

# **NYISO CEO/COO Report**

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**Richard Dewey**

President & Chief Executive Officer

**Rick Gonzales**

Senior Vice President & Chief Operating Officer

**Management Committee Meeting**

August 26, 2020 Rensselaer, NY

# NYISO CEO/COO Report

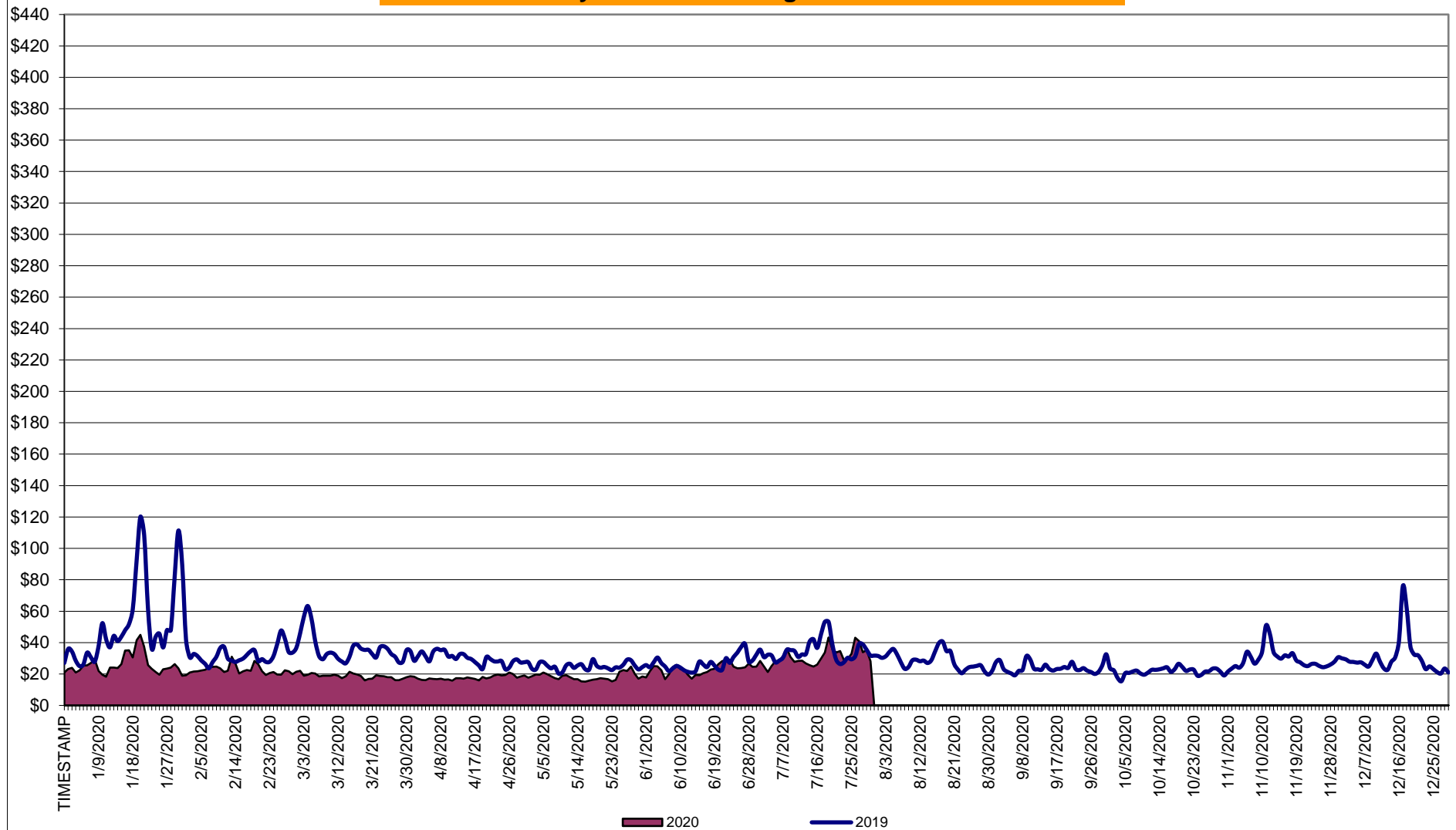
- **CEO Report**
- **COO Report**
  - Market Performance Highlights – For Information Only
  - Operations Performance Metrics Monthly Report

# Market Performance Highlights

## July 2020

- LBMP for July is \$28.86/MWh; higher than \$21.36/MWh in June 2020 and lower than \$33.18/MWh in July 2019.
  - Day Ahead and Real Time Load Weighted LBMPs are higher compared to June.
- July 2020 average year-to-date monthly cost of \$24.11/MWh is a 33% decrease from \$35.75/MWh in July 2019.
- Average daily sendout is 530 GWh/day in July; higher than 430 GWh/day in June 2020 and lower than 539 GWh/day in July 2019.
- Natural gas prices and distillate prices are higher compared to the previous month.
  - Natural Gas (Transco Z6 NY) was \$1.69 /MMBtu, up from \$1.44/MMBtu in June.
  - Natural gas prices are down 22.5% year-over-year.
  - Jet Kerosene Gulf Coast was \$8.00/MMBtu, up from \$7.30/MMBtu in June.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$8.85/MMBtu, up from \$8.05/MMBtu in June.
  - Distillate prices are down 39.5% year-over-year.
- Uplift per MWh is higher compared to the previous month.
  - Uplift (not including NYISO cost of operations) is \$0.07/MWh; higher than (\$0.05)/MWh in June.
    - Local Reliability Share is \$0.38/MWh, higher than \$0.24/MWh in June.
    - Statewide Share is (\$0.31)/MWh, lower than (\$0.29)/MWh in June.
  - TSA \$ per NYC MWh is \$0.18/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are higher than June.

**Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\***  
**2019 Annual Average \$32.59/MWh**  
**July 2019 YTD Average \$35.75/MWh**  
**July 2020 YTD Average \$23.93/MWh**



