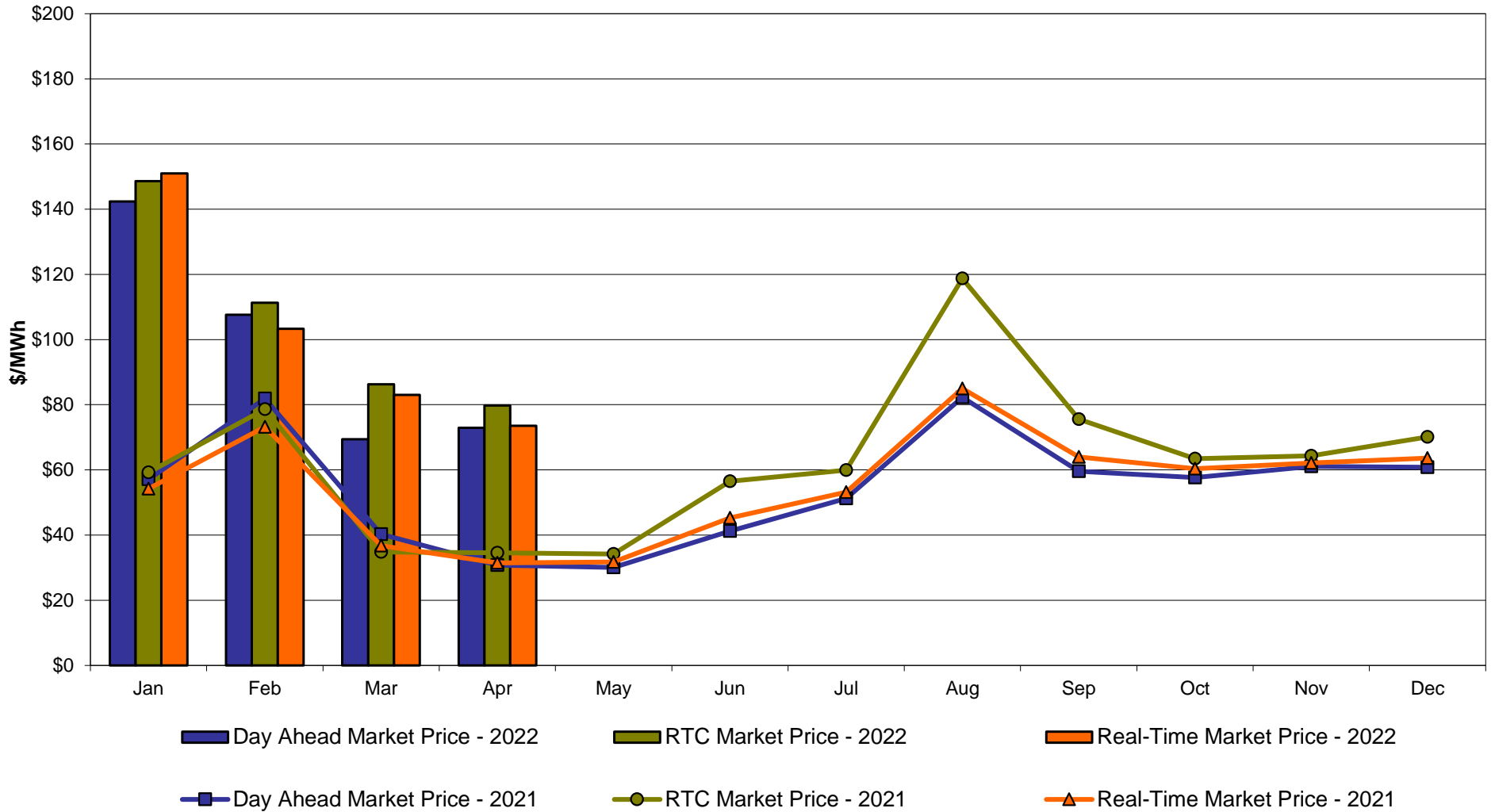
Hudson Valley Zone G Monthly Average LBMP Prices 2020 - 2021



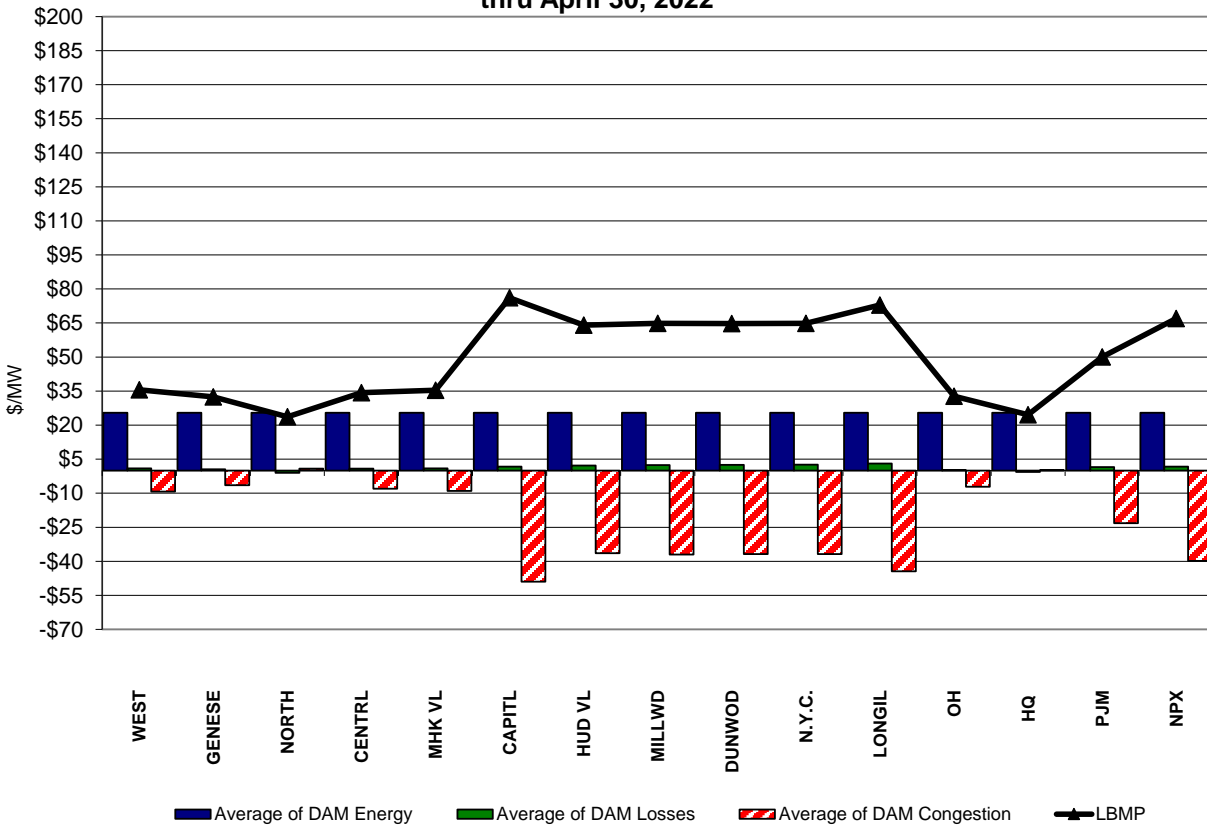
NYC Zone J Monthly Average LBMP Prices 2021 - 2022



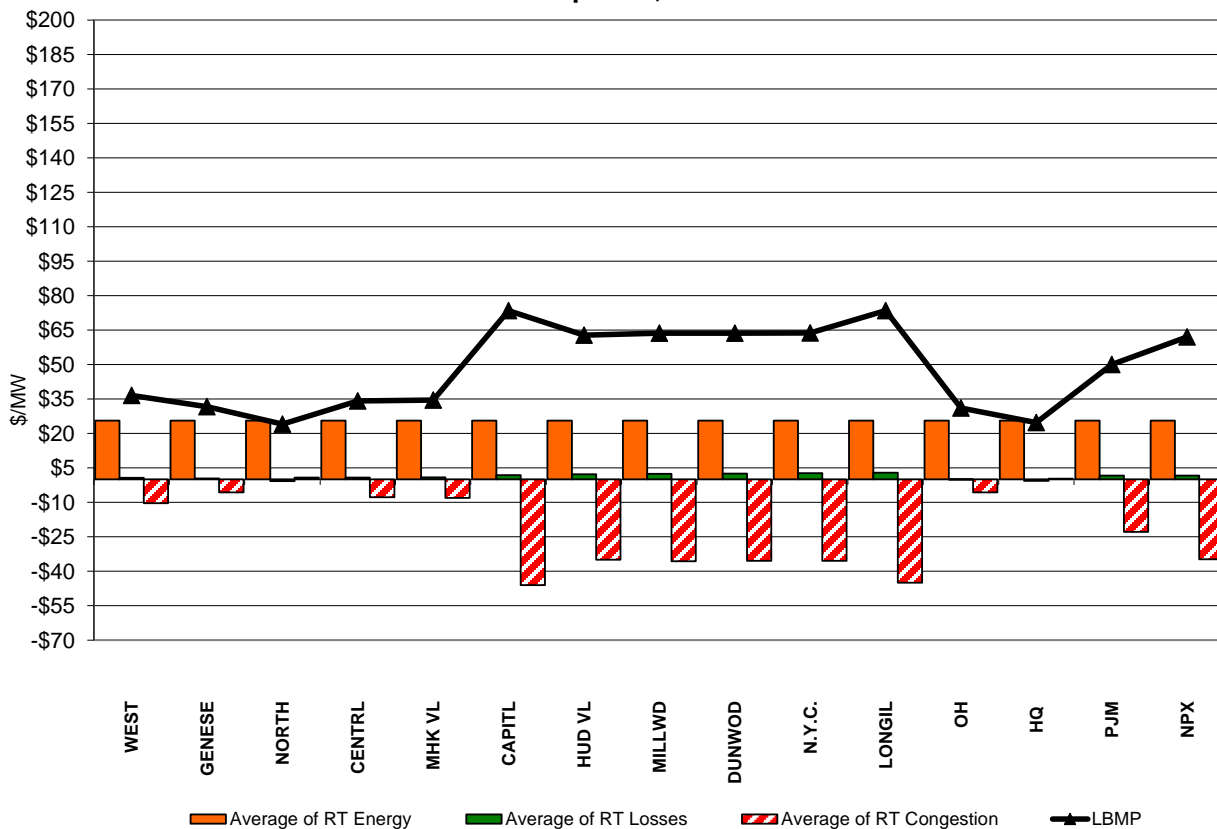
Long Island Zone K Monthly Average LBMP Prices 2020 - 2021



**DAM Zonal Unweighted Monthly Average LBMP Components
thru April 30, 2022**

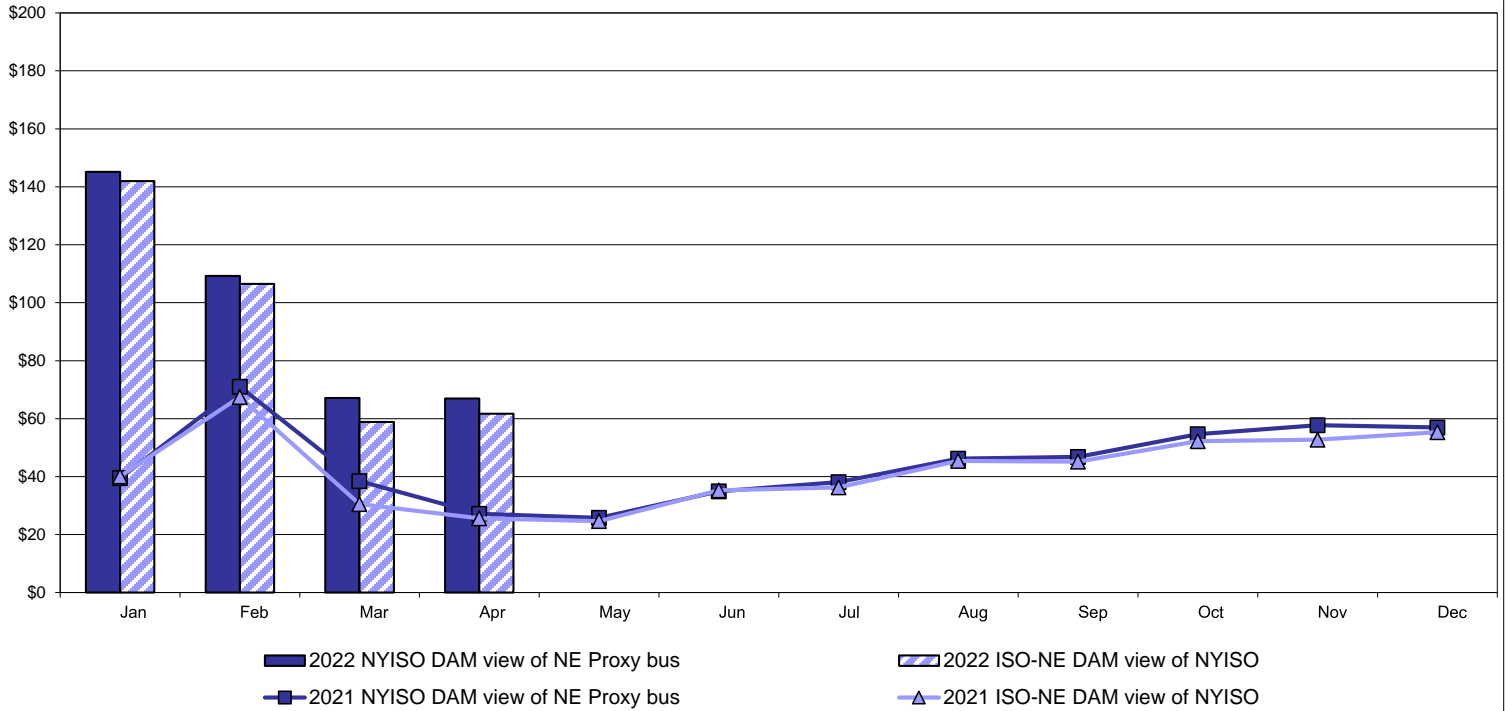


**RT Zonal Unweighted Monthly Average LBMP Components
thru April 30, 2022**

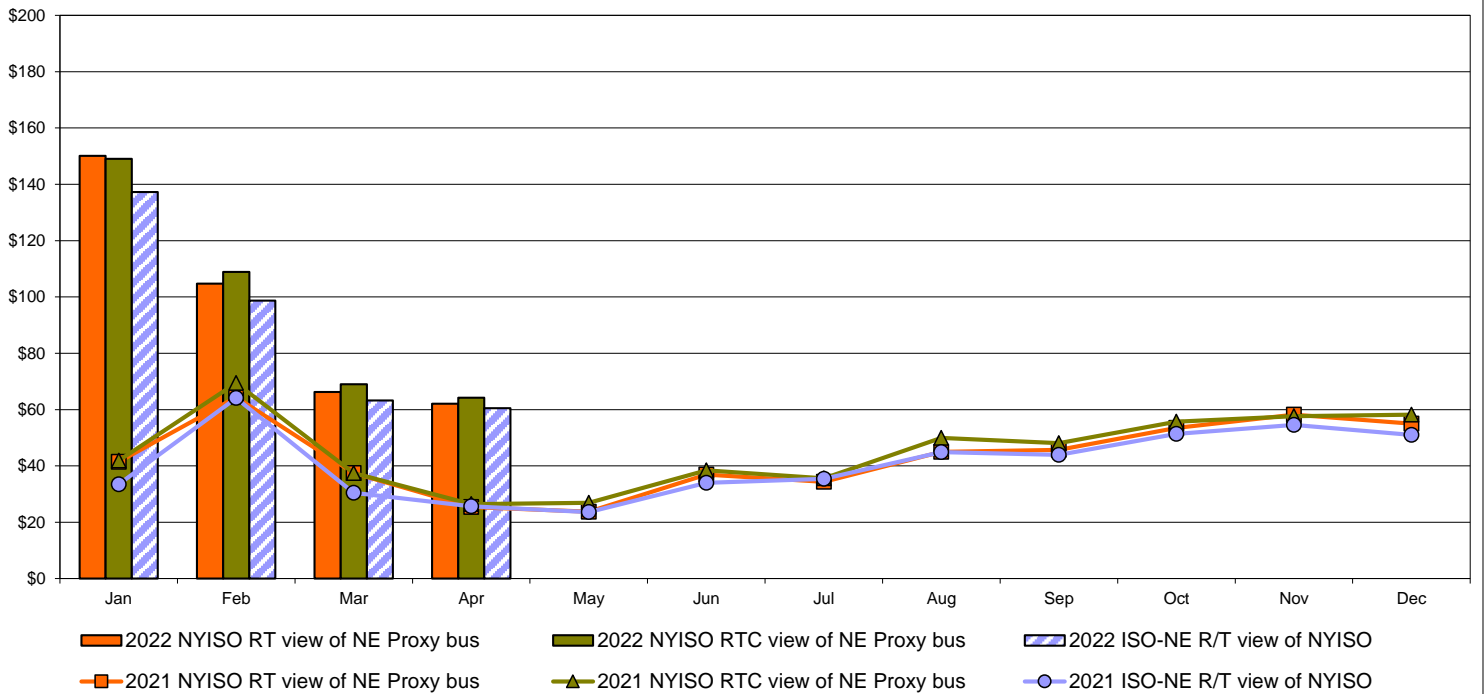


External Comparison ISO-New England

Day Ahead Market External Zone Comparison: ISO-NE (\$/MWh)

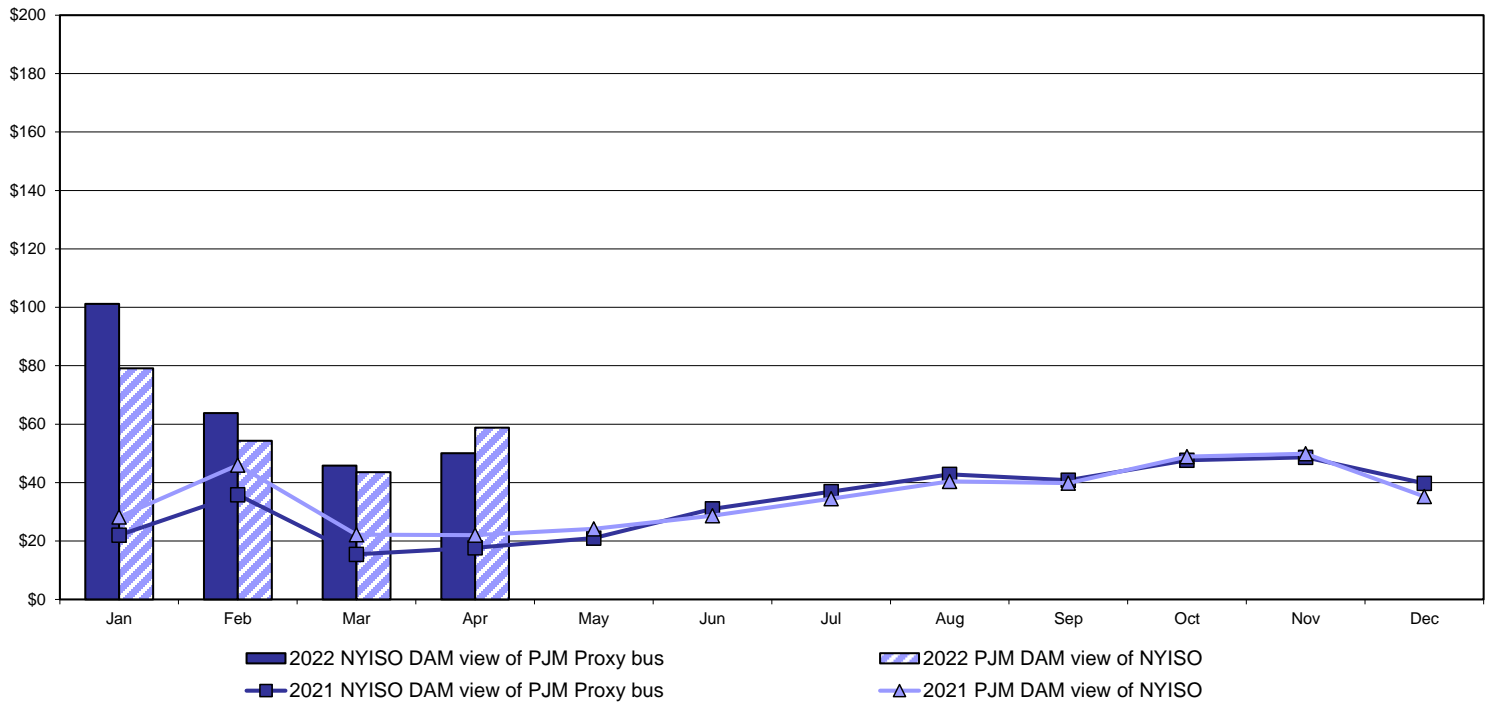


Real Time Market External Zone Comparison: ISO-NE (\$/MWh)