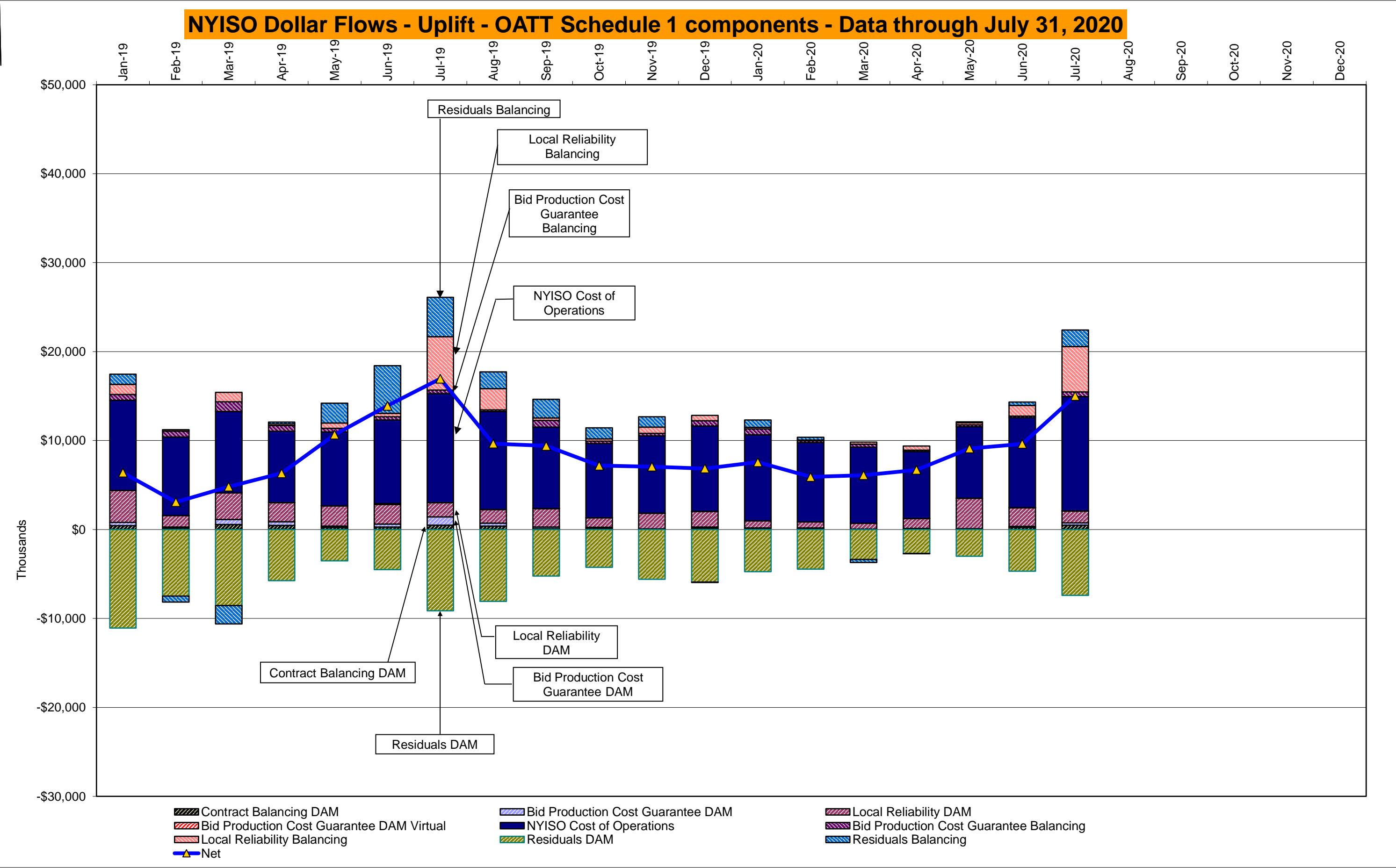
\* Excludes ICAP payments.

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

<b>2020</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	24.77	21.11	17.11	15.77	16.14	21.36	28.86					
NTAC	0.91	0.70	0.86	0.91	1.05	0.95	1.24					
Reserve	0.46	0.43	0.47	0.50	0.53	0.45	0.39					
Regulation	0.09	0.08	0.09	0.08	0.10	0.08	0.06					
NYISO Cost of Operations	0.68	0.69	0.68	0.66	0.71	0.74	0.76					
FERC Fee Recovery	0.08	0.09	0.09	0.10	0.11	0.09	0.06					
Uplift	(0.15)	(0.23)	(0.19)	(0.08)	0.09	(0.05)	0.07					
Uplift: Local Reliability Share	0.07	0.06	0.07	0.14	0.32	0.24	0.38					
Uplift: Statewide Share	(0.22)	(0.29)	(0.26)	(0.21)	(0.23)	(0.29)	(0.31)					
Voltage Support and Black Start	0.44	0.44	0.44	0.43	0.45	0.45	0.46					
<b>Avg Monthly Cost</b>	27.29	23.32	19.55	18.38	19.16	24.09	31.91					
 Avg YTD Cost	27.29	25.40	23.48	22.38	21.82	22.21	24.11					
 TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	0.00	0.04	0.18					
 <b>2019</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
LBMP	50.93	33.51	34.91	28.01	23.10	24.43	33.18	27.83	22.22	20.84	27.39	29.52
NTAC	0.51	0.69	0.98	1.16	0.72	1.08	1.01	0.98	0.48	0.57	0.88	0.77
Reserve	0.54	0.51	0.55	0.63	0.63	0.50	0.44	0.49	0.50	0.62	0.50	0.44
Regulation	0.13	0.11	0.10	0.33	0.13	0.09	0.07	0.09	0.09	0.13	0.11	0.10
NYISO Cost of Operations	0.68	0.68	0.69	0.69	0.68	0.69	0.70	0.70	0.69	0.67	0.67	0.67
FERC Fee Recovery	0.08	0.09	0.09	0.10	0.10	0.08	0.06	0.07	0.09	0.09	0.09	0.08
Uplift	(0.25)	(0.44)	(0.33)	(0.15)	0.13	0.07	(0.06)	(0.20)	(0.13)	(0.09)	(0.13)	(0.19)
Uplift: Local Reliability Share	0.32	0.11	0.31	0.20	0.23	0.19	0.44	0.25	0.17	0.11	0.19	0.17
Uplift: Statewide Share	(0.57)	(0.55)	(0.64)	(0.35)	(0.11)	(0.12)	(0.50)	(0.45)	(0.30)	(0.20)	(0.31)	(0.35)
Voltage Support and Black Start	0.37	0.37	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.37	0.37	0.36
<b>Avg Monthly Cost</b>	52.99	35.51	37.38	31.16	25.88	27.32	35.78	30.33	24.32	23.21	29.89	31.76
 Avg YTD Cost	52.99	44.93	42.54	40.12	37.57	35.76	35.75	34.96	33.88	32.94	32.69	32.59
 TSA \$ per NYC MWh	0.00	0.00	0.01	0.01	0.19	0.77	1.00	0.33	0.43	0.00	0.00	0.00

\* Excludes ICAP payments.  
Market Mitigation and Analysis  
Prepared: 8/10/2020 1:37 PM

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



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>2020</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market MWh</u></b>	14,194,609	13,172,669	12,495,999	11,372,390	11,462,320	13,825,178	16,629,337					
DAM LSE Internal LBMP Energy Sales	56%	56%	59%	54%	55%	58%	65%					
DAM External TC LBMP Energy Sales	6%	5%	5%	7%	4%	3%	2%					
DAM Bilateral - Internal Bilaterals	30%	30%	27%	30%	31%	29%	26%					
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%	5%	6%	6%	6%	5%	3%					
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	2%	2%	2%	2%	1%					
DAM Bilateral - Wheel Through Bilaterals	1%	1%	1%	1%	1%	2%	2%					
<b><u>Balancing Energy Market MWh</u></b>	-26,753	-142,168	144,076	22,599	-137,565	-180,149	403,914					
Balancing Energy LSE Internal LBMP Energy Sales	-1080%	-221%	-85%	-884%	-187%	-134%	85%					
Balancing Energy External TC LBMP Energy Sales	1156%	181%	240%	1233%	137%	99%	35%					
Balancing Energy Bilateral - Internal Bilaterals	62%	5%	12%	55%	12%	7%	2%					
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	0%					
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	127%	16%	18%	92%	12%	5%	2%					
Balancing Energy Bilateral - Wheel Through Bilaterals	-365%	-81%	-85%	-396%	-74%	-77%	-24%					
<b><u>Transactions Summary</u></b>												
LBMP	62%	62%	65%	61%	59%	62%	68%					
Internal Bilaterals	31%	31%	27%	30%	32%	30%	26%					
Import Bilaterals	5%	5%	6%	6%	6%	5%	3%					
Export Bilaterals	2%	2%	2%	2%	2%	2%	1%					
Wheels Through	0%	1%	0%	0%	0%	1%	1%					
<b><u>Market Share of Total Load</u></b>												
Day Ahead Market	100.2%	101.1%	98.9%	99.8%	101.2%	101.3%	97.6%					
Balancing Energy +	-0.2%	-1.1%	1.1%	0.2%	-1.2%	-1.3%	2.4%					
Total MWH	14,167,856	13,030,501	12,640,075	11,394,989	11,324,755	13,645,029	17,033,251					
Average Daily Energy Sendout/Month GWh	423	417	375	344	345	430	530					

<u>2019</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market MWh</u></b>	15,299,458	13,391,383	13,527,834	11,811,029	12,521,583	13,723,372	17,416,589	16,379,968	13,588,715	12,567,821	13,036,152	14,345,711
DAM LSE Internal LBMP Energy Sales	57%	57%	59%	59%	57%	58%	64%	63%	58%	57%	54%	56%
DAM External TC LBMP Energy Sales	6%	5%	3%	1%	3%	3%	3%	3%	3%	4%	6%	6%
DAM Bilateral - Internal Bilaterals	29%	30%	30%	31%	32%	29%	26%	26%	30%	32%	32%	30%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%	5%	5%	5%	6%	5%	4%	4%	5%	5%	5%	5%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	1%	1%	2%	2%	2%	2%	1%	1%	2%	2%	2%	2%
DAM Bilateral - Wheel Through Bilaterals	2%	2%	2%	2%	1%	2%	2%	2%	2%	1%	1%	1%
<b><u>Balancing Energy Market MWh</u></b>	-322,442	-323,188	-261,217	-218,482	-392,699	-102,044	103,628	-514,102	-247,267	-112,057	-17,421	46,828
Balancing Energy LSE Internal LBMP Energy Sales	-120%	-126%	-138%	-178%	-150%	-264%	-2%	-119%	-163%	-346%	-1332%	-480%
Balancing Energy External TC LBMP Energy Sales	65%	67%	82%	113%	68%	233%	199%	41%	93%	266%	1435%	699%
Balancing Energy Bilateral - Internal Bilaterals	-4%	-1%	-3%	2%	1%	0%	5%	0%	-4%	6%	103%	39%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	3%	7%	6%	7%	2%	8%	8%	1%	6%	25%	170%	70%
Balancing Energy Bilateral - Wheel Through Bilaterals	-45%	-47%	-47%	-44%	-21%	-77%	-125%	-23%	-31%	-52%	-476%	-229%
<b><u>Transactions Summary</u></b>												
LBMP	63%	62%	61%	60%	59%	62%	68%	65%	61%	61%	60%	63%
Internal Bilaterals	29%	30%	30%	31%	33%	30%	25%	27%	30%	32%	32%	30%
Import Bilaterals	5%	5%	6%	6%	6%	5%	4%	5%	5%	5%	5%	5%
Export Bilaterals	1%	2%	2%	2%	2%	2%	1%	1%	2%	2%	2%	2%
Wheels Through	1%	1%	1%	1%	0%	1%	1%	1%	2%	0%	0%	0%
<b><u>Market Share of Total Load</u></b>												
Day Ahead Market	102.2%	102.5%	102.0%	101.9%	103.2%	100.7%	99.4%	103.2%	101.9%	100.9%	100.1%	99.7%
Balancing Energy +	-2.2%	-2.5%	-2.0%	-1.9%	-3.2%	-0.7%	0.6%	-3.2%	-1.9%	-0.9%	-0.1%	0.3%
Total MWH	14,977,016	13,068,195	13,266,617	11,592,547	12,128,884	13,621,328	17,520,217	15,865,866	13,341,448	12,455,764	13,018,731	14,392,539
Average Daily Energy Sendout/Month GWh	449	436	411	371	373	429	539	487	419	377	401	427

+ 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 2020 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 *	\$22.11	\$19.48	\$16.07	\$14.67	\$14.97	\$19.15	\$26.30					
Standard Deviation	\$7.43	\$4.45	\$3.21	\$2.71	\$3.55	\$6.40	\$10.45					
Load Weighted Price **	\$22.77	\$19.84	\$16.36	\$14.86	\$15.37	\$20.28	\$27.94					
<b><u>RTC LBMP</u></b>												
Price *	\$22.86	\$21.48	\$16.48	\$16.23	\$17.46	\$20.84	\$30.70					
Standard Deviation	\$9.33	\$53.30	\$4.84	\$5.17	\$8.61	\$11.26	\$17.92					
Load Weighted Price **	\$23.50	\$21.94	\$16.74	\$16.44	\$17.89	\$22.01	\$32.92					
<b><u>REAL TIME LBMP</u></b>												
Price *	\$22.53	\$19.29	\$16.24	\$14.14	\$14.90	\$18.35	\$26.56					
Standard Deviation	\$11.90	\$8.68	\$7.48	\$6.98	\$8.35	\$9.33	\$16.45					
Load Weighted Price **	\$23.20	\$19.68	\$16.58	\$14.35	\$15.42	\$19.46	\$28.27					
Average Daily Energy Sendout/Month GWh	423	417	375	344	345	430	530					