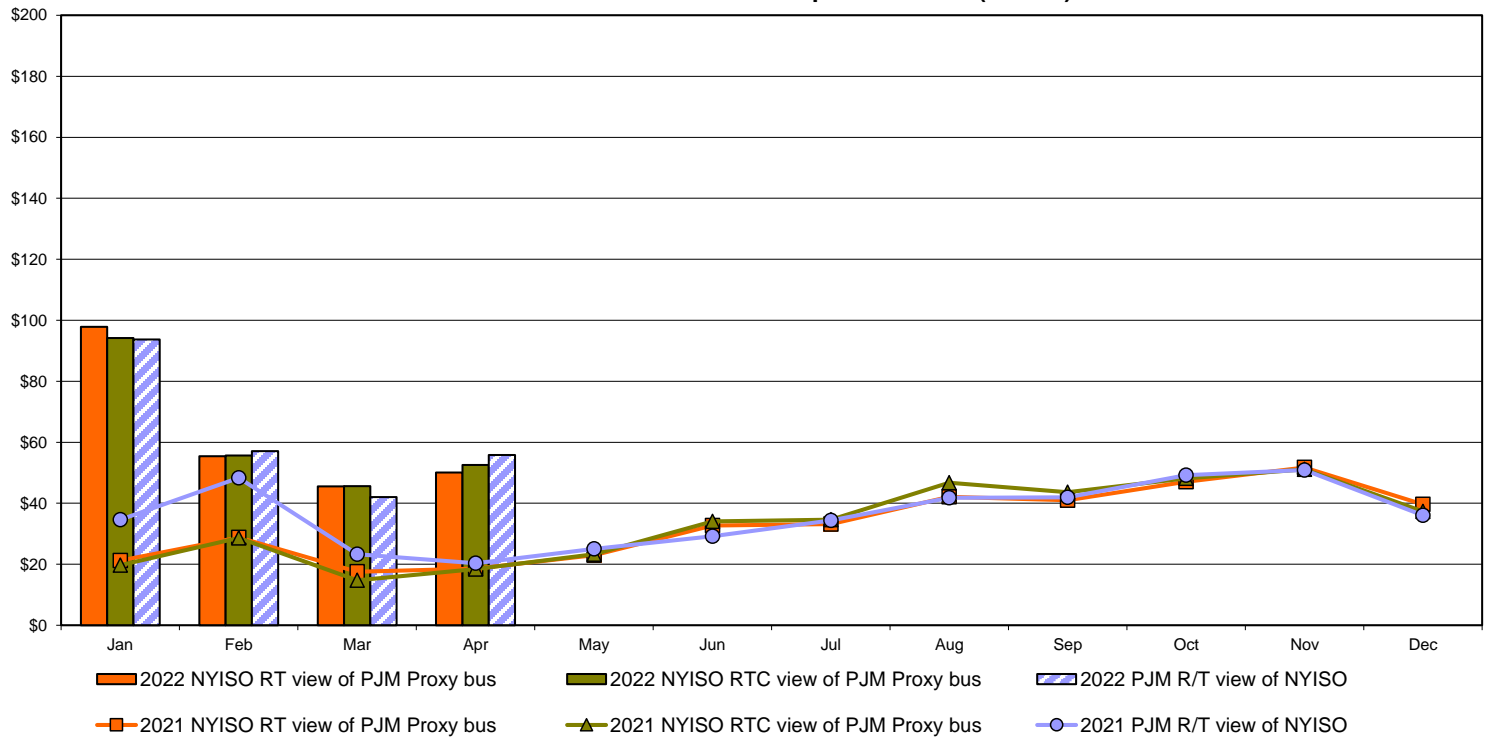


External Comparison PJM

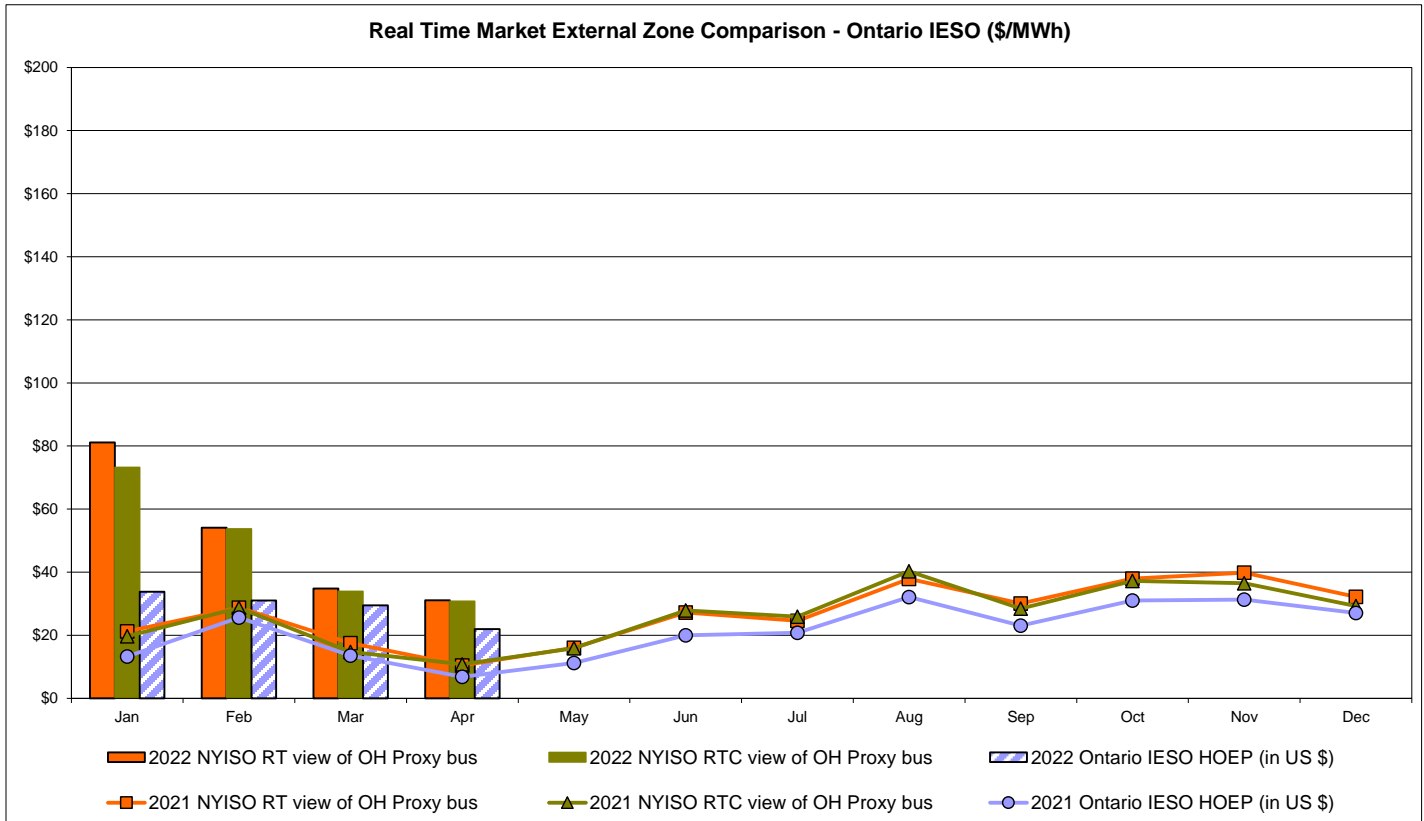
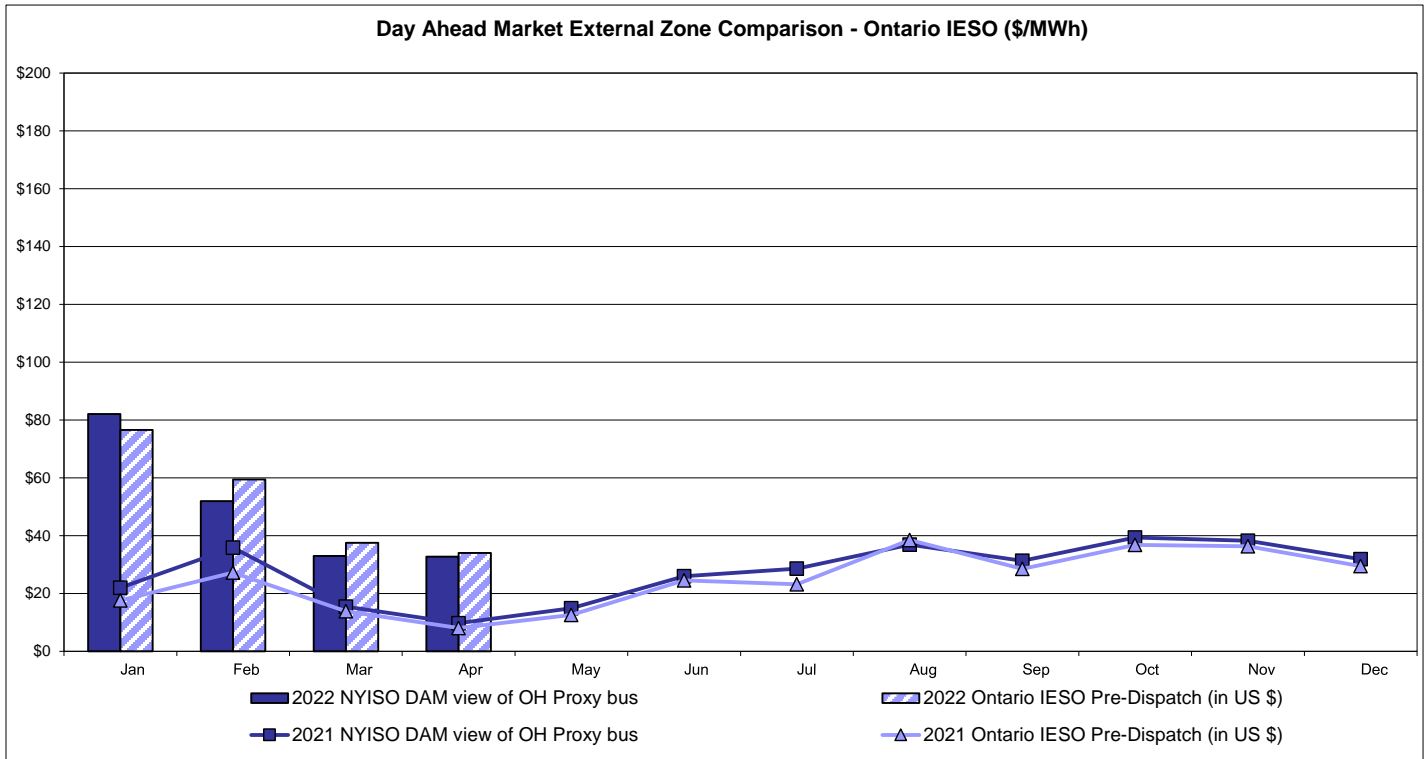
Day Ahead Market External Zone Comparison - PJM (\$/MWh)



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

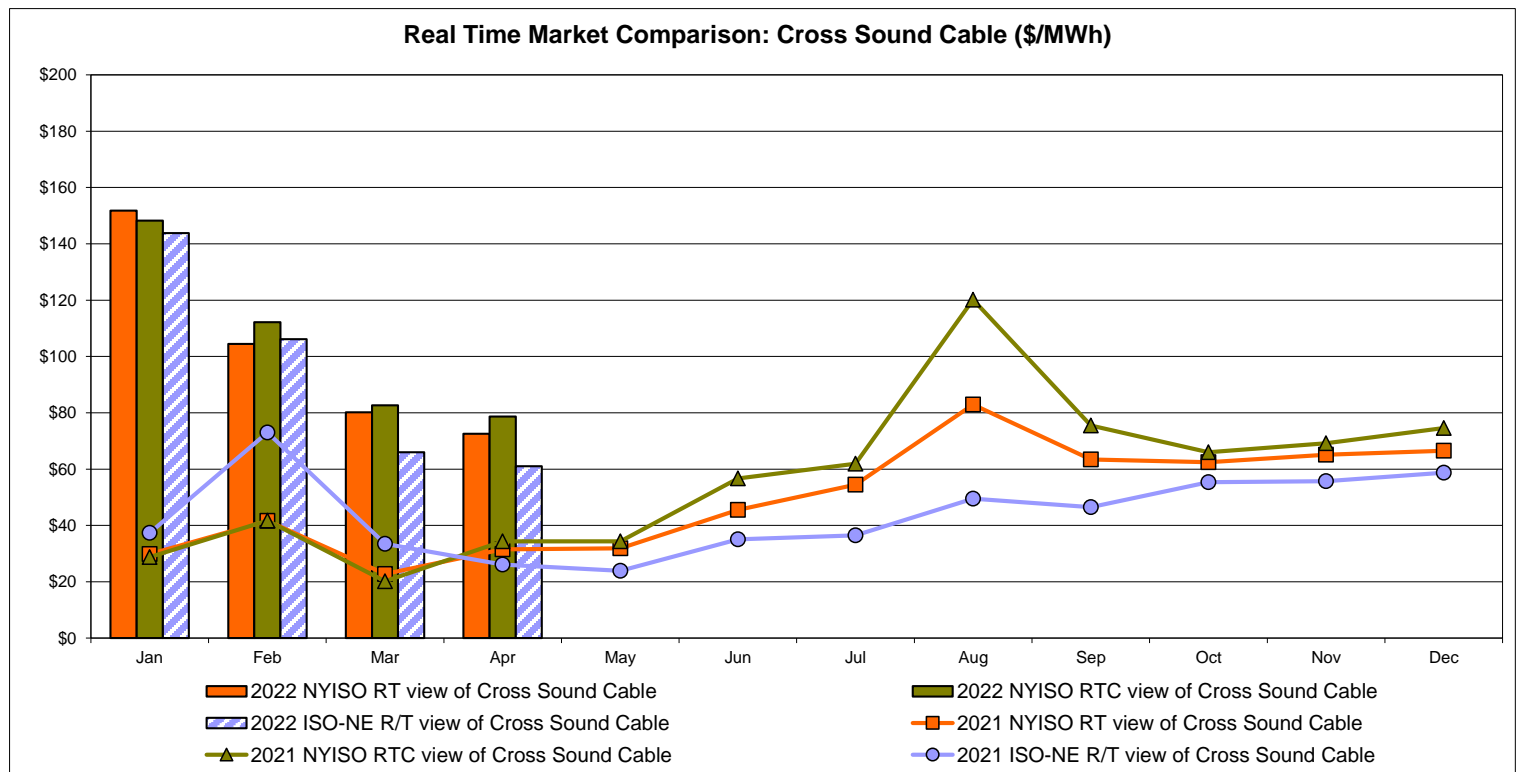
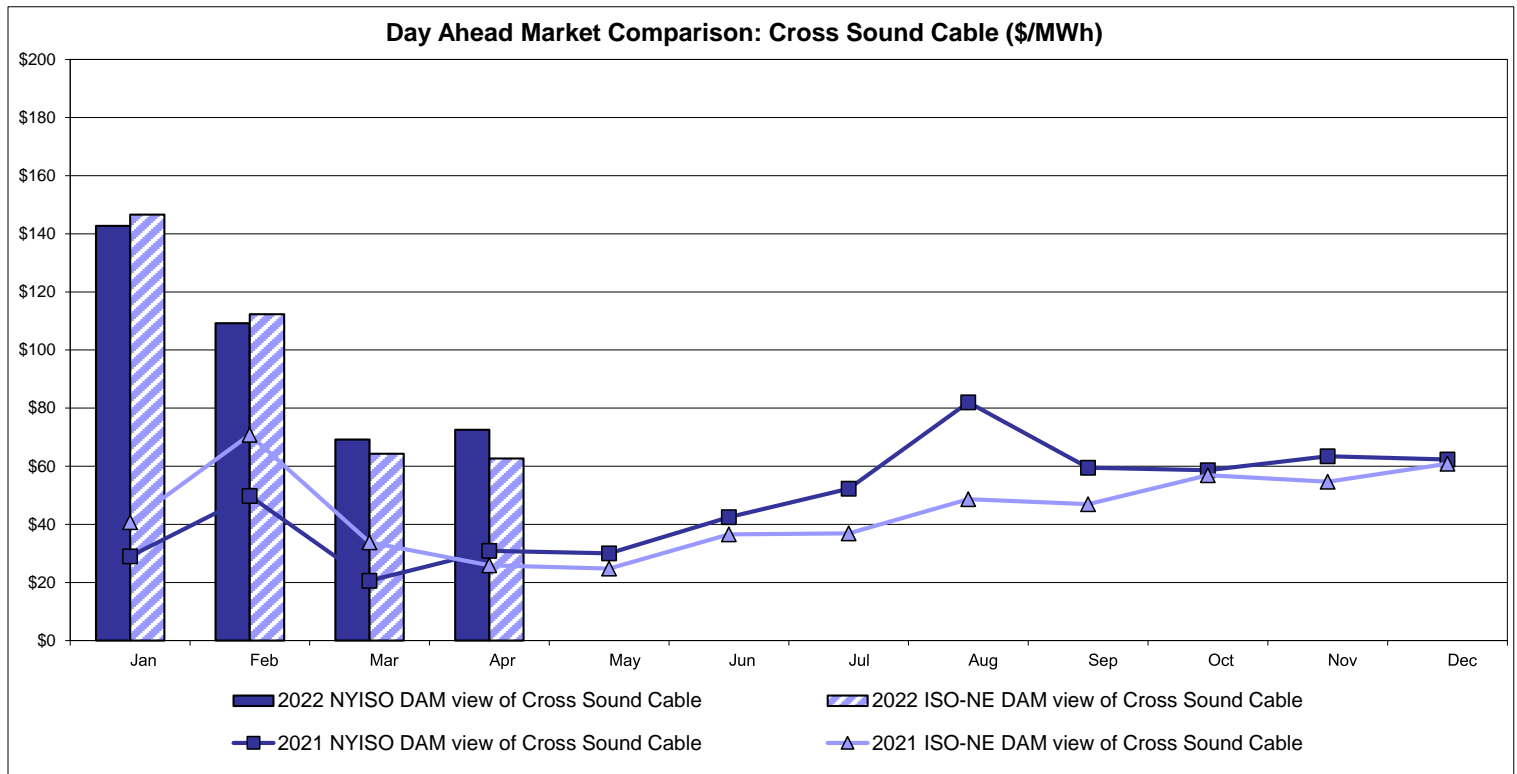


External Comparison Ontario IESO



Notes: Exchange factor used for April 2022 was 0.791891035793475 to US
 HOEP: Hourly Ontario Energy Price
 Pre-Dispatch: Projected Energy Price

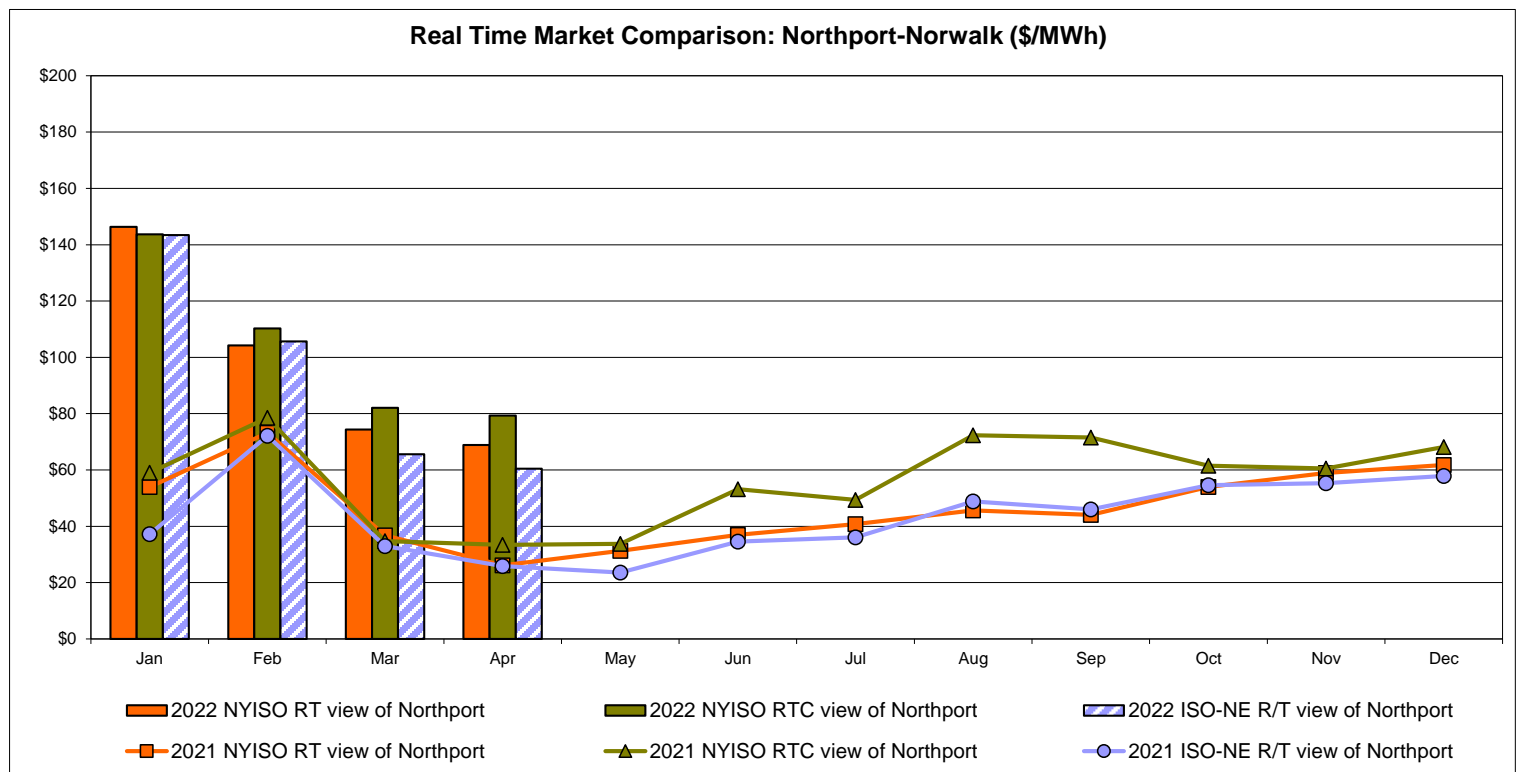
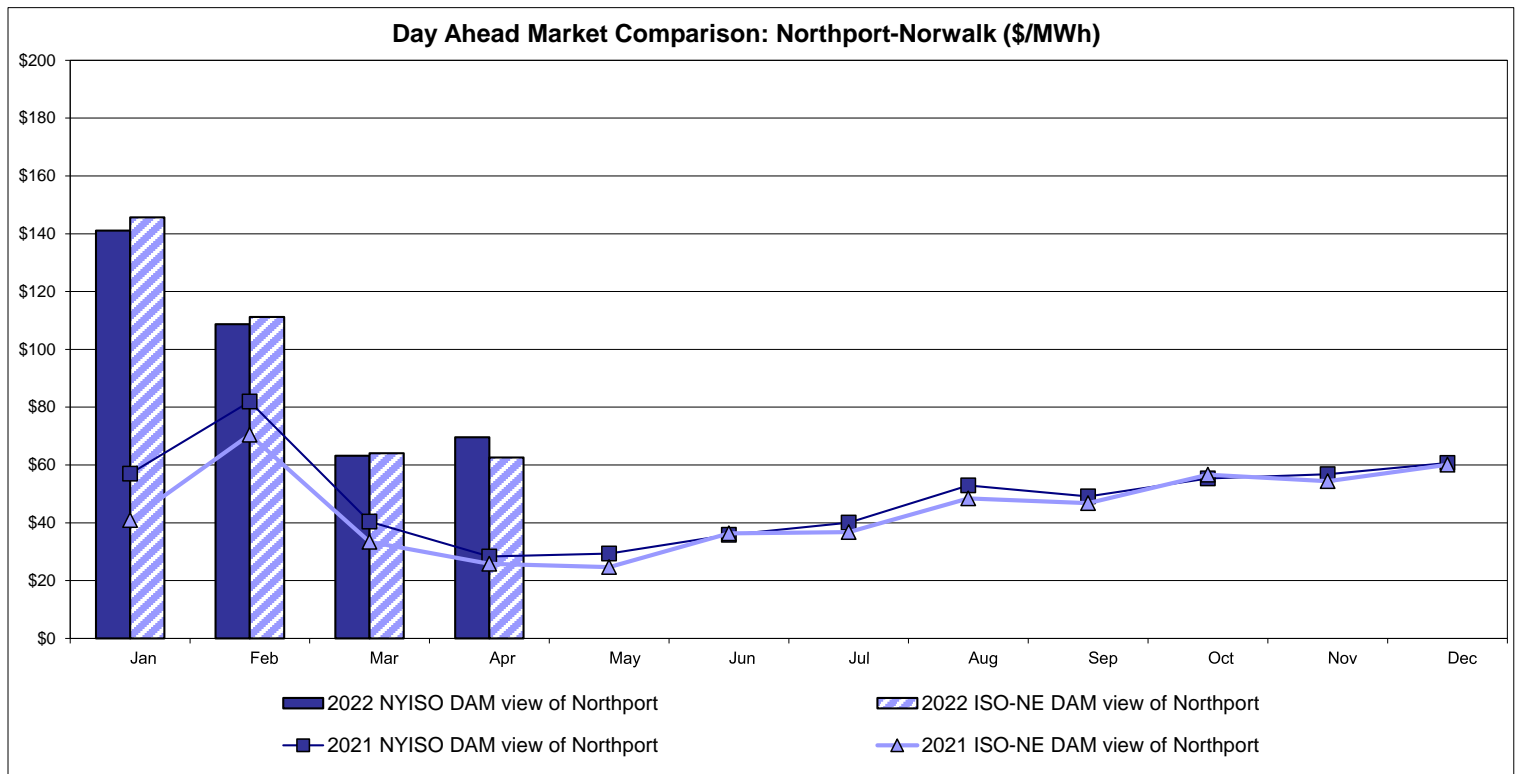
External Controllable Line: Cross Sound Cable (New England)



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)

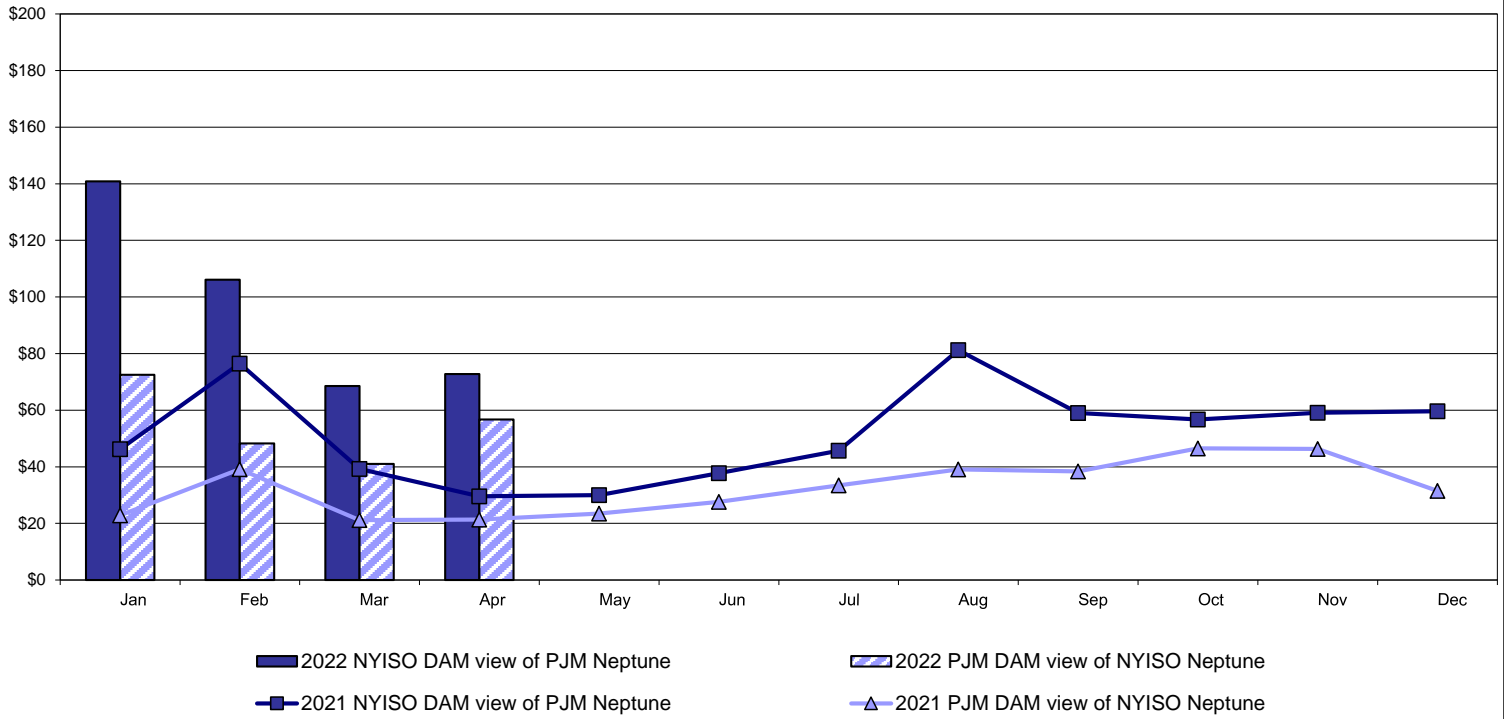


Note:

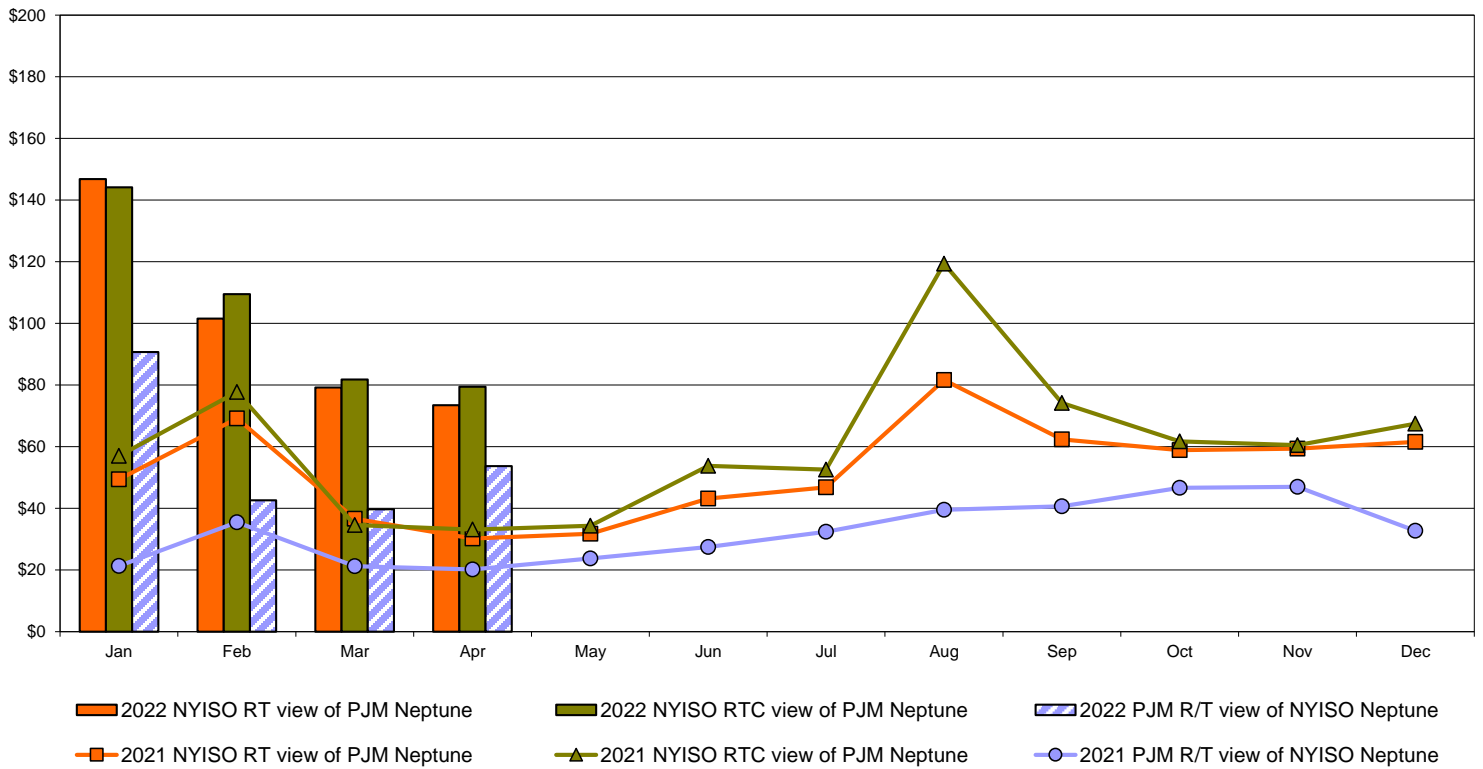
ISO-NE Forecast is an advisory posting @ 18:00 day before.
 The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.
 The DAM and R/T prices at the 1385 interface are used for NYISO.

External Controllable Line: Neptune (PJM)

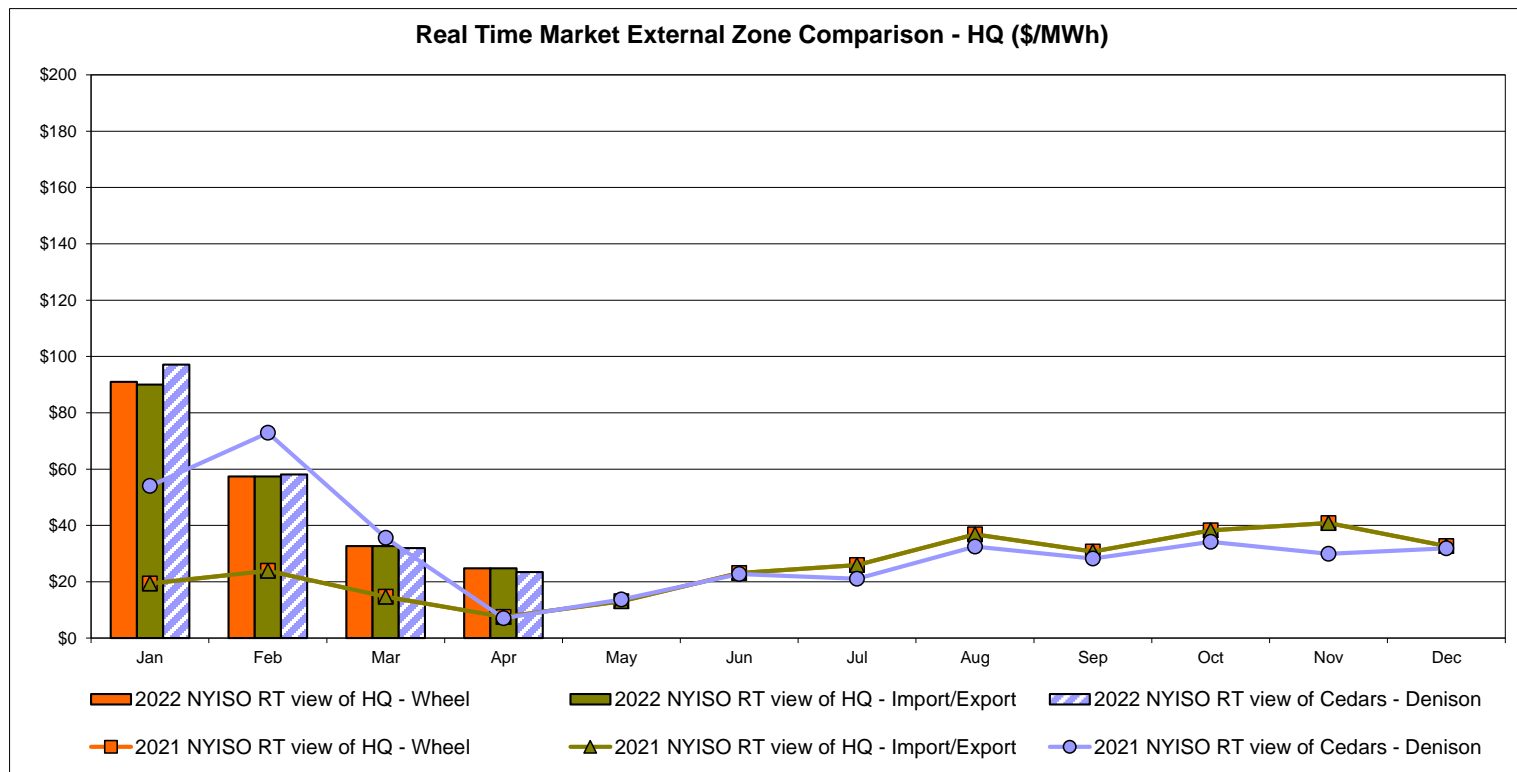
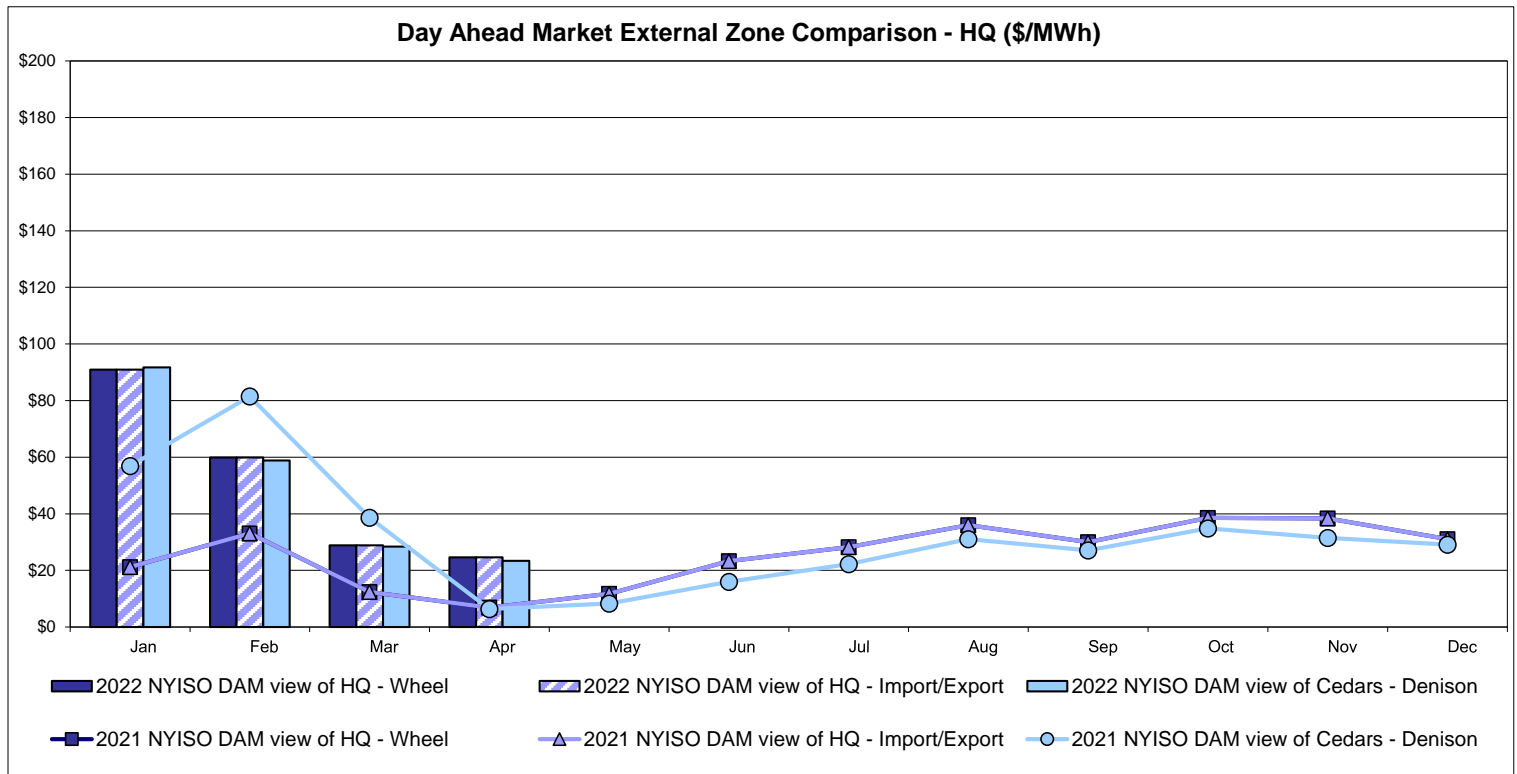
Day Ahead Market Comparison: Neptune (\$/MWh)



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

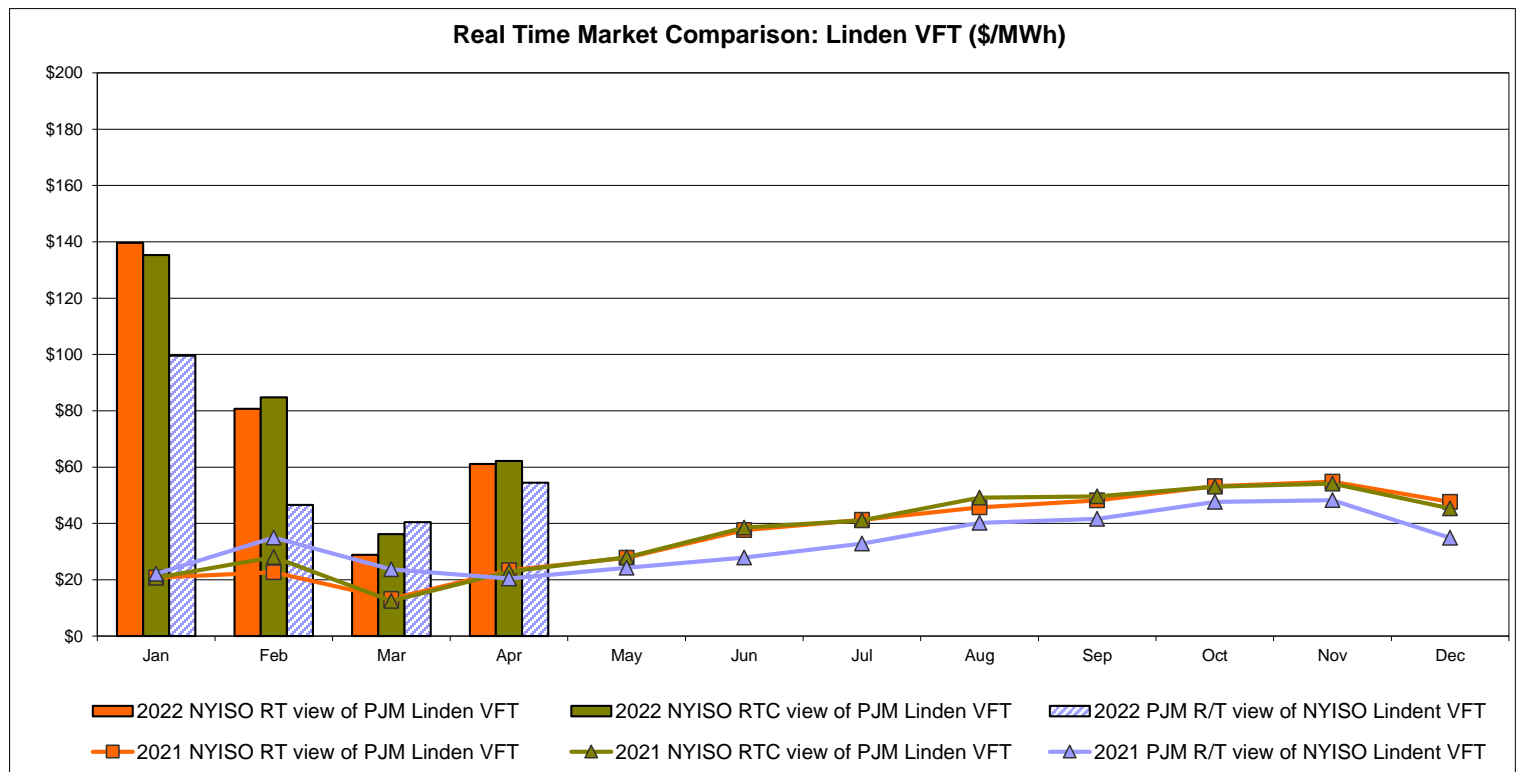
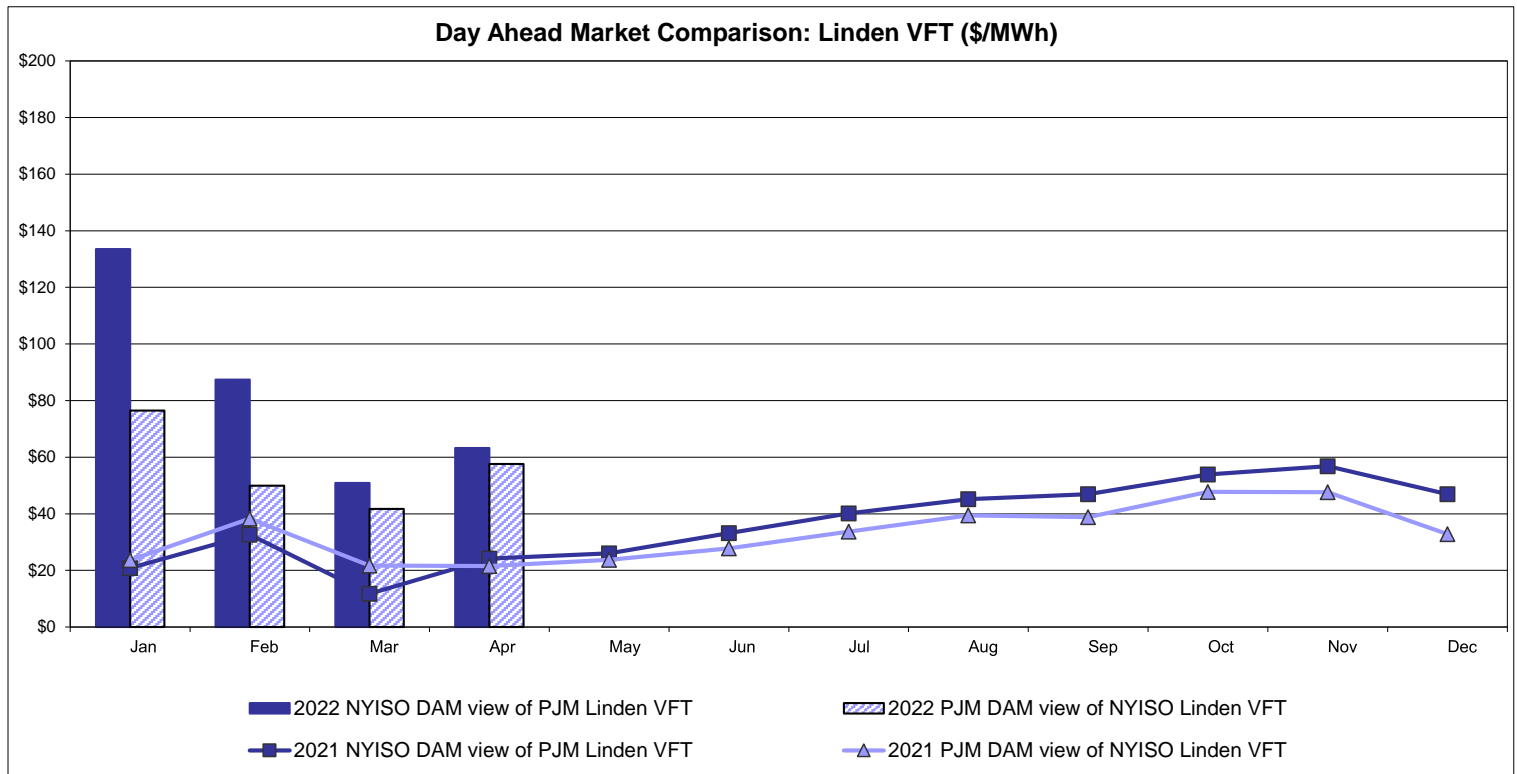