### **NYISO Markets 2019 Energy Statistics**

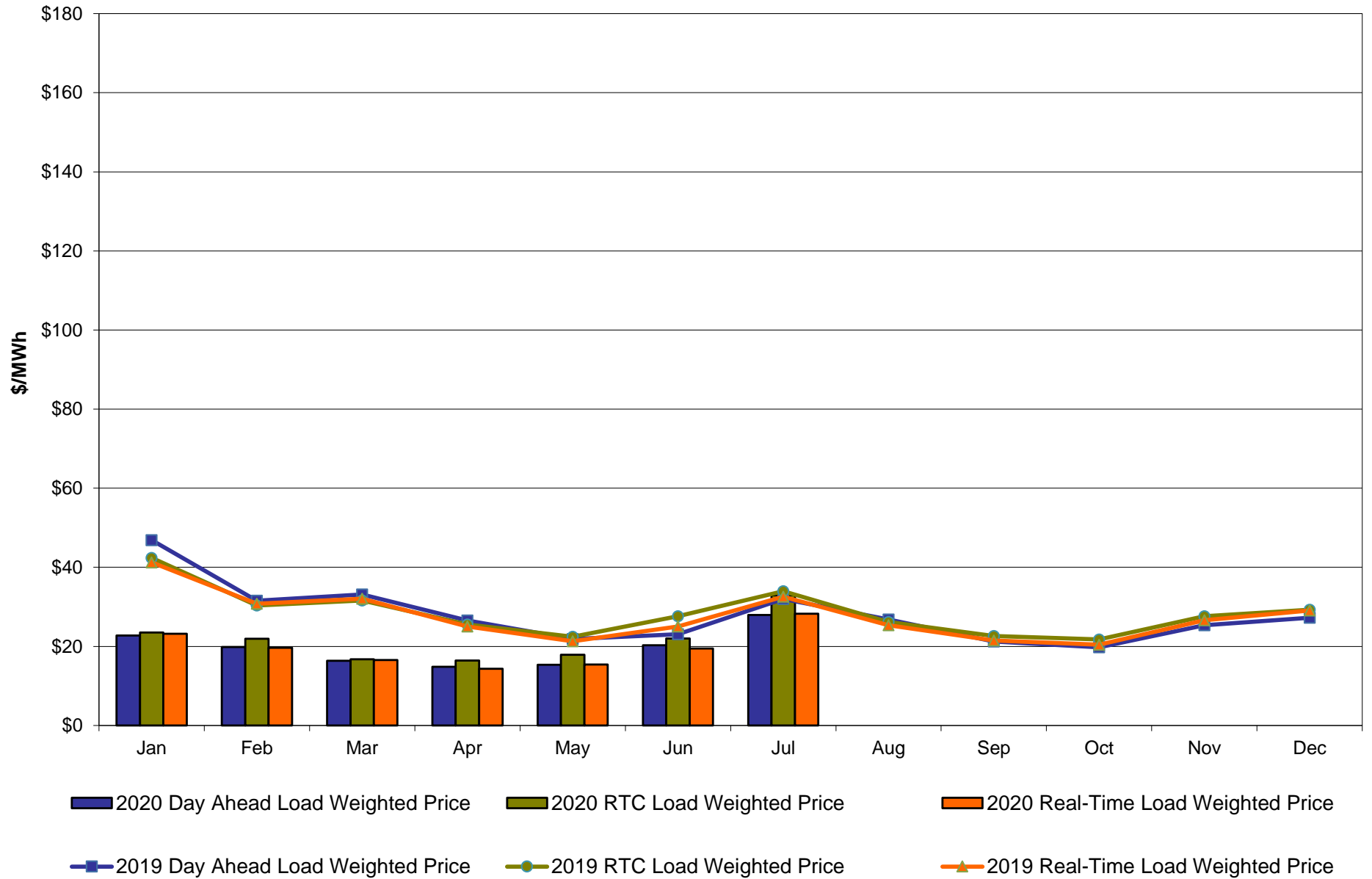
	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>DAY AHEAD LBMP</u></b>												
Price *	\$45.01	\$30.66	\$32.34	\$25.97	\$21.16	\$21.79	\$30.16	\$25.35	\$20.45	\$19.18	\$24.65	\$26.29
Standard Deviation	\$25.67	\$12.86	\$9.30	\$6.32	\$5.89	\$7.28	\$12.06	\$8.73	\$5.57	\$5.09	\$7.73	\$11.81
Load Weighted Price **	\$46.88	\$31.53	\$33.14	\$26.57	\$21.89	\$23.04	\$31.98	\$26.83	\$21.23	\$19.77	\$25.36	\$27.22
<b><u>RTC LBMP</u></b>												
Price *	\$40.86	\$29.74	\$31.04	\$25.07	\$21.88	\$25.67	\$32.23	\$24.92	\$21.70	\$20.92	\$26.82	\$28.17
Standard Deviation	\$23.02	\$10.79	\$8.48	\$7.53	\$8.01	\$23.45	\$21.96	\$14.96	\$9.22	\$13.95	\$10.37	\$16.26
Load Weighted Price **	\$42.39	\$30.32	\$31.62	\$25.54	\$22.44	\$27.64	\$33.92	\$26.14	\$22.60	\$21.76	\$27.64	\$29.24
<b><u>REAL TIME LBMP</u></b>												
Price *	\$39.54	\$30.13	\$31.46	\$24.47	\$20.56	\$23.30	\$30.77	\$24.01	\$20.49	\$19.53	\$25.82	\$27.81
Standard Deviation	\$26.03	\$13.77	\$12.54	\$17.27	\$10.35	\$17.49	\$20.63	\$12.36	\$9.62	\$12.02	\$11.60	\$19.64
Load Weighted Price **	\$41.24	\$30.80	\$32.06	\$25.06	\$21.28	\$25.05	\$32.53	\$25.34	\$21.50	\$20.43	\$26.64	\$29.05
Average Daily Energy Sendout/Month GWh	449	436	411	371	373	429	539	487	419	377	401	427

\* Average zonal load weighted prices.