External Comparison Hydro-Quebec

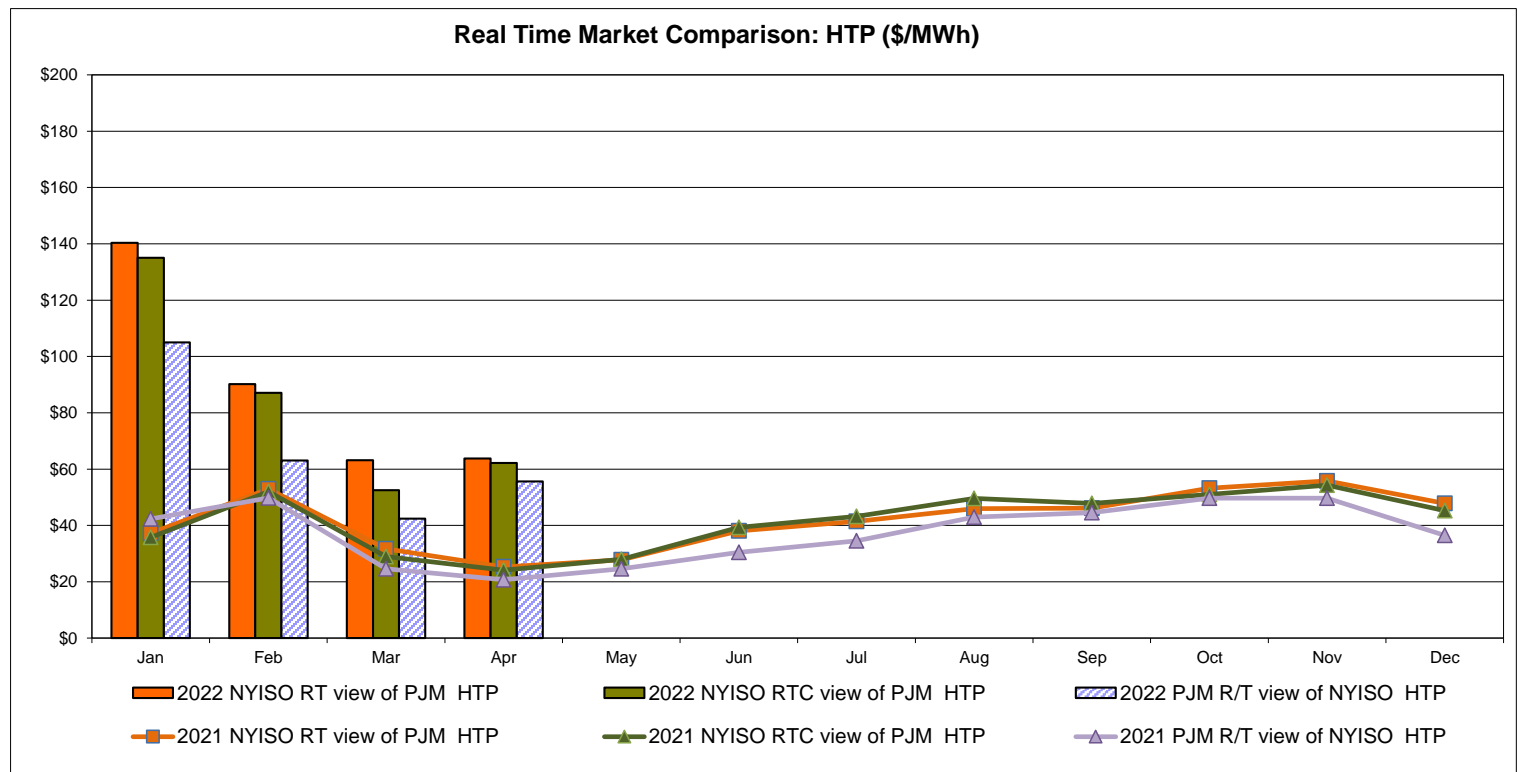
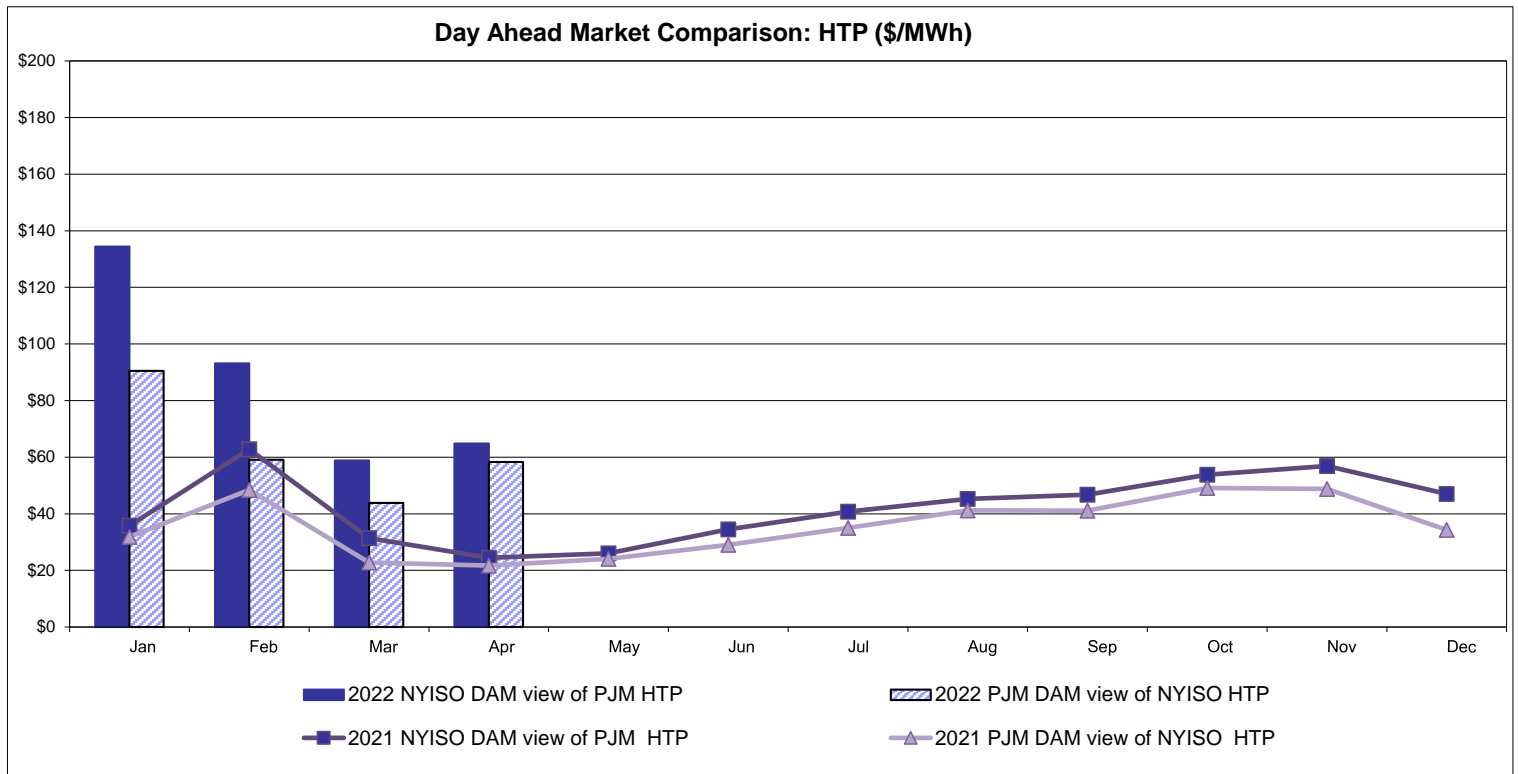


Note:
Hydro-Quebec Prices are unavailable.

External Controllable Line: Linden VFT (PJM)



External Controllable Line: Hudson (PJM)

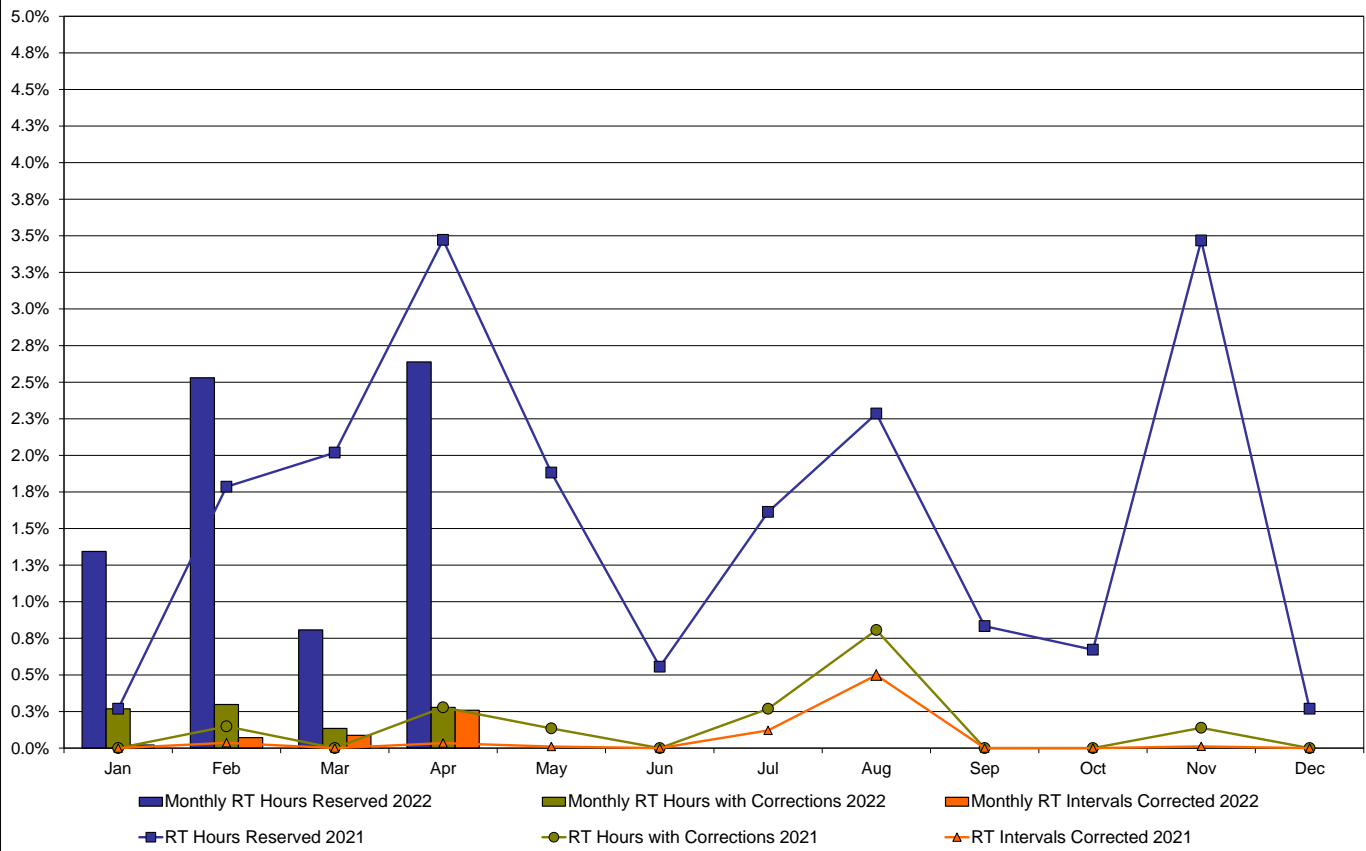


NYISO Real Time Price Correction Statistics

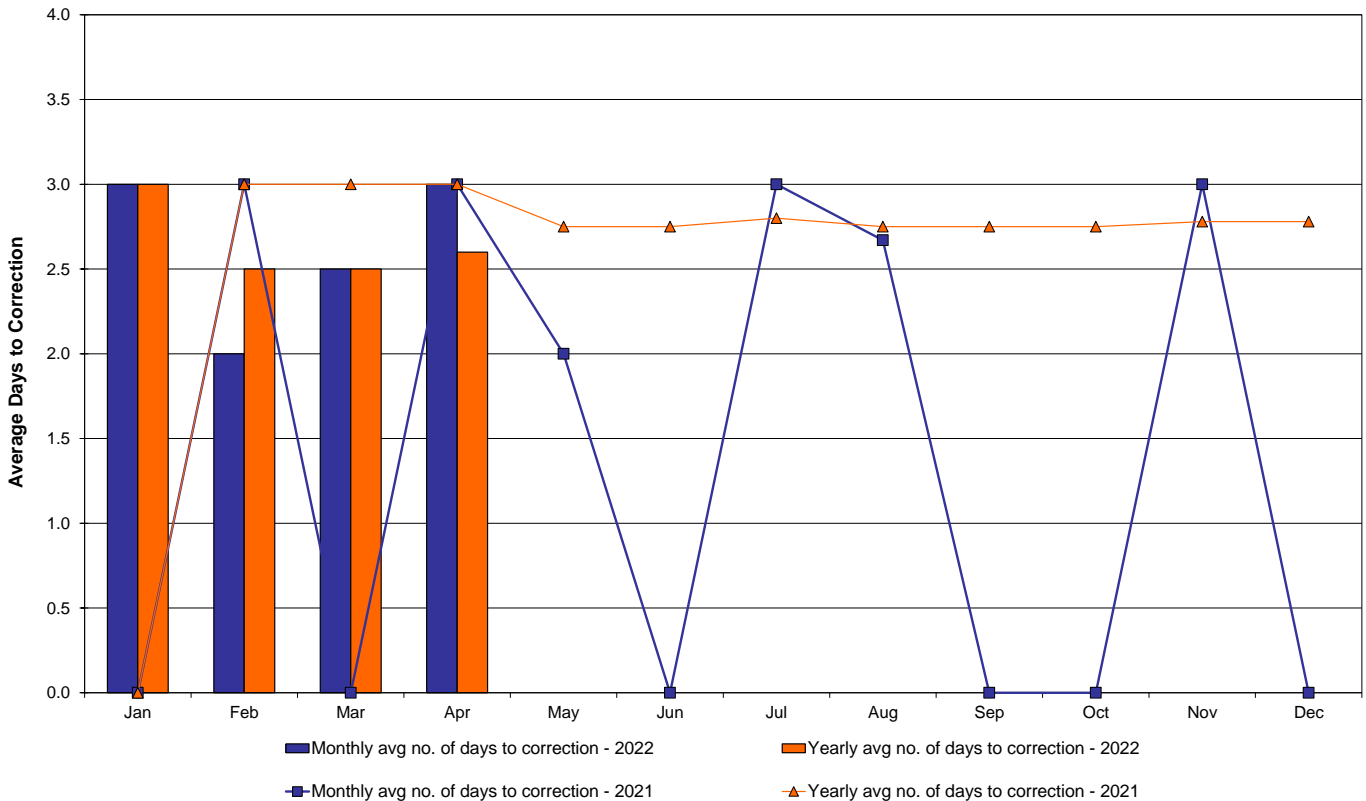
2022		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
Hour Corrections													
Number of hours with corrections	in the month	2	2	1	2								
Number of hours	in the month	744	672	743	720								
% of hours with corrections	in the month	0.27%	0.30%	0.13%	0.28%								
% of hours with corrections	year-to-date	0.27%	0.28%	0.23%	0.24%								
Interval Corrections													
Number of intervals corrected	in the month	2	6	8	23								
Number of intervals	in the month	9,258	8,338	9,118	8,908								
% of intervals corrected	in the month	0.02%	0.07%	0.09%	0.26%								
% of intervals corrected	year-to-date	0.02%	0.05%	0.06%	0.11%								
Hours Reserved													
Number of hours reserved	in the month	10	17	6	19								
Number of hours	in the month	744	672	743	720								
% of hours reserved	in the month	1.34%	2.53%	0.81%	2.64%								
% of hours reserved	year-to-date	1.34%	1.91%	1.53%	1.81%								
Days to Correction *													
Avg. number of days to correction	in the month	3.00	2.00	2.50	3.00								
Avg. number of days to correction	year-to-date	3.00	2.50	2.50	2.60								
Days Without Corrections													
Days without corrections	in the month	30	27	29	29								
Days without corrections	year-to-date	30	57	86	115								
2021		<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>
Hour Corrections													
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%
Interval Corrections													
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%
Hours Reserved													
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%
Days to Correction *													
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
Days Without Corrections													
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



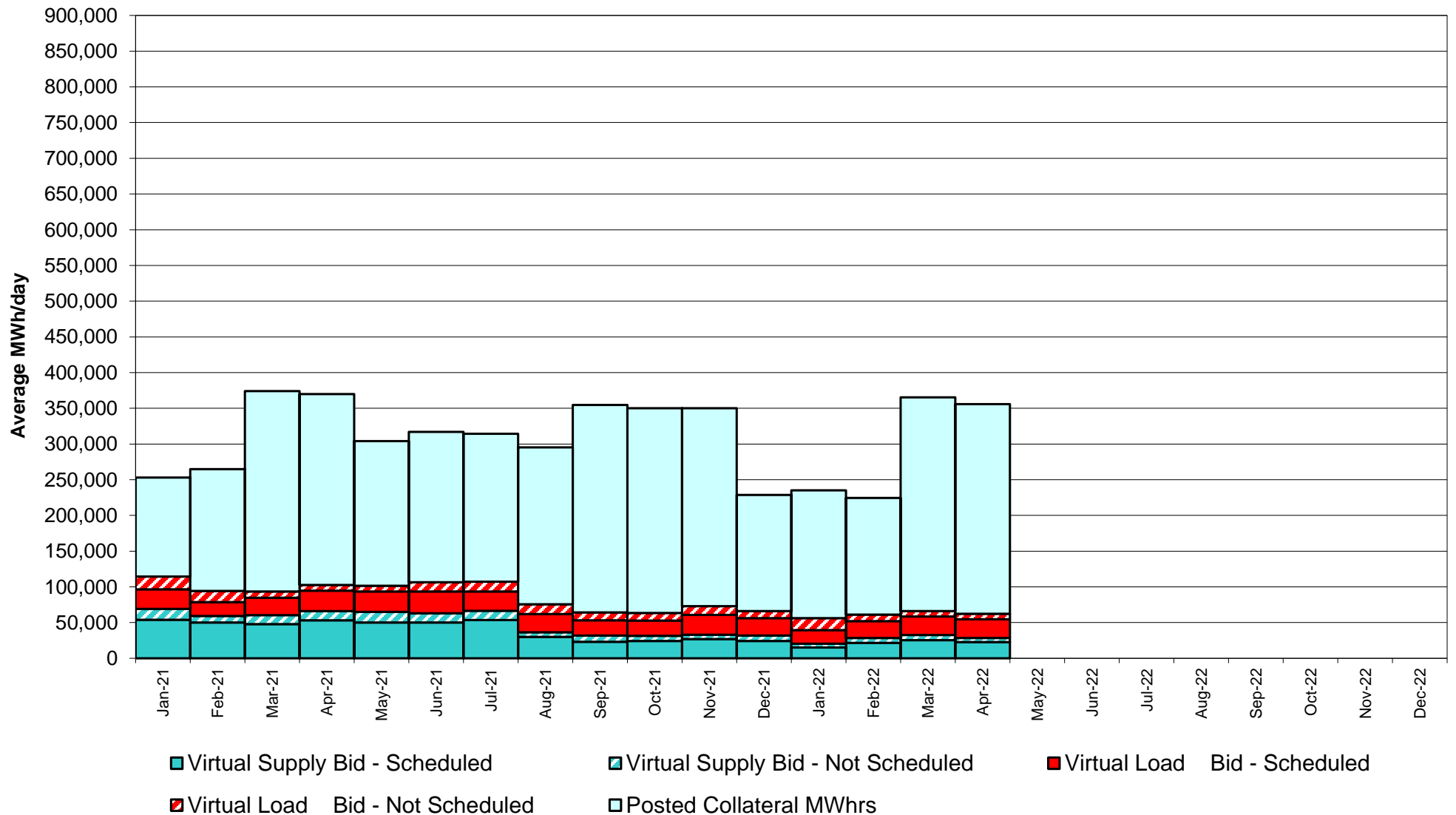
Annual average time period for making Price Corrections (from reservation date) *



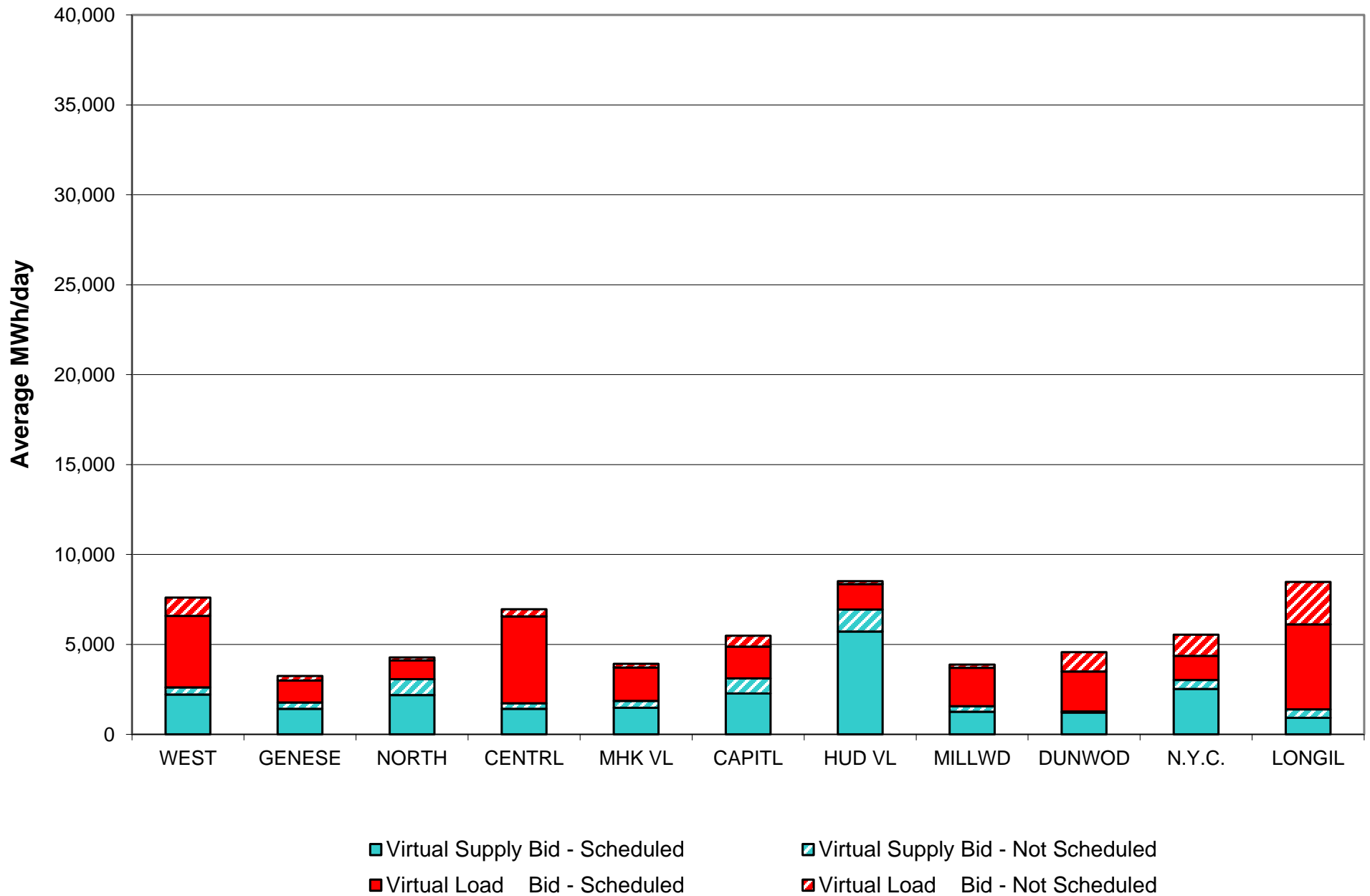
*Calendar days from reservation date; for June 2018 forward, business days from market date

Market Mitigation and Analysis
Prepared: 5/12/2022 11:22 AM

NYISO Virtual Trading Average MWh per day



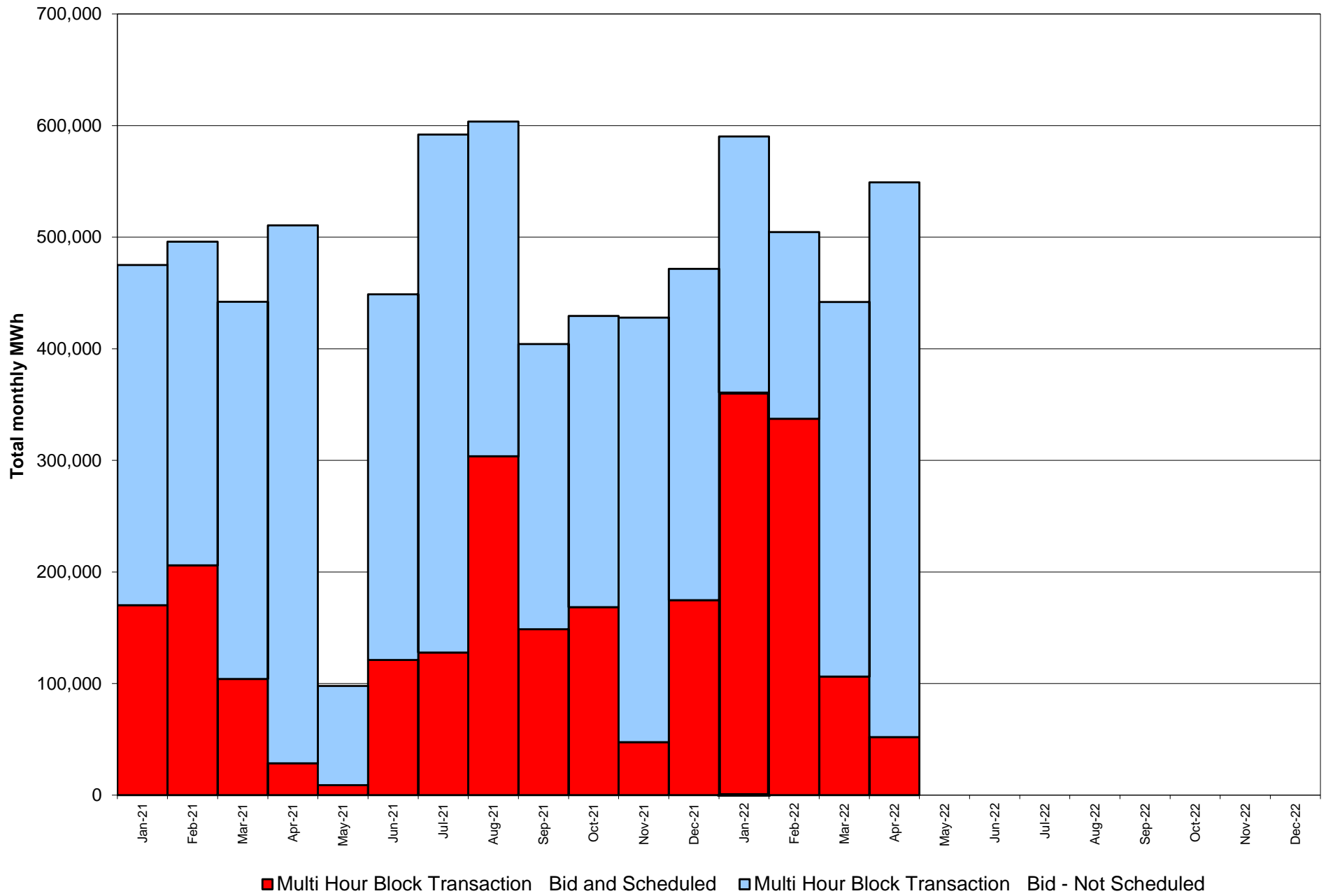
Virtual Load and Supply Zonal Statistics through April 30, 2022



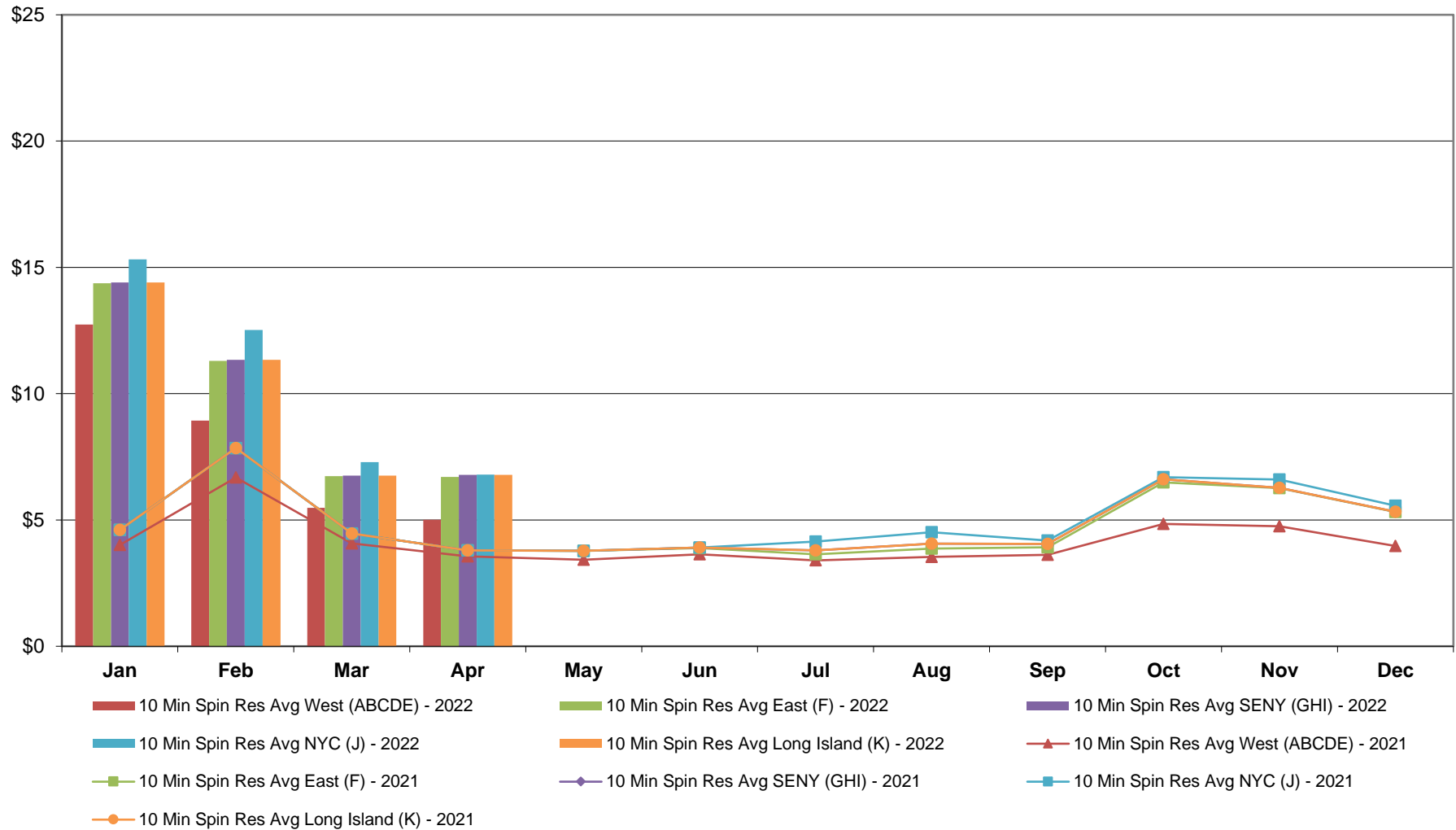
Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2022

		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						May-22						May-22				
	Jun-22						Jun-22						Jun-22				
	Jul-22						Jul-22						Jul-22				
	Aug-22						Aug-22						Aug-22				
	Sep-22						Sep-22						Sep-22				
	Oct-22						Oct-22						Oct-22				
	Nov-22						Nov-22						Nov-22				
	Dec-22						Dec-22						Dec-22				
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						May-22						May-22				
	Jun-22						Jun-22						Jun-22				
	Jul-22						Jul-22						Jul-22				
	Aug-22						Aug-22						Aug-22				
	Sep-22						Sep-22						Sep-22				
	Oct-22						Oct-22						Oct-22				
	Nov-22						Nov-22						Nov-22				
	Dec-22						Dec-22						Dec-22				
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						May-22						May-22				
	Jun-22						Jun-22						Jun-22				
	Jul-22						Jul-22						Jul-22				
	Aug-22						Aug-22						Aug-22				
	Sep-22						Sep-22						Sep-22				
	Oct-22						Oct-22						Oct-22				
	Nov-22						Nov-22						Nov-22				
	Dec-22						Dec-22						Dec-22				
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						May-22						May-22				
	Jun-22						Jun-22						Jun-22				
	Jul-22						Jul-22						Jul-22				
	Aug-22						Aug-22						Aug-22				
	Sep-22						Sep-22						Sep-22				
	Oct-22						Oct-22						Oct-22				
	Nov-22						Nov-22						Nov-22				
	Dec-22						Dec-22						Dec-22				

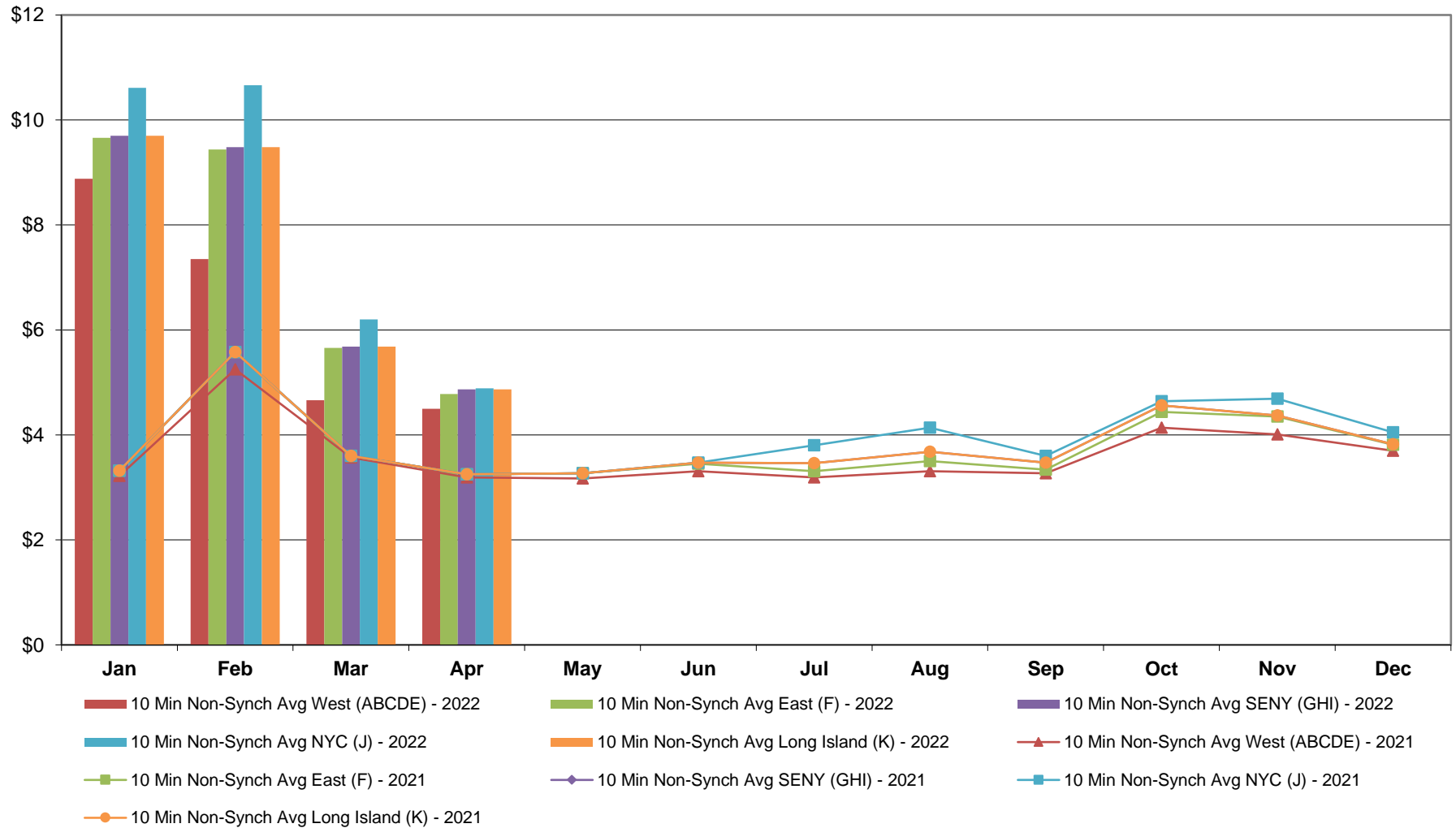
NYISO Multi Hour Block Transactions Monthly Total MWh



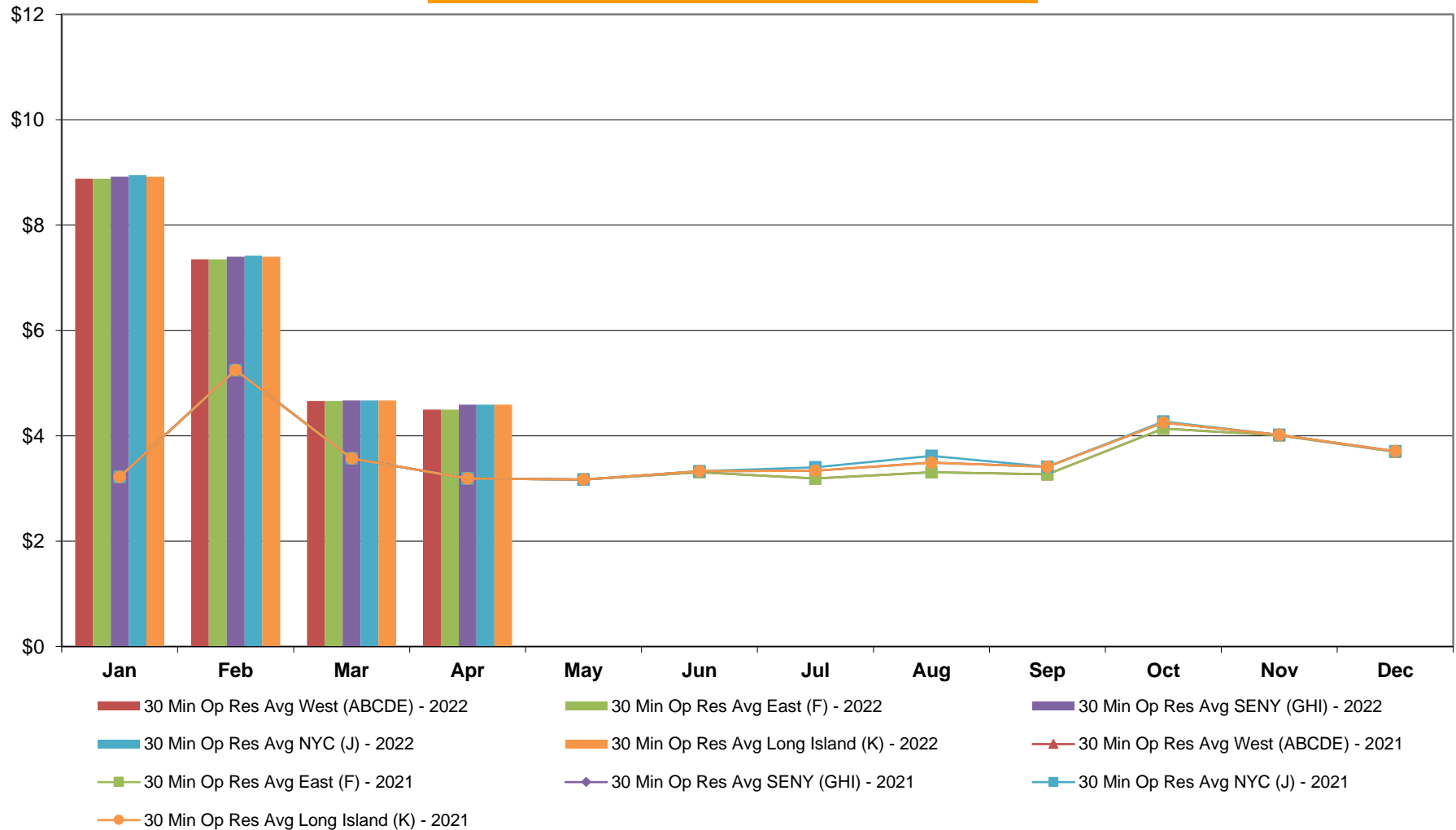
NYISO Monthly Average Ancillary Service Prices Day Ahead Market - 10 Min Spin 2021 - 2022



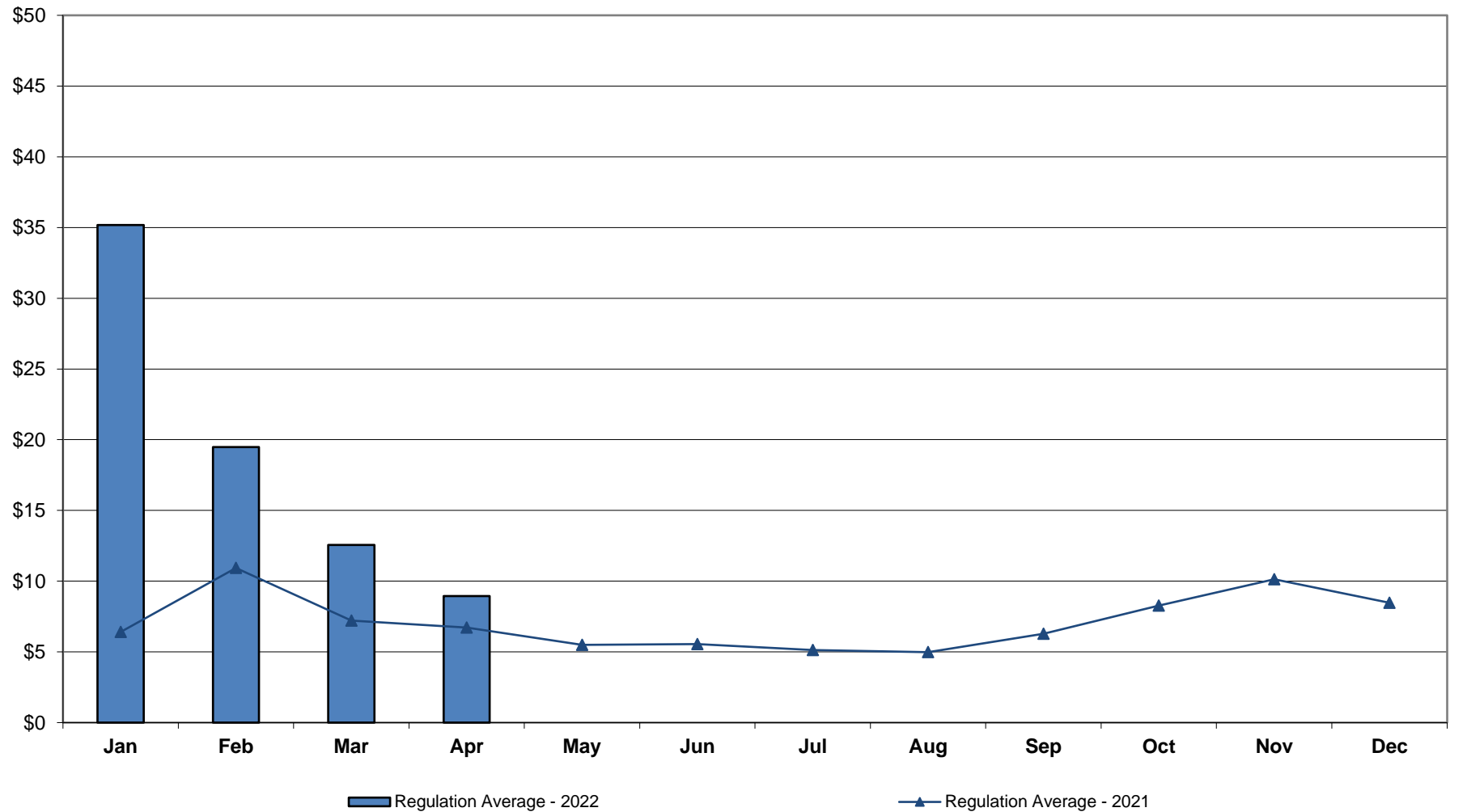
NYISO Monthly Average Ancillary Service Prices Day Ahead Market - 10 Min Non-Synch 2021 - 2022



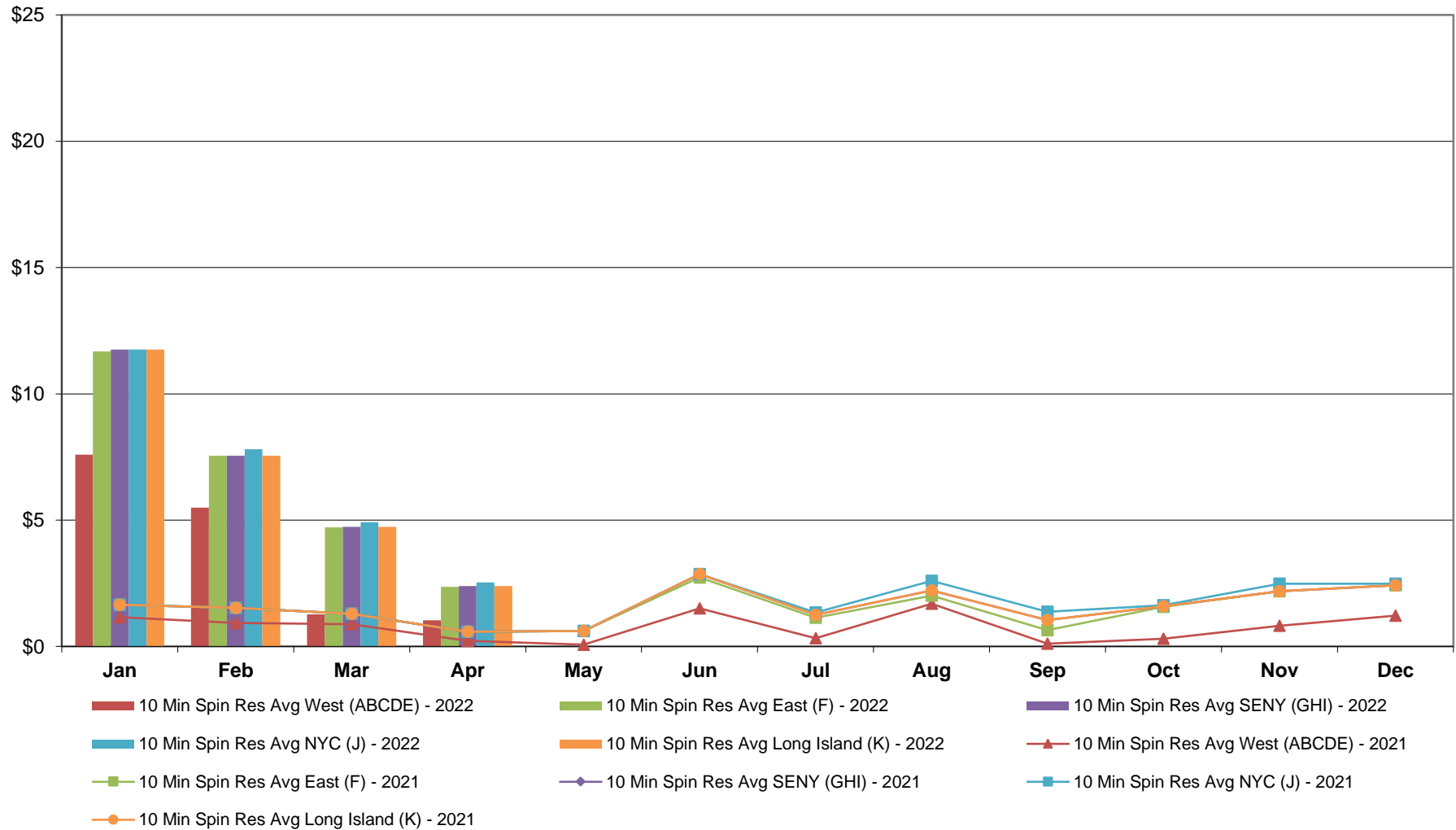
NYISO Monthly Average Ancillary Service Prices Day Ahead Market - 30 Min Op Res 2021 - 2022



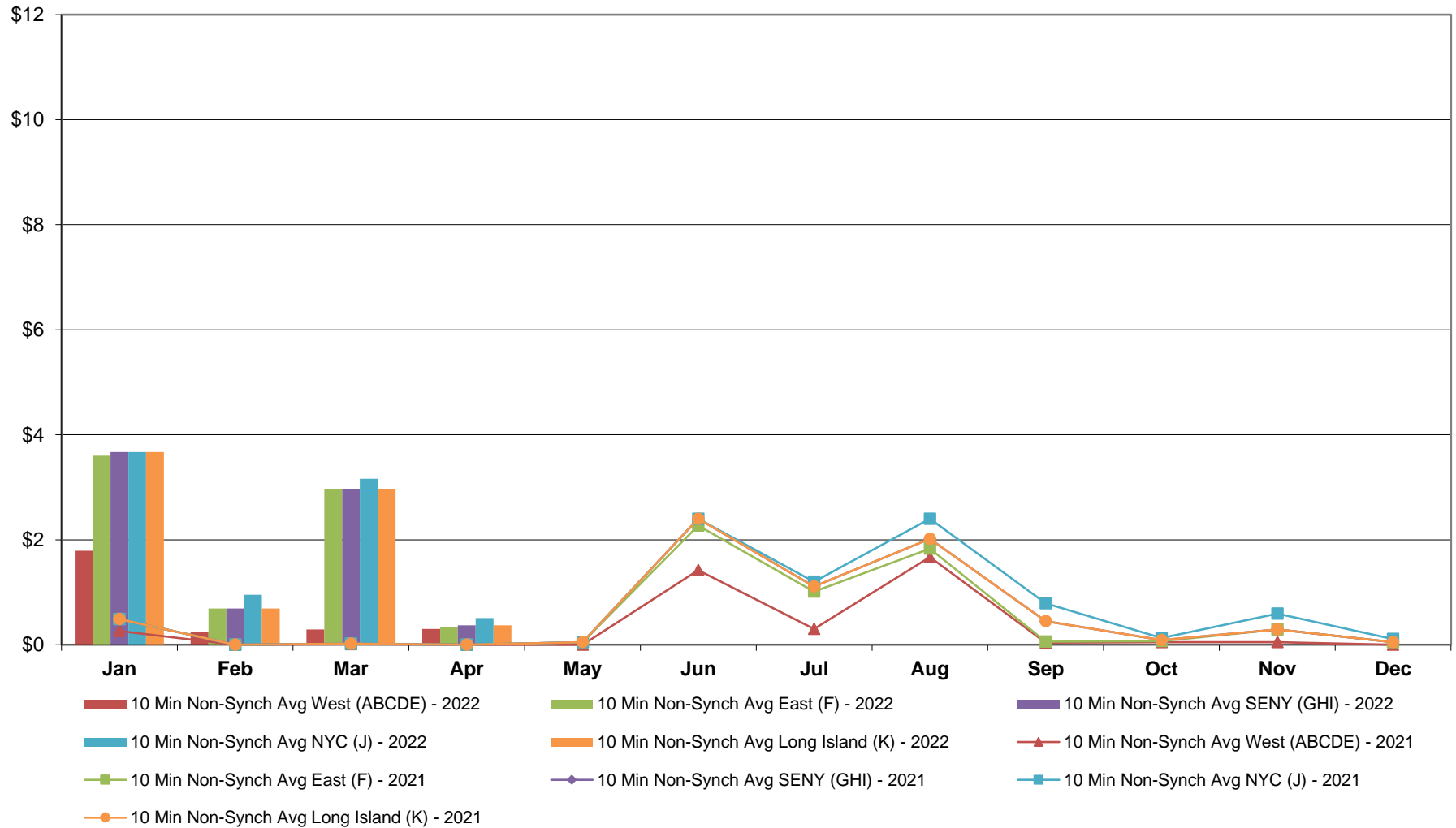
**NYISO Monthly Average Ancillary Service Prices
Day Ahead Market - Regulation 2021 - 2022**