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



# **NYISO Monthly Average Internal LBMPs 2019- 2020**

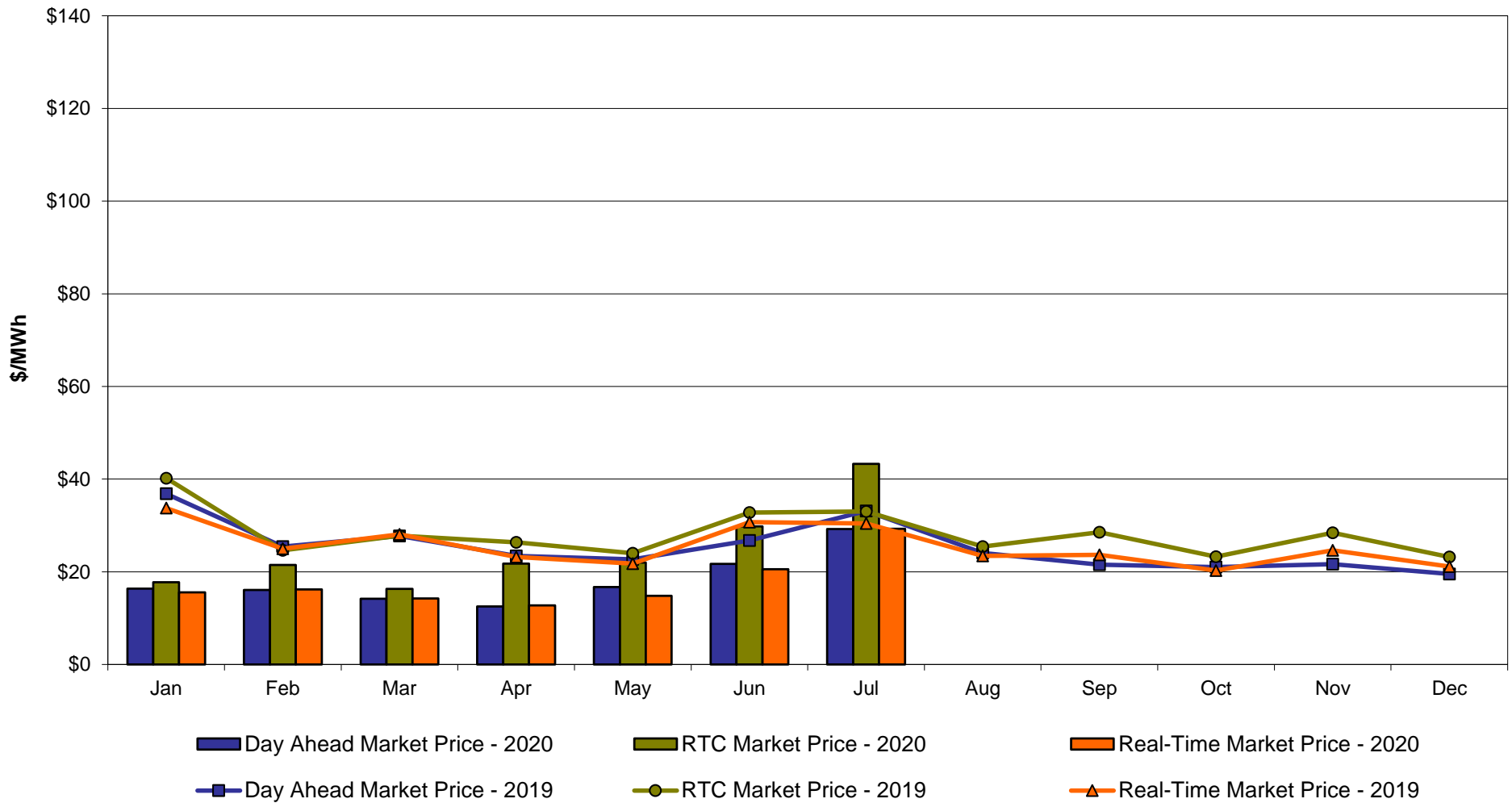


**July 2020 Zonal LBMP Statistics for NYISO (\$/MWh)**

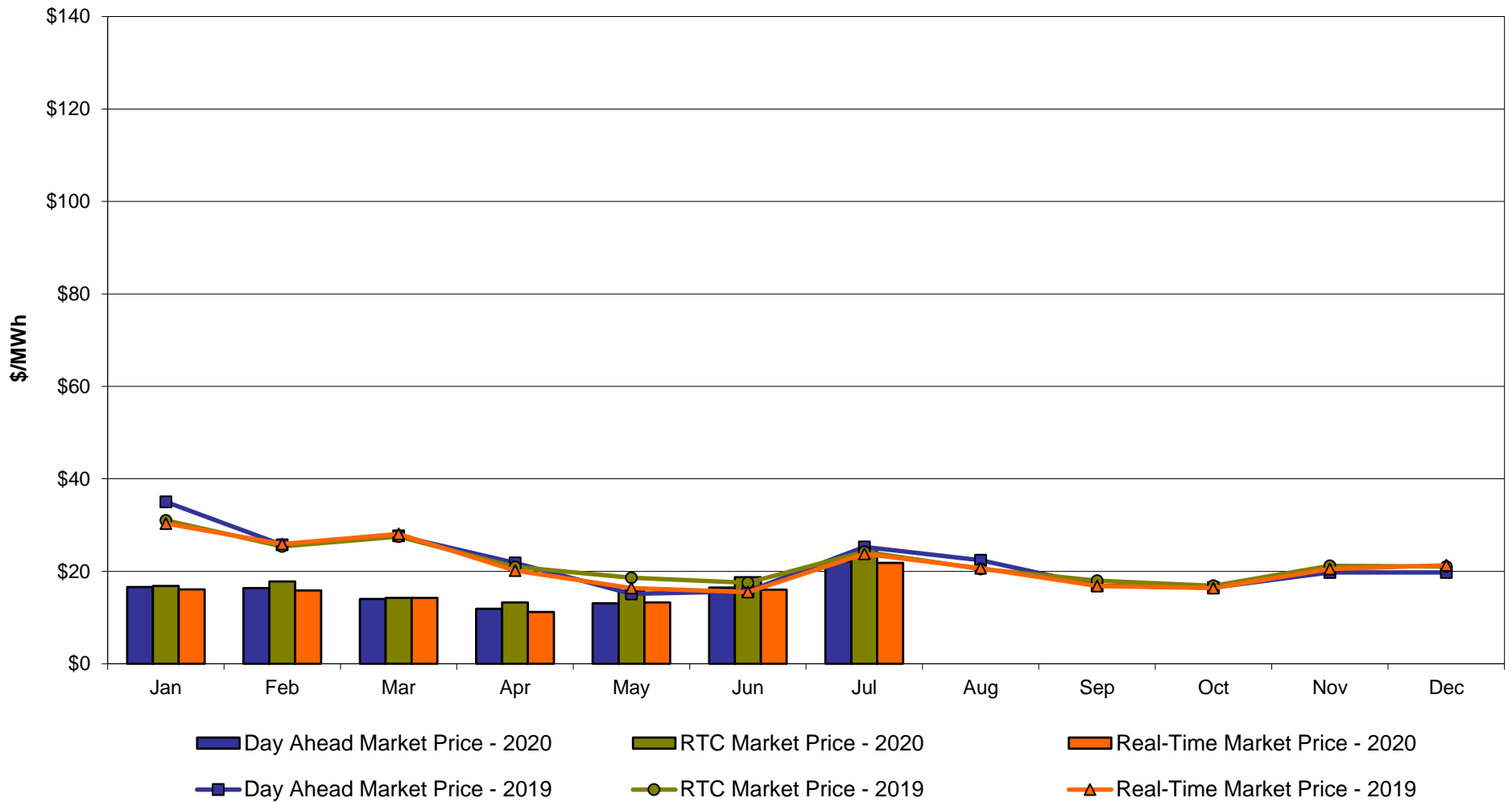
	<b><u>WEST</u></b> <b><u>Zone A</u></b>	<b><u>GENESEE</u></b> <b><u>Zone B</u></b>	<b><u>NORTH</u></b> <b><u>Zone D</u></b>	<b><u>CENTRAL</u></b> <b><u>Zone C</u></b>	<b><u>MOHAWK</u></b> <b><u>VALLEY</u></b> <b><u>Zone E</u></b>	<b><u>CAPITAL</u></b> <b><u>Zone F</u></b>	<b><u>HUDSON</u></b> <b><u>VALLEY</u></b> <b><u>Zone G</u></b>	<b><u>MILLWOOD</u></b> <b><u>Zone H</u></b>	<b><u>DUNWOODIE</u></b> <b><u>Zone I</u></b>	<b><u>NEW YORK</u></b> <b><u>CITY</u></b> <b><u>Zone J</u></b>	<b><u>LONG</u></b> <b><u>ISLAND</u></b> <b><u>Zone K</u></b>
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	29.23	22.29	17.59	22.18	22.10	22.74	23.17	24.51	23.96	25.50	35.96
Standard Deviation	16.38	9.41	5.90	7.35	7.21	7.06	7.02	11.67	8.03	8.83	20.98
<b><u>RTC LBMP</u></b>											
Unweighted Price *	43.28	27.97	21.05	24.28	23.69	24.28	24.52	27.14	25.95	28.71	42.19
Standard Deviation	50.57	31.68	15.38	11.04	10.45	9.90	10.12	17.63	12.02	14.63	51.34
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	29.28	23.79	18.58	21.84	21.70	22.28	22.56	24.83	23.82	26.60	35.00
Standard Deviation	27.36	20.98	19.56	9.70	9.69	9.24	9.59	15.42	10.56	13.03	59.71
	<b><u>ONTARIO</u></b> <b><u>IESO</u></b>	<b><u>HYDRO</u></b> <b><u>QUEBEC</u></b> <b><u>(Wheel)</u></b>	<b><u>HYDRO</u></b> <b><u>QUEBEC</u></b> <b><u>(Import/Export)</u></b>	<b><u>PJM</u></b>	<b><u>NEW</u></b> <b><u>ENGLAND</u></b>	<b><u>CROSS</u></b> <b><u>SOUND</u></b> <b><u>CABLE</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>NORTHPORT-</u></b> <b><u>NORWALK</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>NEPTUNE</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>LINDEN VFT</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>HUDSON</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>	<b><u>Dennison</u></b> <b><u>Controllable</u></b> <b><u>Line</u></b>
	<b><u>Zone O</u></b>	<b><u>Zone M</u></b>	<b><u>Zone M</u></b>	<b><u>Zone P</u></b>	<b><u>Zone N</u></b>						
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	18.73	19.02	19.02	18.73	23.02	23.63	47.01	24.49	17.10	24.04	27.39
Standard Deviation	5.47	6.04	6.04	5.47	7.76	8.32	41.71	7.46	5.63	7.54	14.73
<b><u>RTC LBMP</u></b>											
Unweighted Price *	18.45	21.10	21.10	18.45	23.66	26.47	54.47	28.32	19.29	25.73	29.88
Standard Deviation	16.14	9.28	9.28	16.14	11.98	15.83	68.75	40.23	38.44	11.53	41.66
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	18.27	18.63	18.63	18.27	21.47	22.39	45.67	25.06	15.67	23.85	27.11
Standard Deviation	13.03	15.37	15.37	13.03	11.00	11.77	68.34	57.85	40.55	10.34	58.07

\* Straight LBMP averages

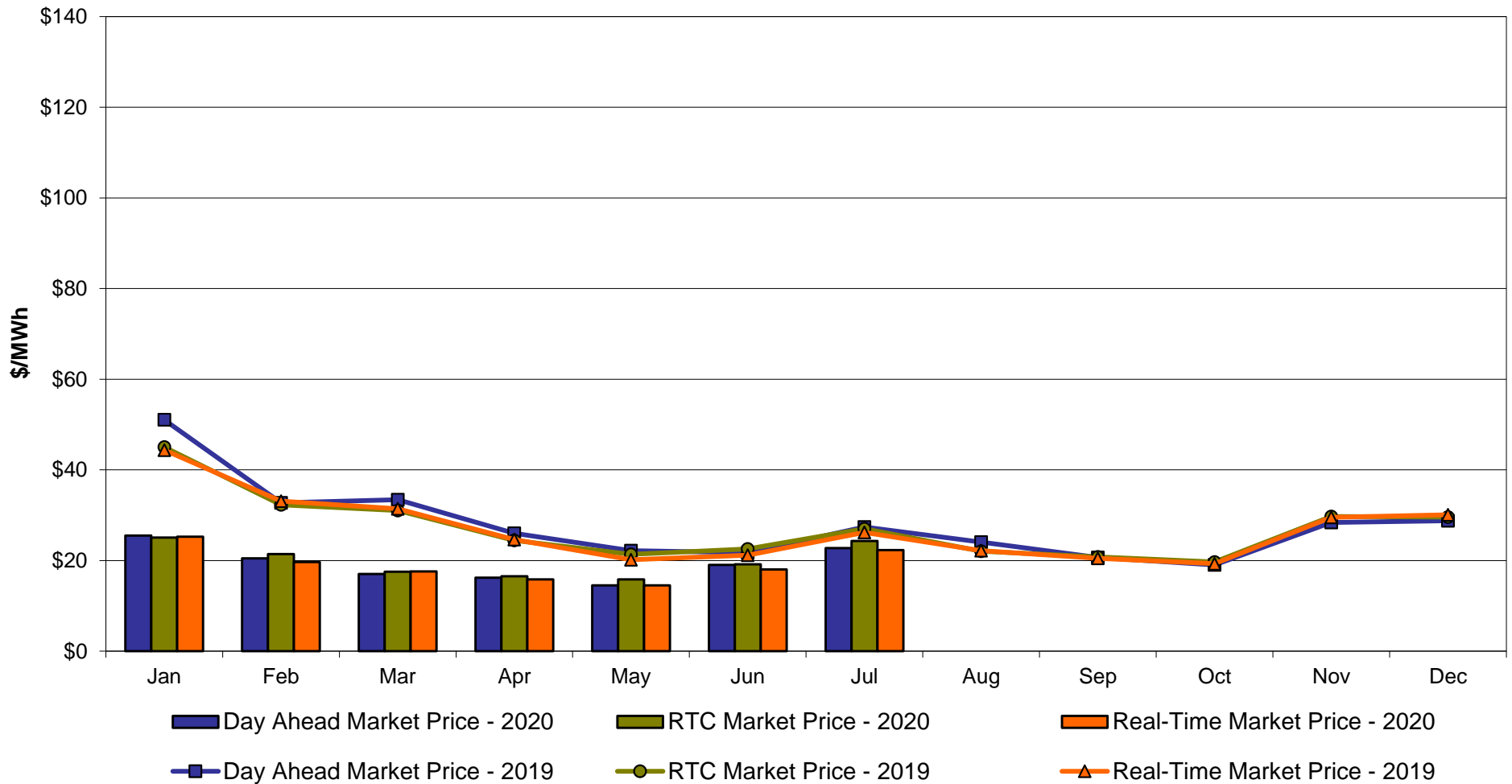
# **West Zone A** **Monthly Average LBMP Prices 2019 - 2020**