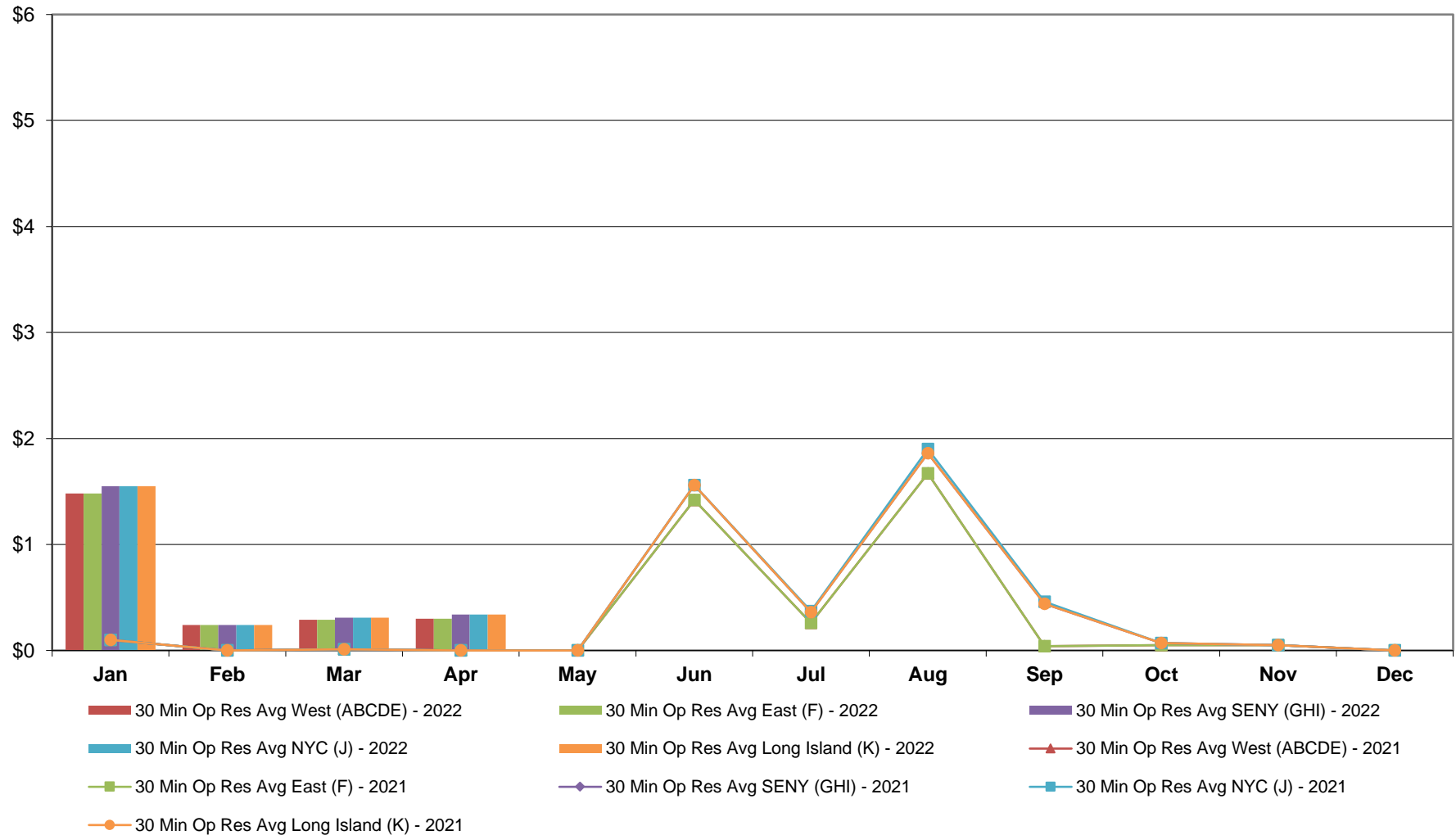
NYISO Monthly Average Ancillary Service Prices RTC Market - 10 Min Spin 2021 - 2022



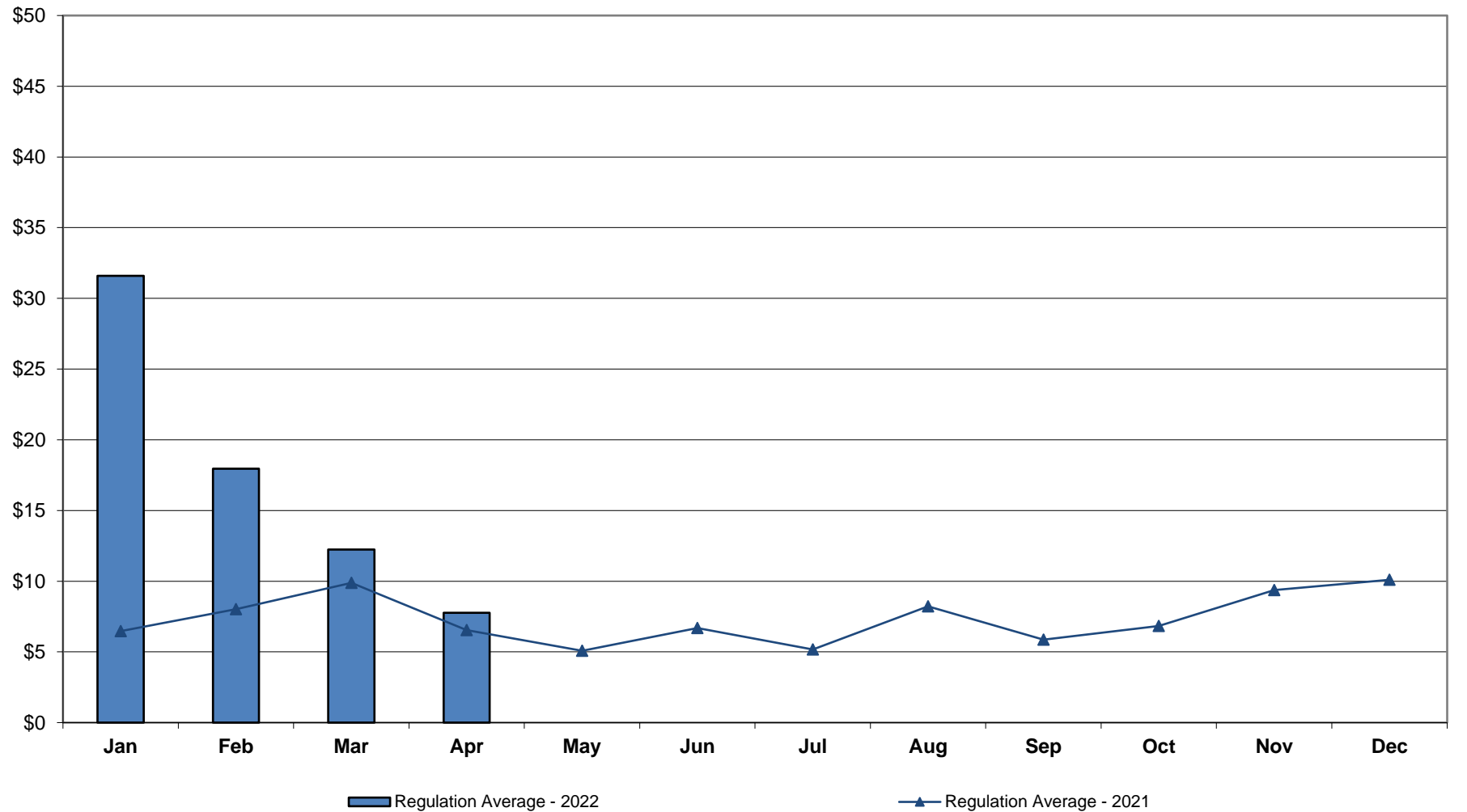
NYISO Monthly Average Ancillary Service Prices RTC Market - 10 Min Non-Synch 2021 - 2022



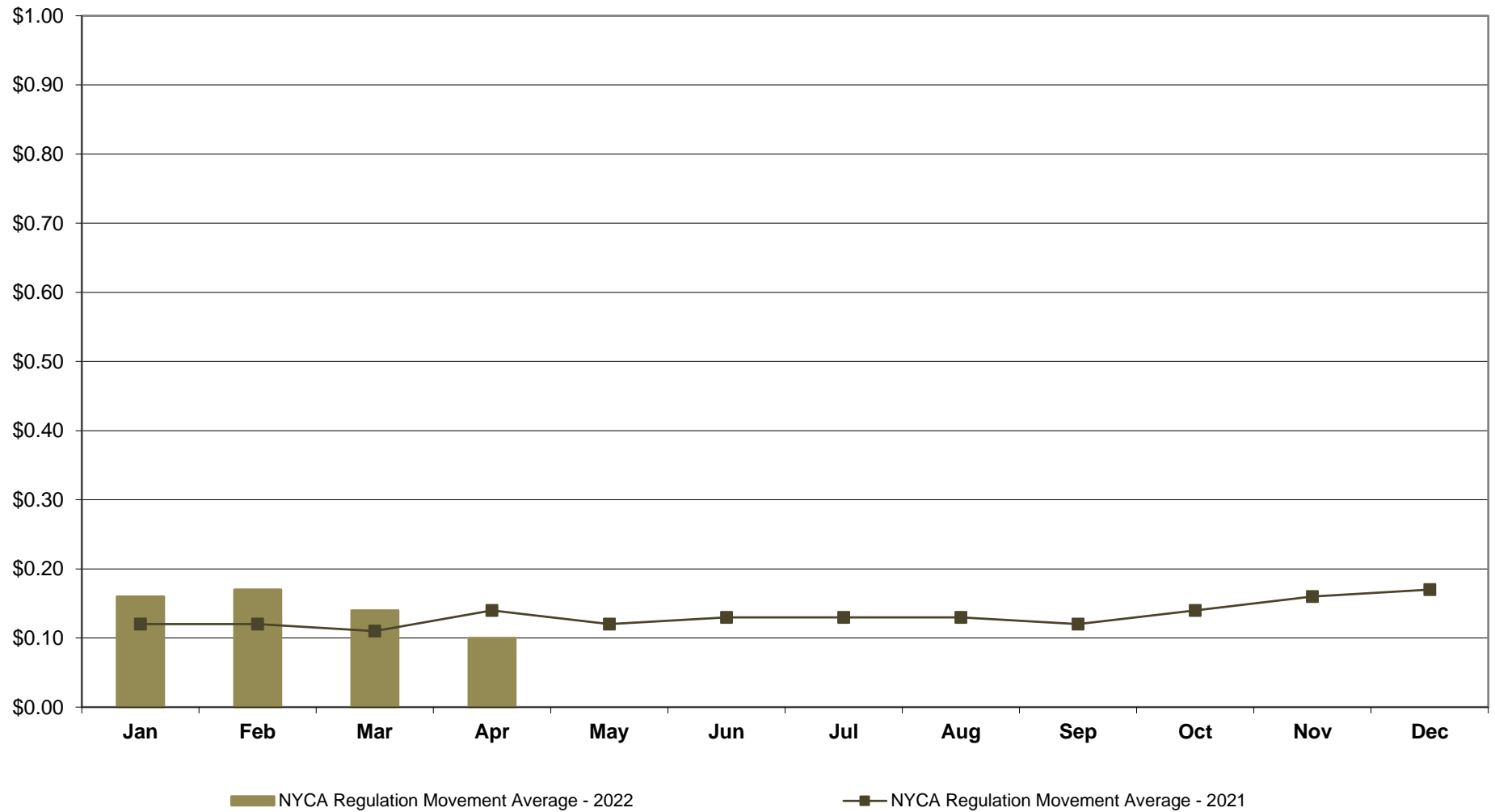
NYISO Monthly Average Ancillary Service Prices RTC Market - 30 Min Op Res 2021 - 2022



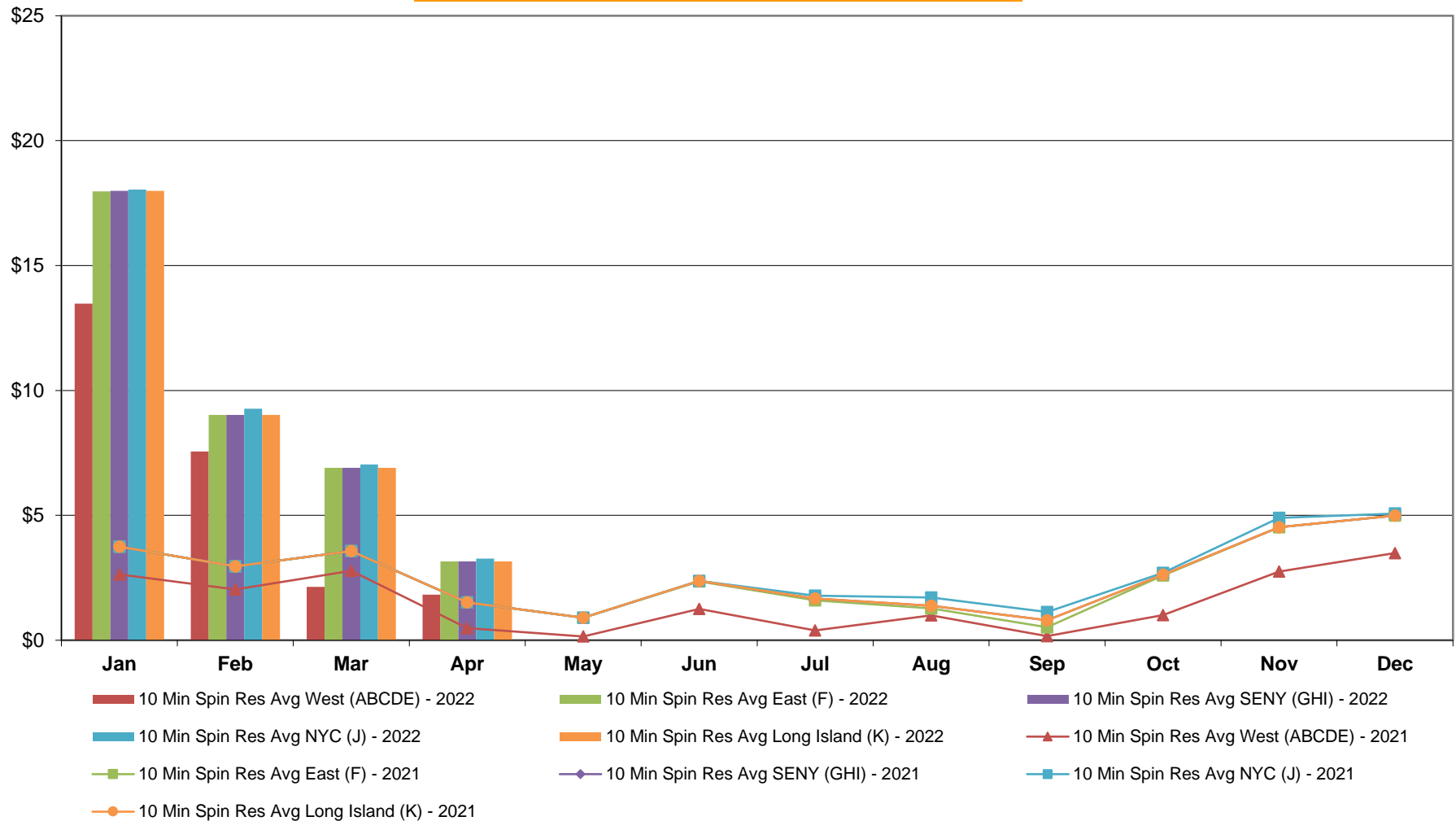
**NYISO Monthly Average Ancillary Service Prices
RTC Market - Regulation 2021 - 2022**



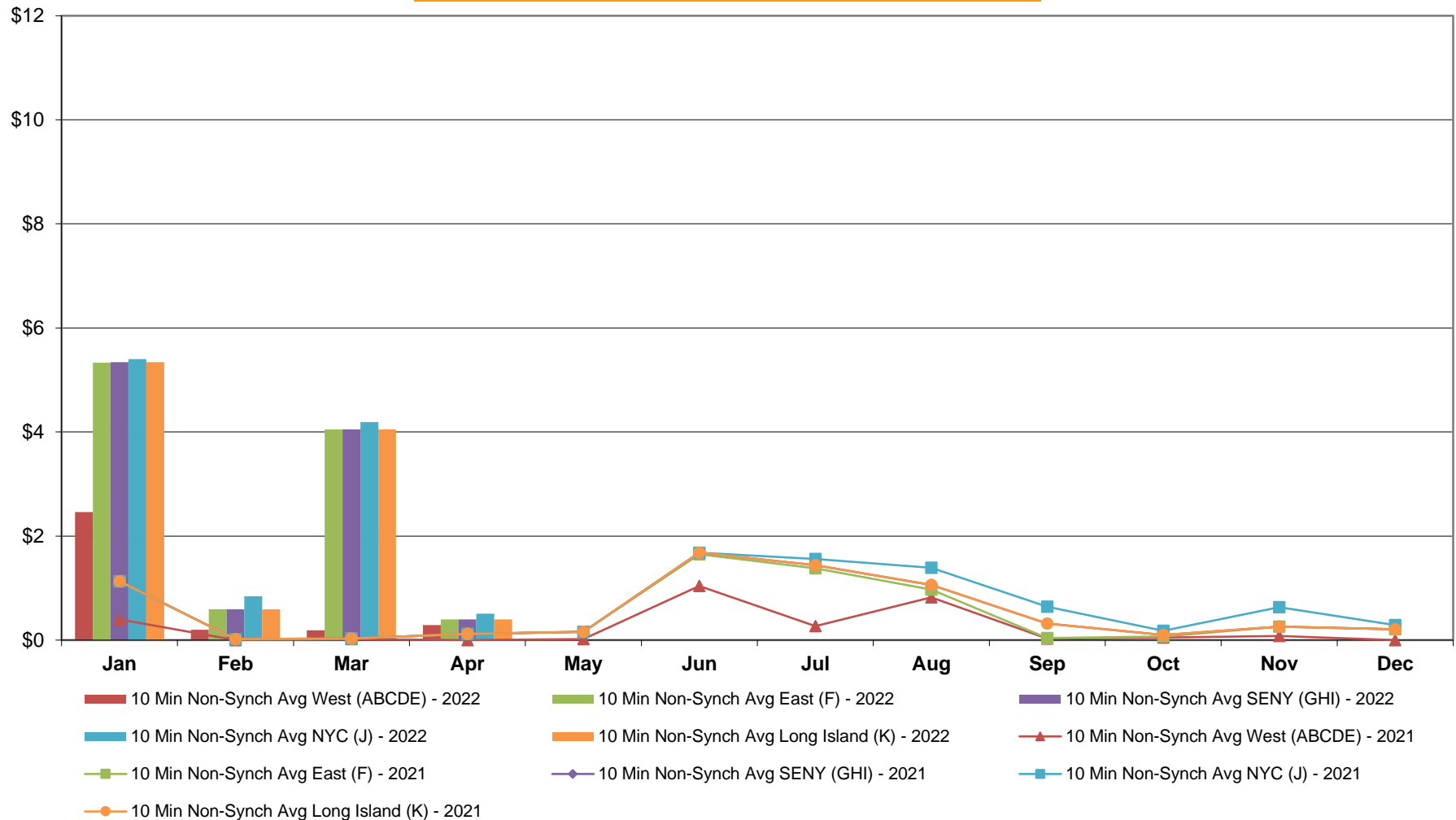
NYISO Monthly Average Ancillary Service Prices RTC Market - Regulation Movement 2021 - 2022



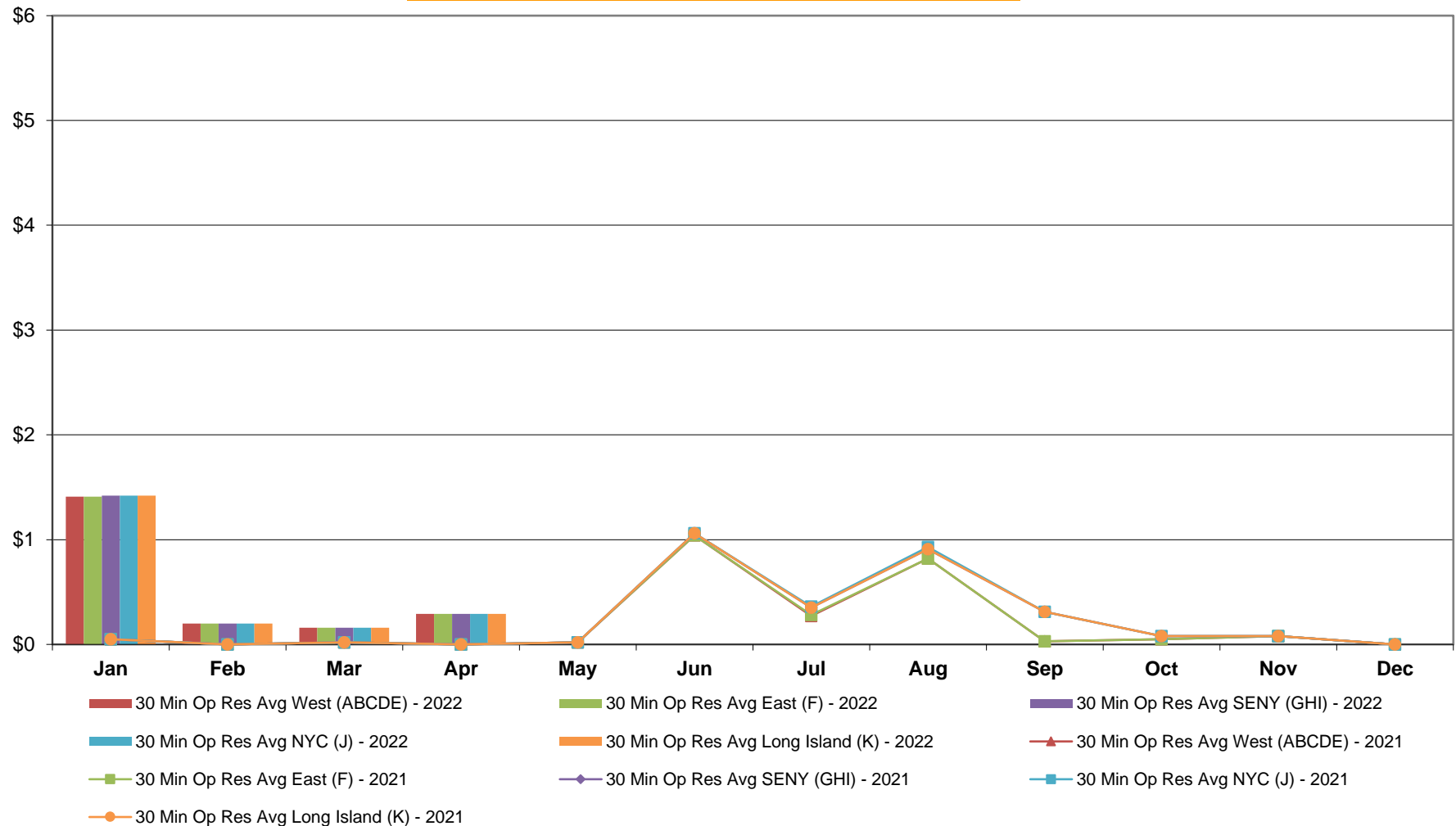
NYISO Monthly Average Ancillary Service Prices Real Time Market - 10 Min Spin 2021 - 2022