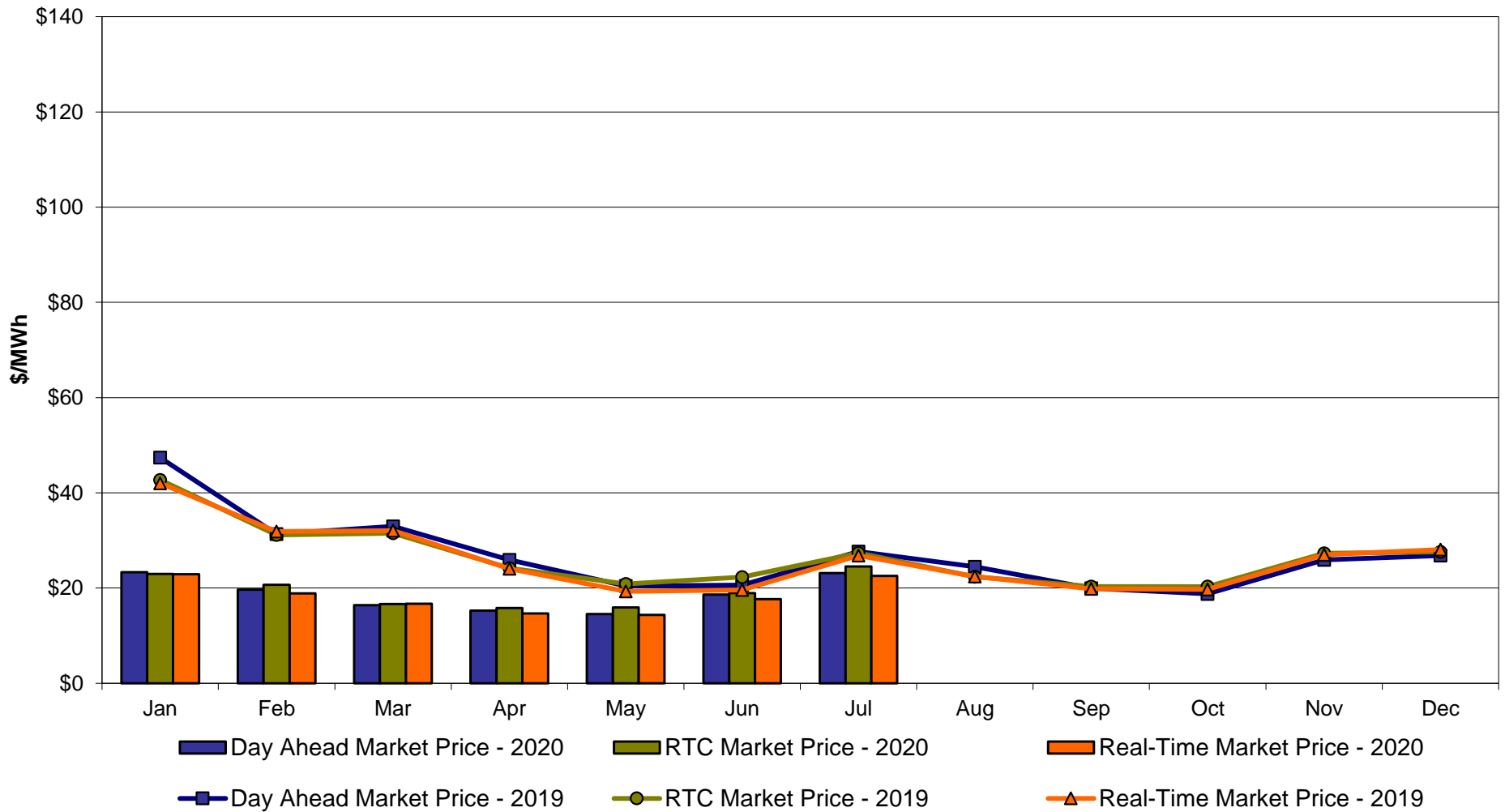
**Central Zone C**  
**Monthly Average LBMP Prices 2019 - 2020**



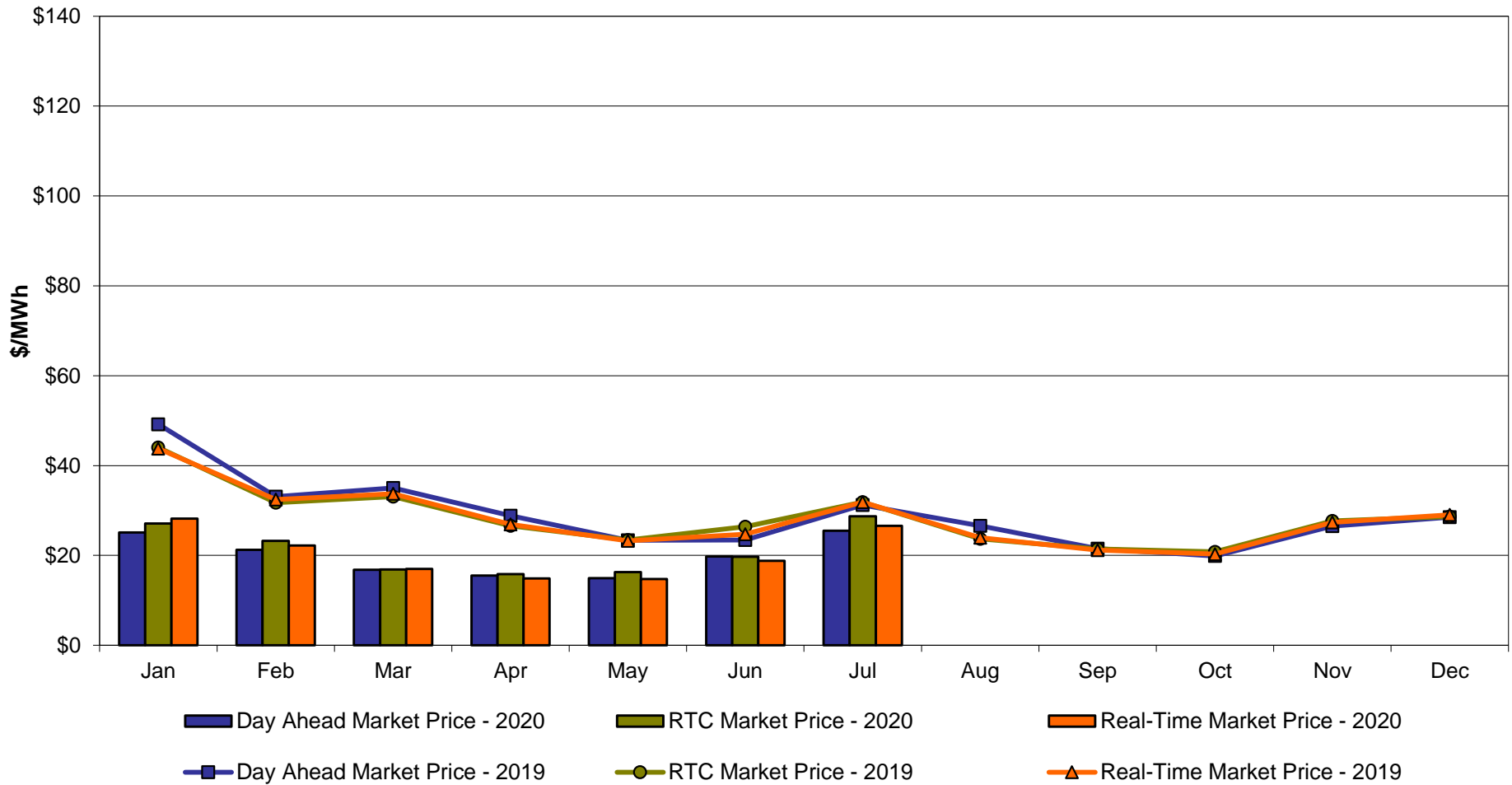
# **Capital Zone F** **Monthly Average LBMP Prices 2019 - 2020**