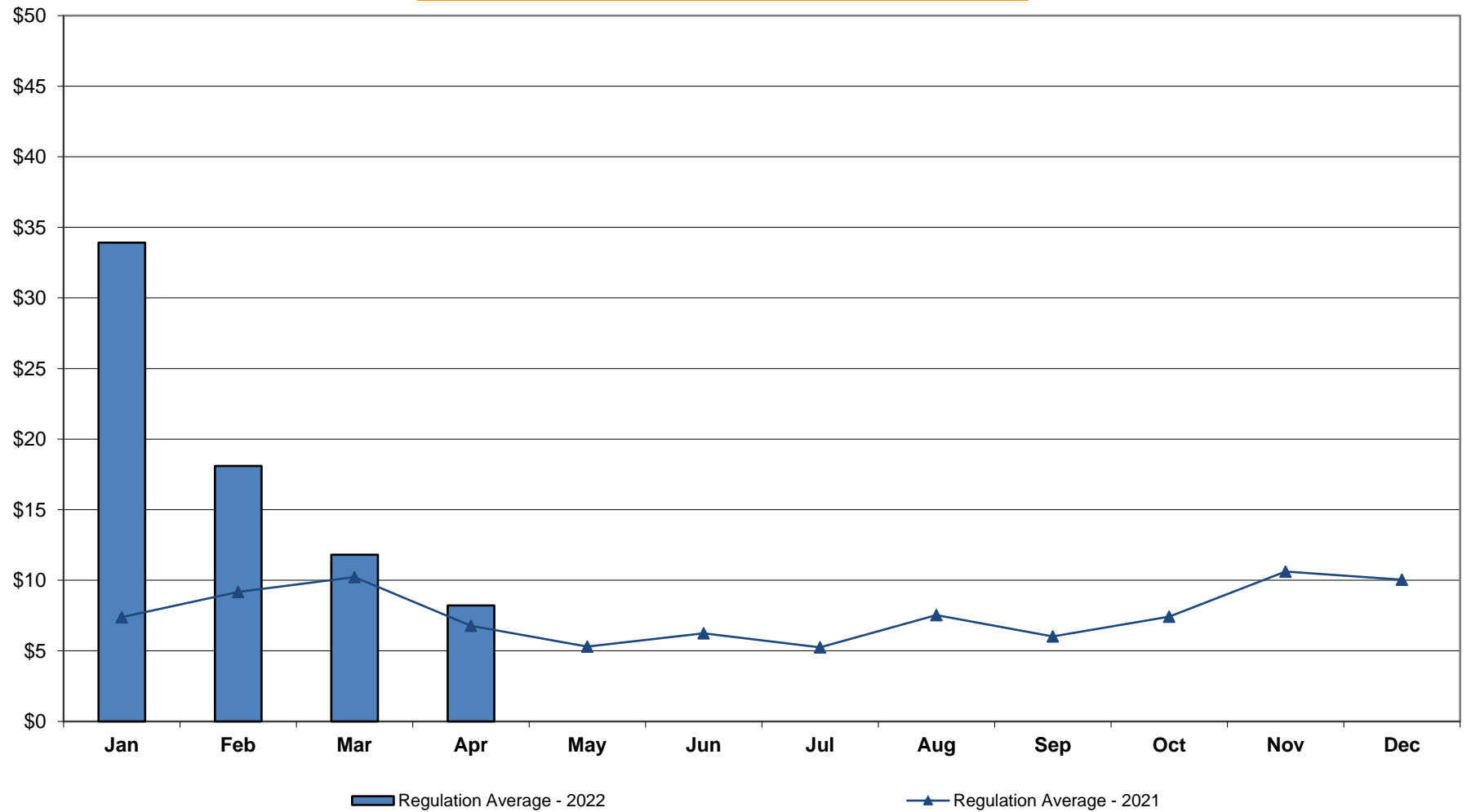
NYISO Monthly Average Ancillary Service Prices Real Time Market - 10 Min Non-Synch 2021 - 2022



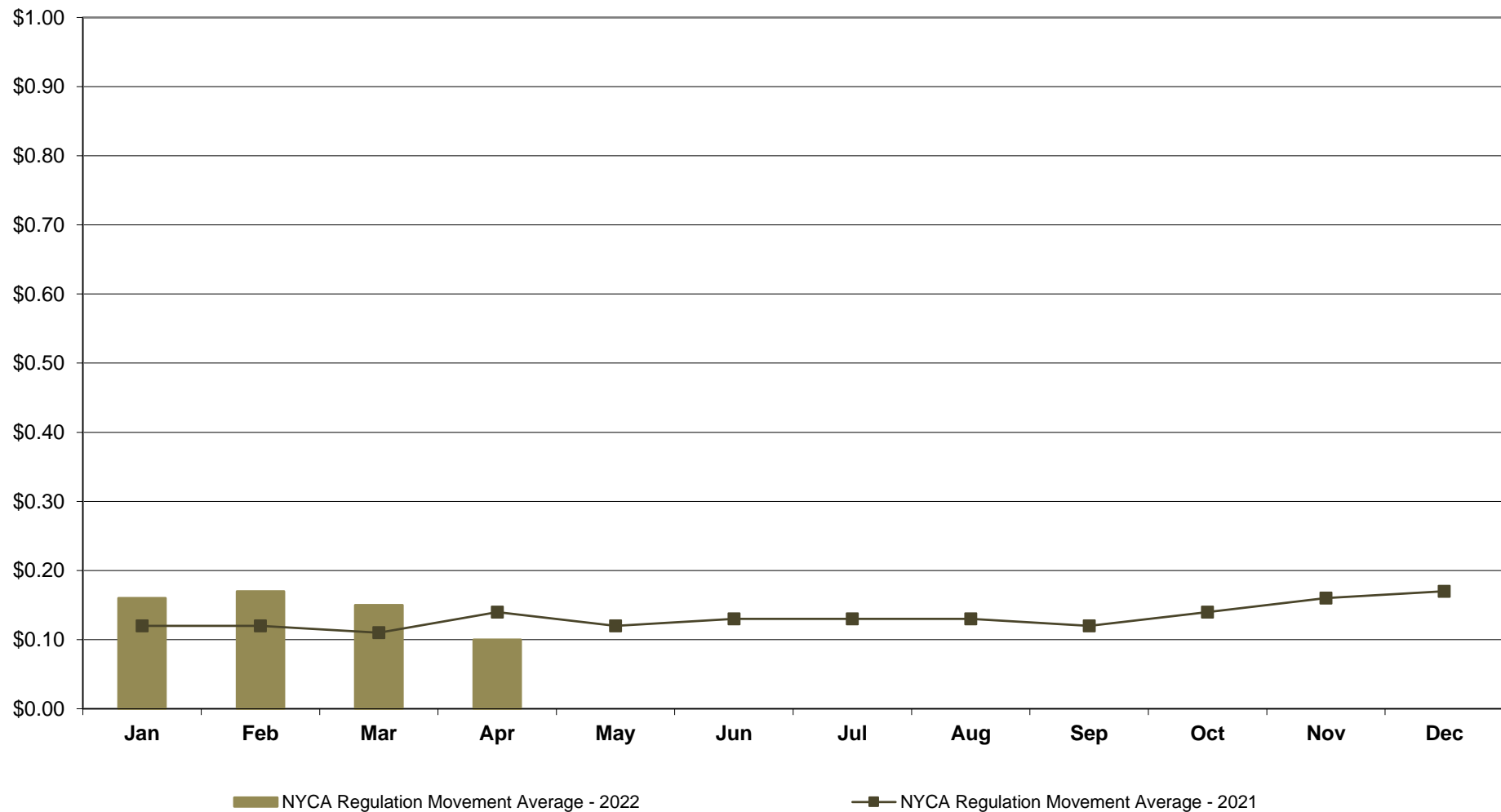
NYISO Monthly Average Ancillary Service Prices Real Time Market - 30 Min Op Res 2021 - 2022



**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>
<u>Day Ahead Market</u>												
10 Min Spin Long Island (K)	14.40	11.34	6.76	6.79								
10 Min Spin NYC (J)	15.32	12.52	7.29	6.80								
10 Min Spin SENY (GHI)	14.40	11.34	6.76	6.79								
10 Min Spin East (F)	14.37	11.30	6.74	6.70								
10 Min Spin West (ABCDE)	12.74	8.93	5.48	5.01								
10 Min Non Synch Long Island (K)	9.70	9.48	5.68	4.87								
10 Min Non Synch NYC (J)	10.61	10.66	6.20	4.89								
10 Min Non Synch SENY (GHI)	9.70	9.48	5.68	4.87								
10 Min Non Synch East (F)	9.66	9.44	5.66	4.78								
10 Min Non Synch West (ABCDE)	8.88	7.35	4.66	4.50								
30 Min Long Island (K)	8.92	7.40	4.67	4.59								
30 Min NYC (J)	8.95	7.42	4.67	4.59								
30 Min SENY (GHI)	8.92	7.40	4.67	4.59								
30 Min East (F)	8.88	7.35	4.66	4.50								
30 Min West (ABCDE)	8.88	7.35	4.66	4.50								
Regulation	35.17	19.48	12.56	8.94								
<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>
<u>Day Ahead Market</u>												
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

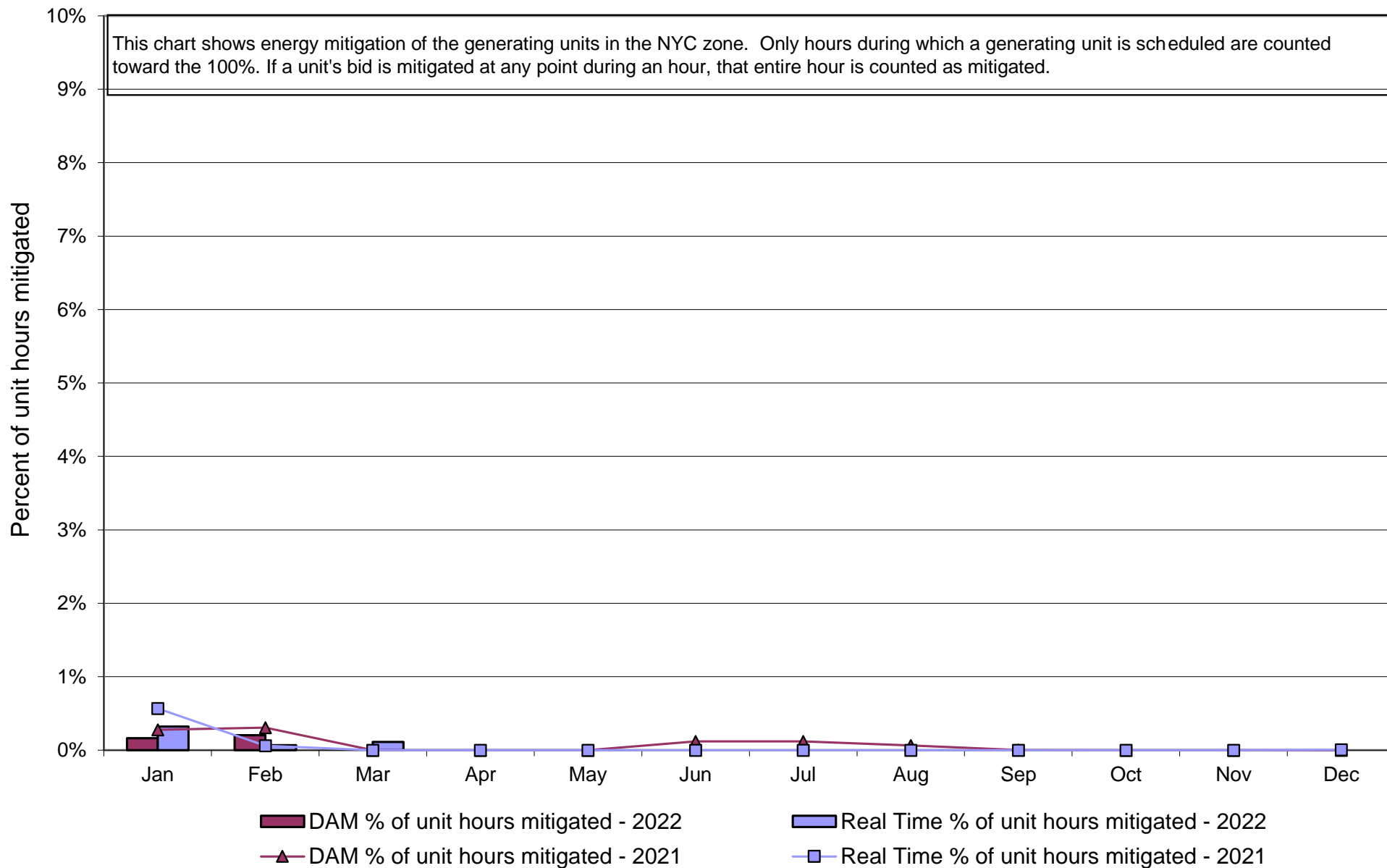
2022	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
RTC Market												
10 Min Spin Long Island (K)	11.75	7.55	4.73	2.39								
10 Min Spin NYC (J)	11.75	7.81	4.92	2.53								
10 Min Spin SENY (GHI)	11.75	7.55	4.73	2.39								
10 Min Spin East (F)	11.68	7.55	4.71	2.36								
10 Min Spin West (ABCDE)	7.59	5.49	1.27	1.03								
10 Min Non Synch Long Island (K)	3.67	0.69	2.97	0.37								
10 Min Non Synch NYC (J)	3.67	0.95	3.16	0.51								
10 Min Non Synch SENY (GHI)	3.67	0.69	2.97	0.37								
10 Min Non Synch East (F)	3.60	0.69	2.96	0.33								
10 Min Non Synch West (ABCDE)	1.79	0.24	0.29	0.30								
30 Min Long Island (K)	1.55	0.24	0.31	0.34								
30 Min NYC (J)	1.55	0.24	0.31	0.34								
30 Min SENY (GHI)	1.55	0.24	0.31	0.34								
30 Min East (F)	1.48	0.24	0.29	0.30								
30 Min West (ABCDE)	1.48	0.24	0.29	0.30								
Regulation	31.59	17.95	12.23	7.77								
NYCA Regulation Movement	0.16	0.17	0.14	0.10								
2021	<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>
RTC Market												
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

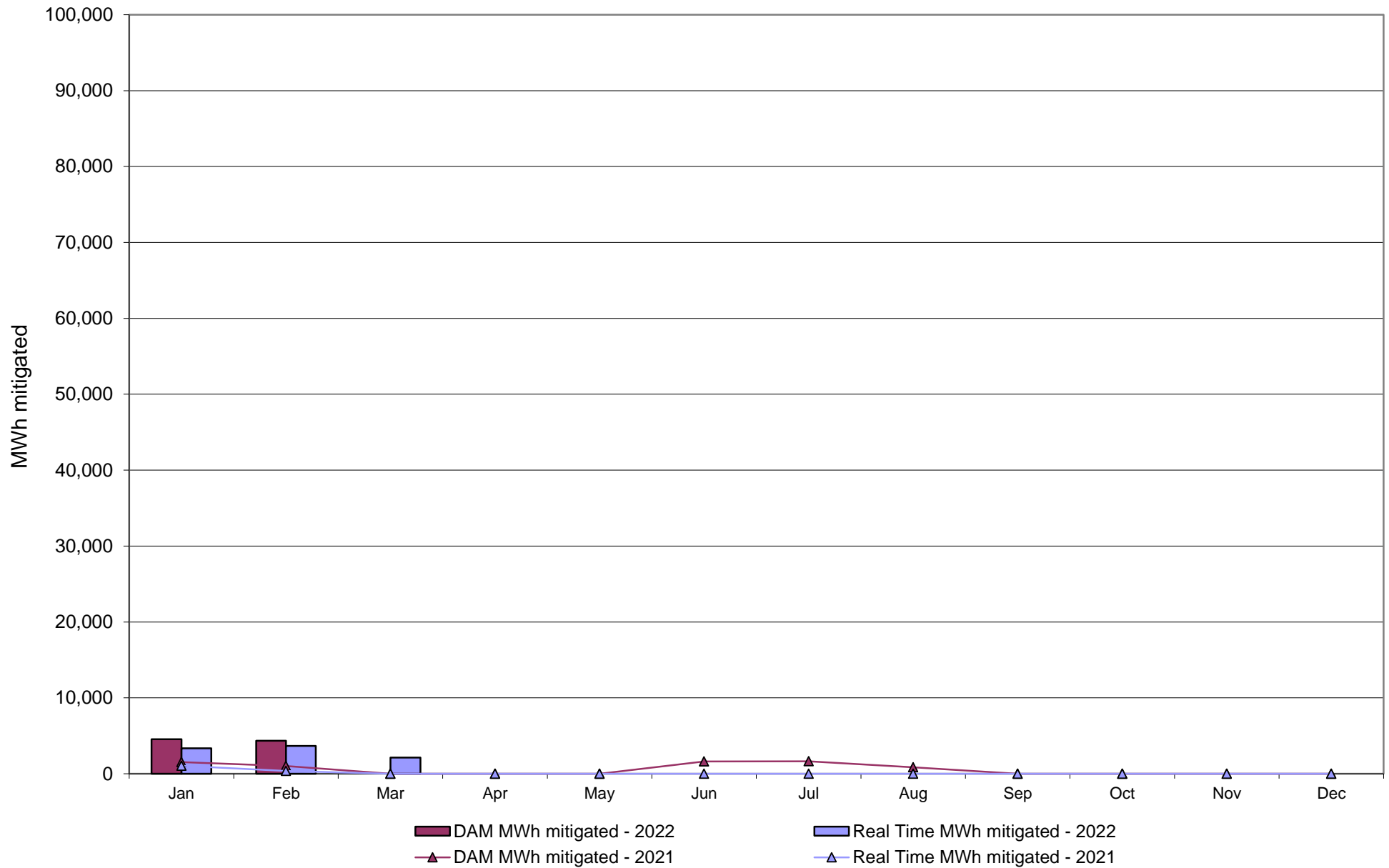
2022	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
Real Time Market												
10 Min Spin Long Island (K)	17.99	9.02	6.90	3.15								
10 Min Spin NYC (J)	18.04	9.27	7.04	3.27								
10 Min Spin SENY (GHI)	17.99	9.02	6.90	3.15								
10 Min Spin East (F)	17.97	9.02	6.90	3.15								
10 Min Spin West (ABCDE)	13.47	7.56	2.14	1.83								
10 Min Non Synch Long Island (K)	5.34	0.59	4.05	0.40								
10 Min Non Synch NYC (J)	5.40	0.84	4.19	0.51								
10 Min Non Synch SENY (GHI)	5.34	0.59	4.05	0.40								
10 Min Non Synch East (F)	5.33	0.59	4.05	0.40								
10 Min Non Synch West (ABCDE)	2.46	0.20	0.19	0.29								
30 Min Long Island (K)	1.42	0.20	0.16	0.29								
30 Min NYC (J)	1.42	0.20	0.16	0.29								
30 Min SENY (GHI)	1.42	0.20	0.16	0.29								
30 Min East (F)	1.41	0.20	0.16	0.29								
30 Min West (ABCDE)	1.41	0.20	0.16	0.29								
Regulation	33.92	18.10	11.81	8.22								
NYCA Regulation Movement	0.16	0.17	0.15	0.10								
2021	<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>
Real Time Market												
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

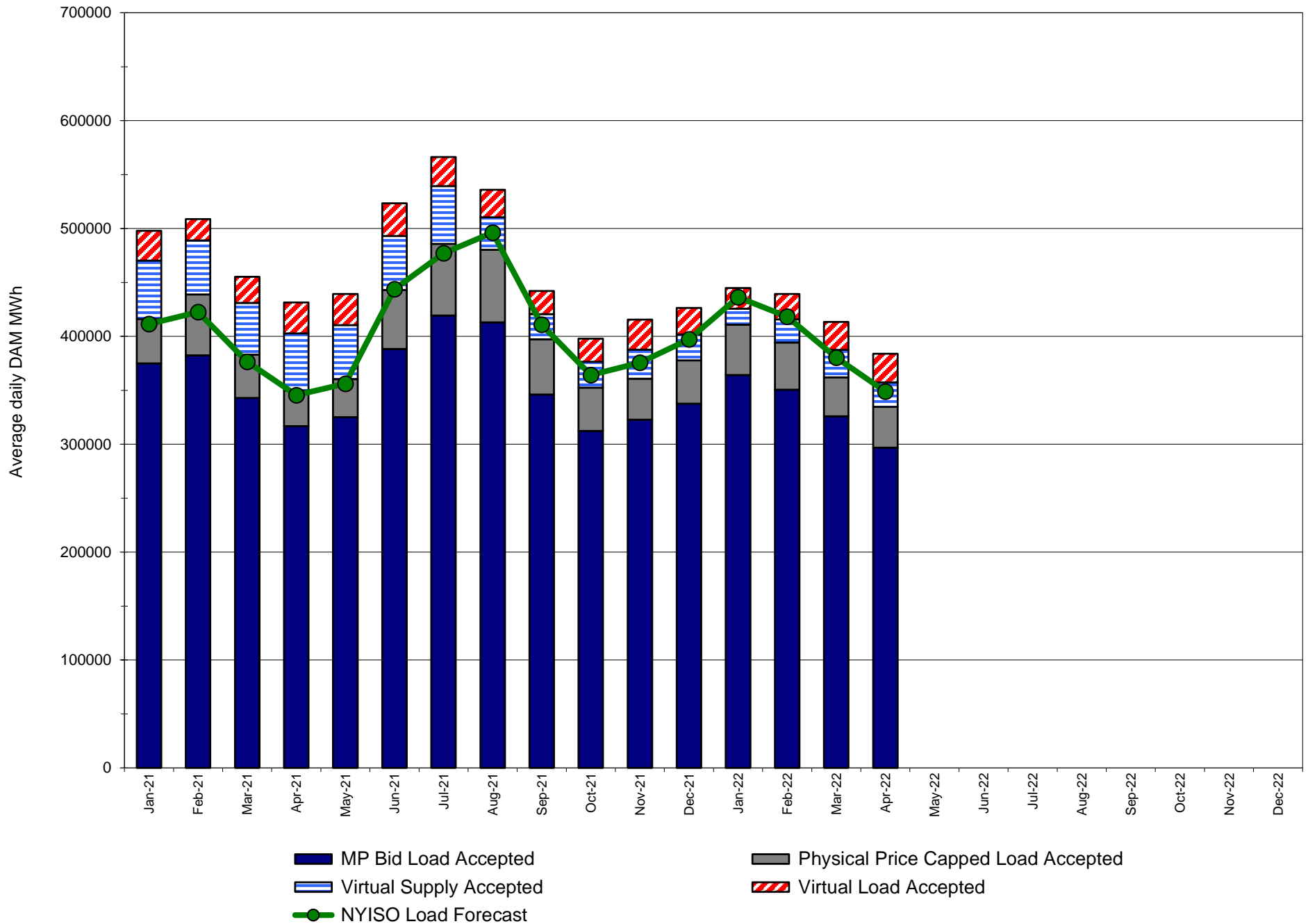
Percentage of committed unit-hours mitigated



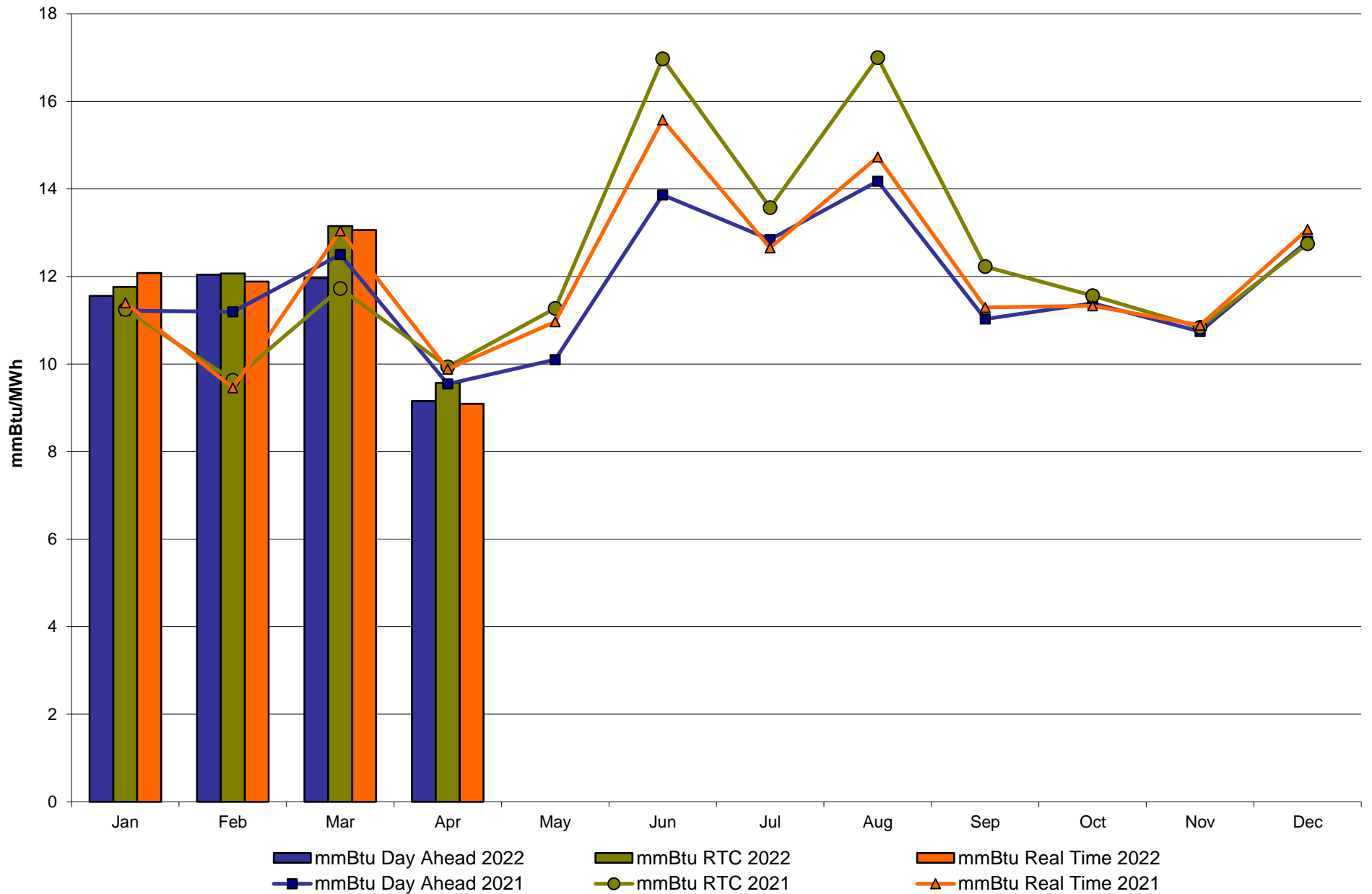
NYISO In City Energy Mitigation (NYC Zone) 2021 - 2022 **Monthly megawatt hours mitigated**



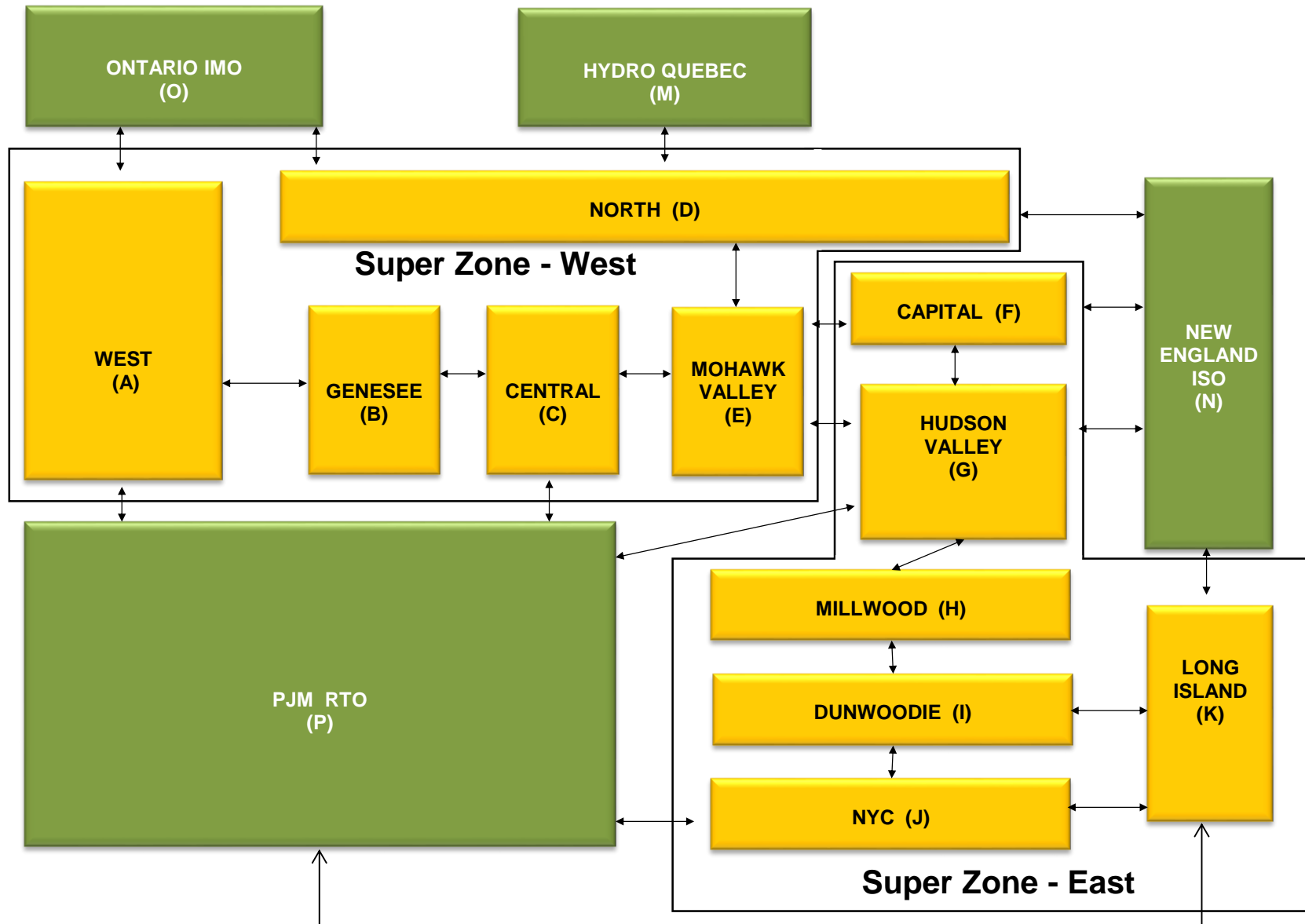
NYISO Average Daily DAM Load Bid Summary



Monthly Implied Heat Rate 2021-2022



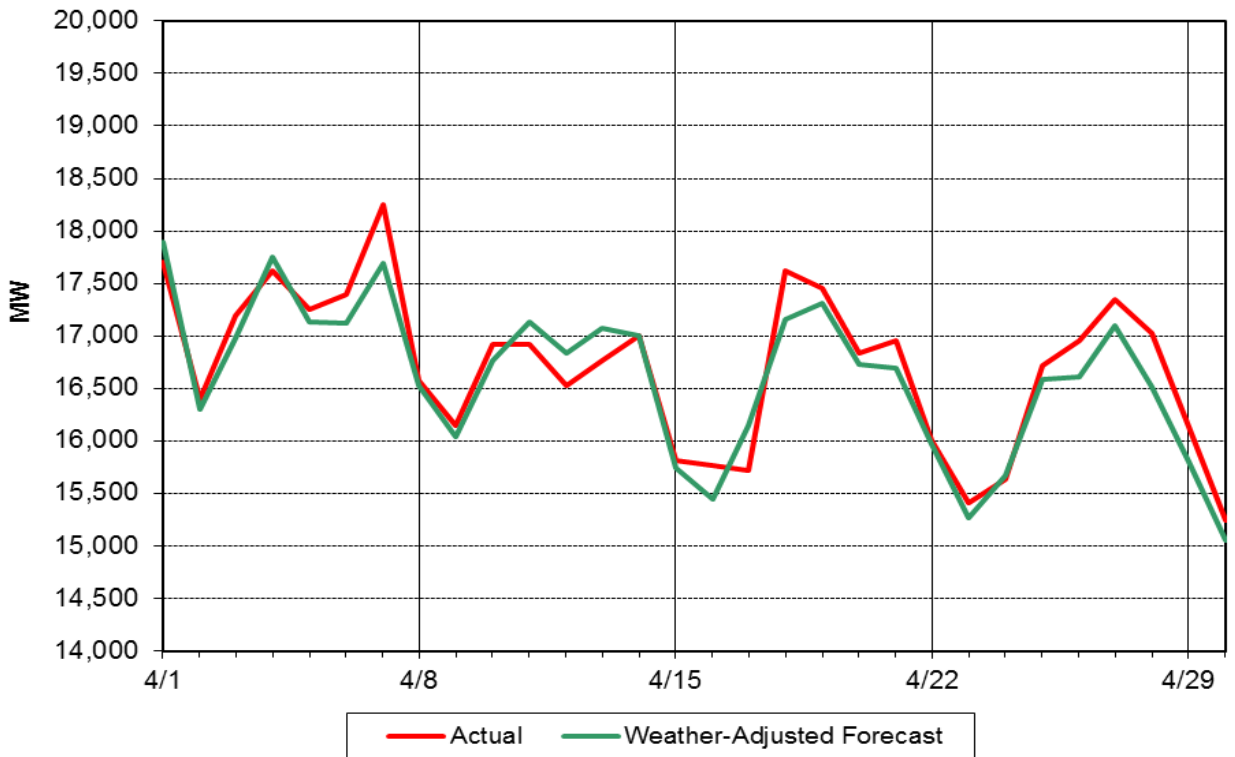
NYISO LBMP ZONES



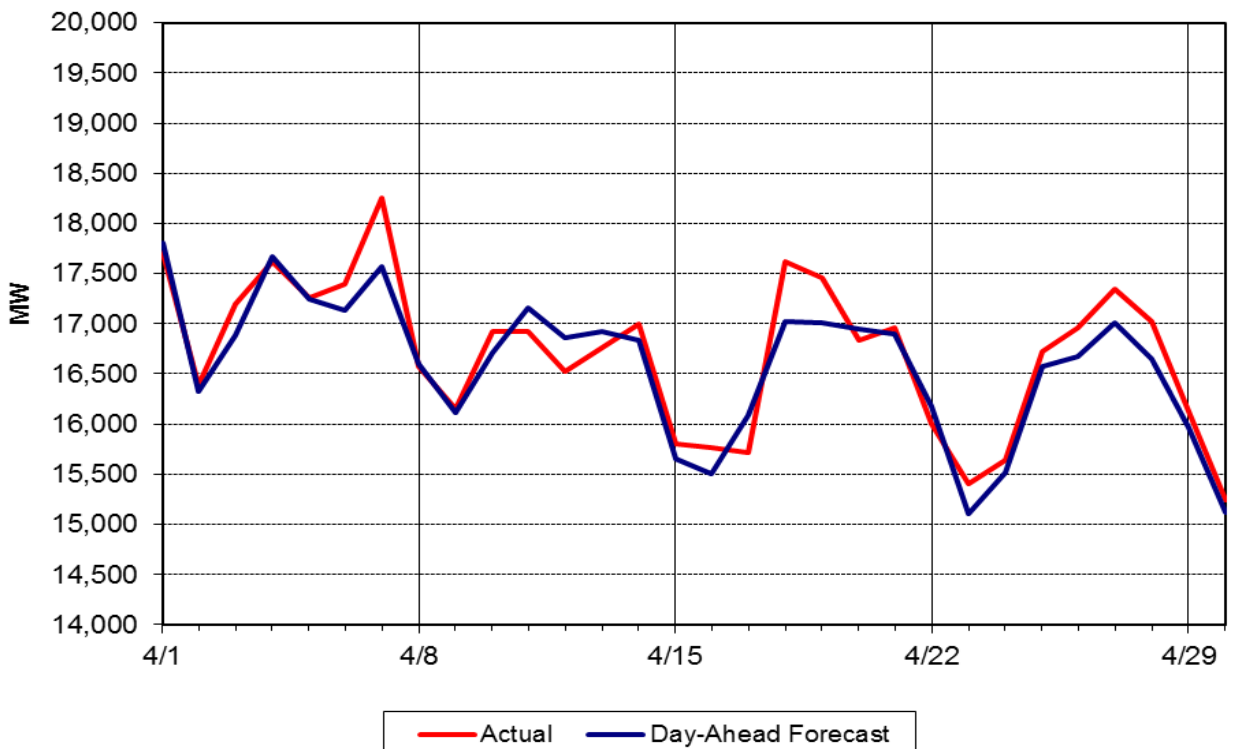
Billing Codes for Chart C

<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

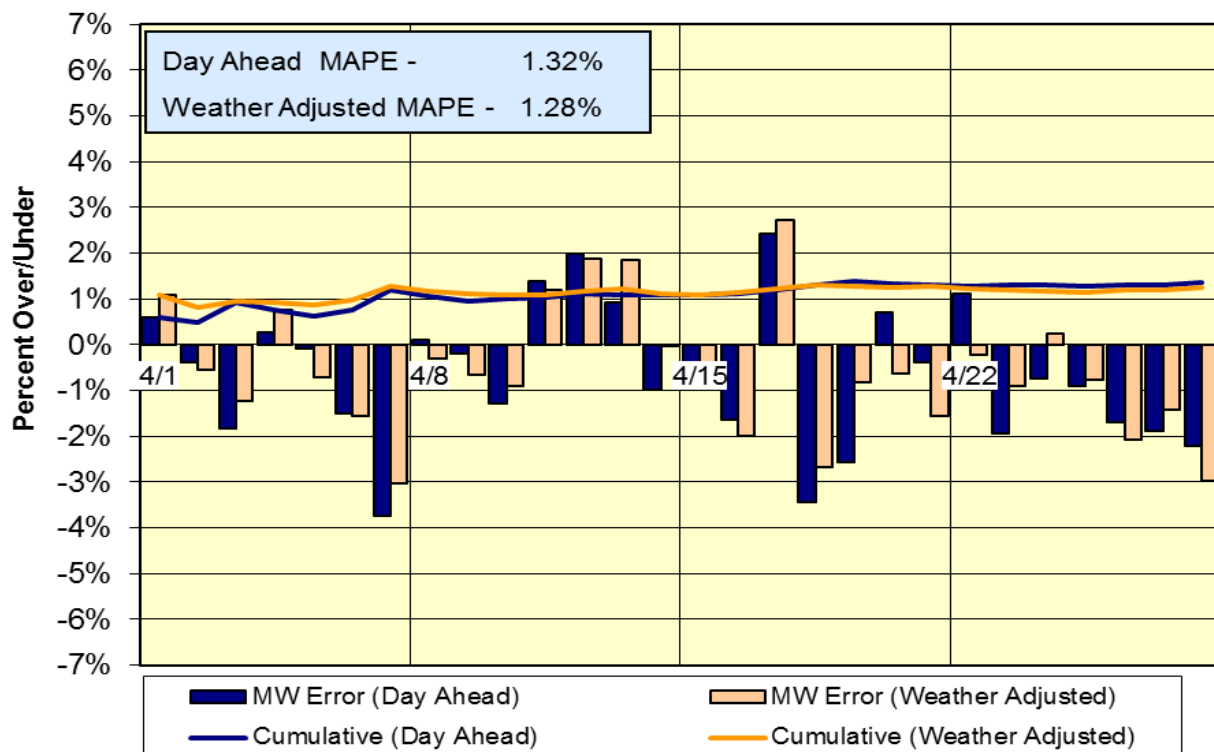
NYISO Daily Peak Load - April 2022
Actual vs. Weather-Adjusted Forecast



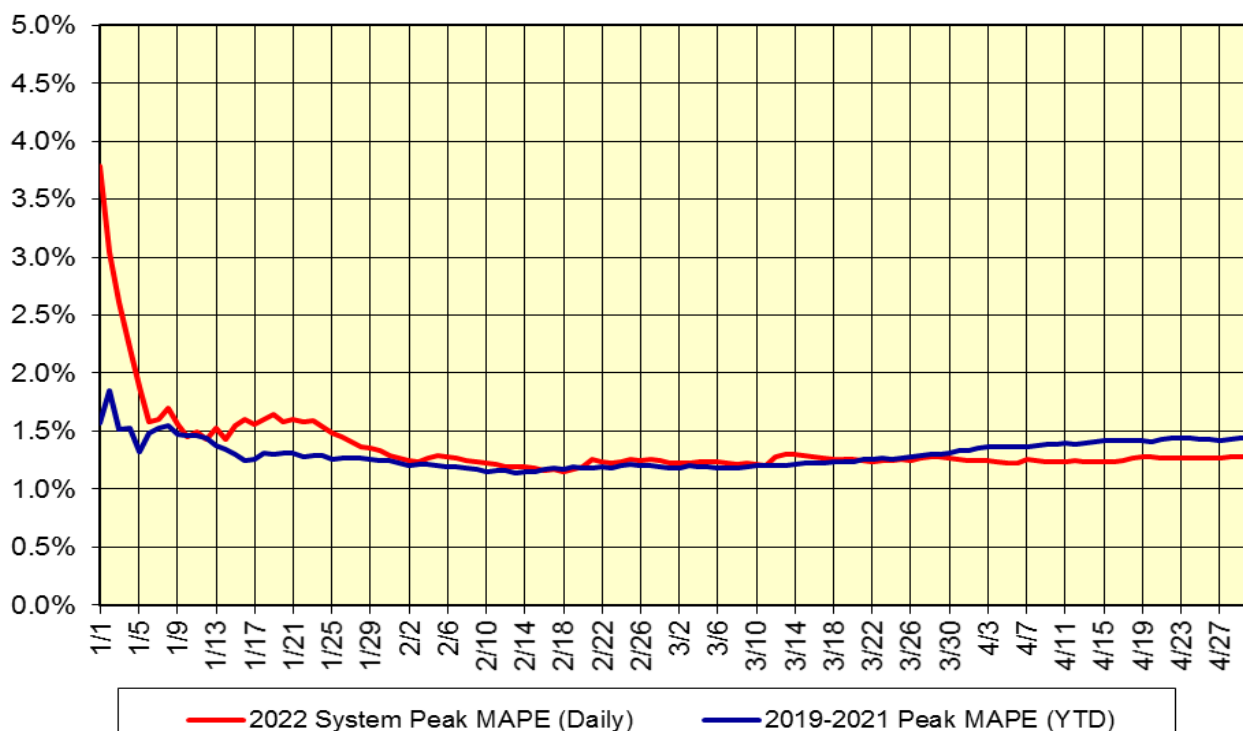
NYISO Daily Peak Load - April 2022
Actual vs. Forecast



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



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



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

Filing Date	Filing Summary	Docket	Order Summary	Order Date
02/10/2022	NYISO filing to FERC, on behalf of NYPA, of revisions to NYPA's formula rate to incorporate a ROE Risk Adder and a risk-sharing and cost containment mechanism to be used in connection with NYPA's recovery of the costs of the Smart Path Connect Project	ER22-1014-000	A letter of deficiency notice directed NYPA to provide additional information within 30 days of the notice date	04/07/2022
02/09/2022	NYISO Section 205 filing to FERC of an Engineering, Procurement, and Construction Agreement among the NYISO, Holcim, Hecate Energy Albany 1, and Hecate Energy Albany 2	ER22-1007-000	An Order accepted the submission, effective January 26, 2022, as requested	04/08/2022
02/17/2022	NYISO-National Grid joint Section 205 filing to FERC of a Large Generator Interconnection Agreement among NYISO, NMPC, and East Point Energy Center for the East Point Solar project	ER22-1072-000	An Order accepted the submission, effective February 18, 2022, as requested	04/18/2022
02/17/2022	NYISO-National Grid joint Section 205 filing to FERC of a Large Generator Interconnection Agreement among NYISO, National Grid and High River Energy Center for the High River Solar project	ER22-1073-000	An Order accepted the submission, effective February 18, 2022, as requested	04/18/2022
02/25/2022	NYISO-National Grid joint Section 205 filing to FERC of an Engineering, Procurement, and Construction Agreement among NYISO, National Grid and NextEra, for the Empire State Line project	ER22-1119-000	An Order accepted the submission, effective February 18, 2022, as requested	04/19/2022
02/24/2022	NYISO-National Grid joint Section 205 filing to FERC of a Small Generator Interconnection Agreement among the NYISO, National Grid and Bald Mountain Solar for the NY 13 Solar Project	ER22-1109-000	An Order accepted the submission, effective February 10, 2022, as requested	04/22/2022
03/04/2022	NYISO filing on behalf of NMPC to FERC of a Section 205 filing of proposed tariff amendments to allocate and recover costs of NMPC investments in the Smart Path Connect Project, and to establish incentive rate treatments associated with the Project	ER22-1201-000	A letter of deficiency notice directed National Grid to provide additional information within 30 days of the notice date	04/28/2022

Filing Date	Filing Summary	Docket	Order Summary	Order Date
04/01/2022	NYISO filing of annual compliance report re: unreserved use penalties and late study penalties per order 890-A	OA08-109-000		
04/06/2022	NYISO compliance filing to FERC of proposed tariff revisions to reference NAESB WEQ standards in tariffs, as amended by a March 3, 2020 Errata Notice, and to add citations to the March 7, 2022 Order granting NYISO's waiver requests for a May 1, 2022 effective date	ER22-2526-002		
04/14/2022	NYISO-NYSEG joint Section 205 filing to FERC of a Transmission Project Interconnection Agreement among NYISO, NYSEG and NY Transco for the New York Energy Solution Project	ER22-1635-000		
04/15/2022	NYISO compliance report to FERC of a Form 1 annual financial report of electric utilities, licensees, and natural gas companies	No docket no.		
04/18/2022	NYISO filing to FERC of an answer to the NRDC and NYPSC's comments on the NYISO's March 11 deficiency response related to proposed Comprehensive Mitigation Review tariff revisions	ER22-772-000		
04/19/2022	NYISO filing to FERC of supplemental comments to clarify its ability to process NYSEG's September 1, 2021, SCR performance test data	ER22-1199-000		
04/25/2022	NYISO filing to FERC of comments in response to the FERC Notice of Inquiry related to Implementation of Dynamic Line Ratings	AD22-5-000		
04/25/2022	NYISO filing to FERC of an Electric Quarterly Report (EQR) re: data on electric power contracts and wholesale power sales during the most recent calendar quarter	ER02-2001-000		
04/26/2022	NYISO filing to FERC of an annual report of total MW-hours of transmission service interstate commerce for 2021 in compliance with FERC Reporting Requirement No. 582	FERC Form No. 582		
04/28/2022	NYISO filing on behalf of NMPC to FERC of a Section 205 filing of a Cost Reimbursement Agreement between Niagara Mohawk and RG&E for expansion of Farmington Substation 168	ER22-1700-000		
04/28/2022	NYISO filing on behalf of NMPC to FERC of a Section 205 filing of a Small Generator Interconnection Agreements with affiliated interconnection customers, each individually an agreement, between Niagara Mohawk and Bayside Solar, Beta Solar, Central Solar, Creek Solar and Helmet Solar	ER22-1702-000		
04/29/2022	NYISO confidential filing to the NYPSC of a quarterly report of the confidential internal Project Tracking Report	Matter No. 10-02007		

04/29/2022	NYISO Section 205 filing to FERC of tariff revisions regarding real-time BPCGs	ER22-1733-000		
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