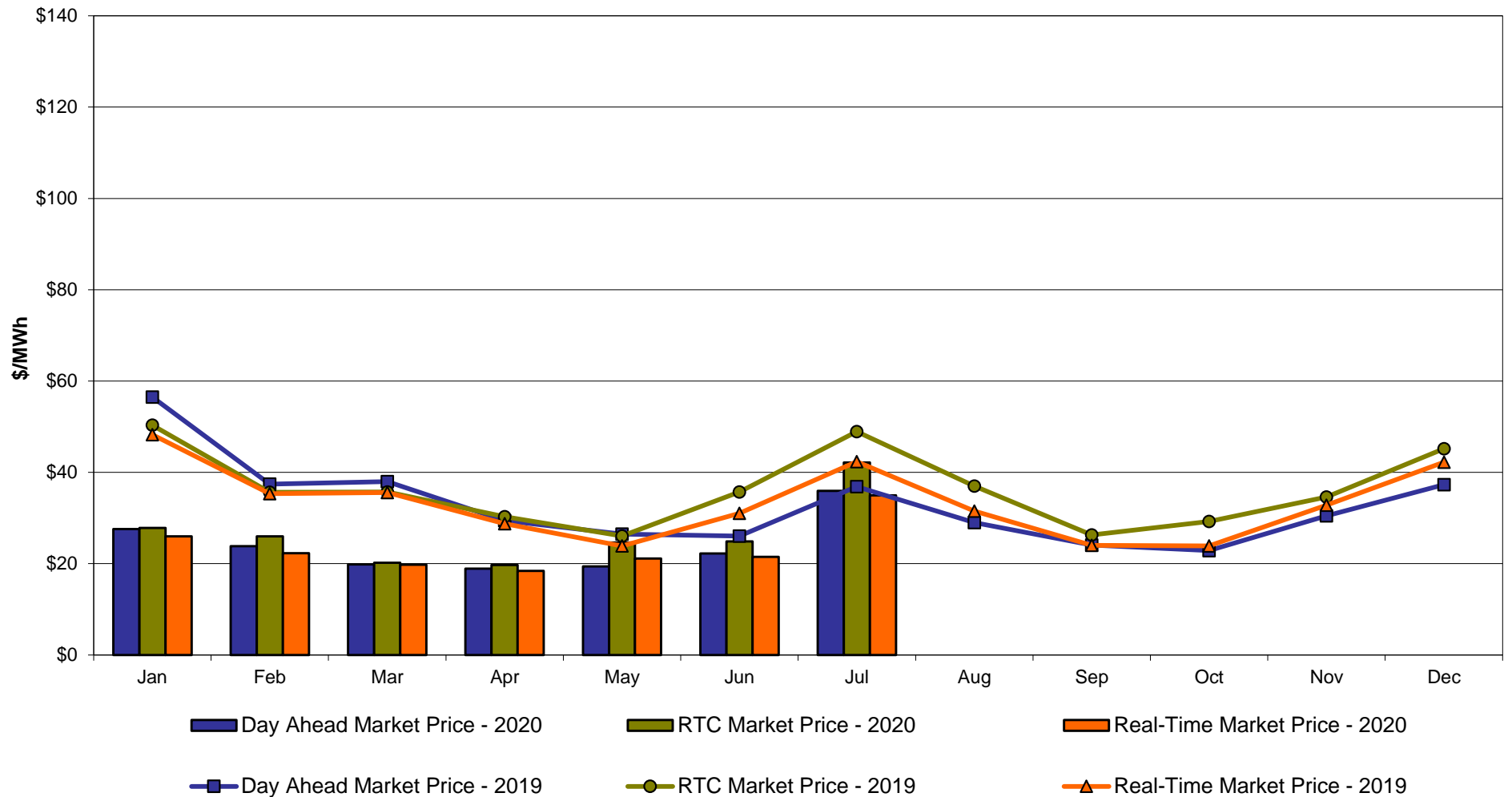
# **Hudson Valley Zone G** **Monthly Average LBMP Prices 2019 - 2020**



# NYC Zone J Monthly Average LBMP Prices 2019 - 2020

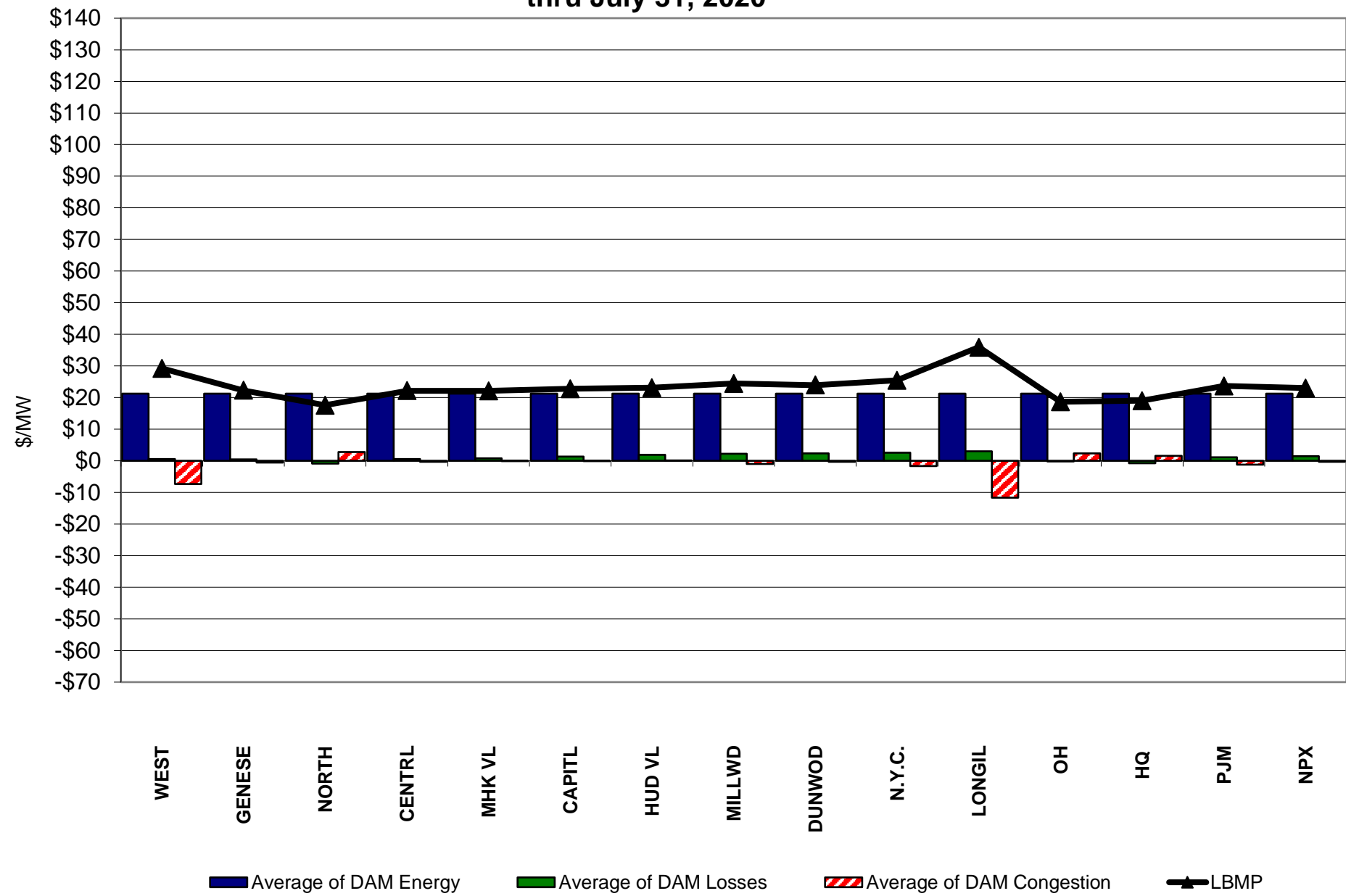


# Long Island Zone K Monthly Average LBMP Prices 2019 - 2020

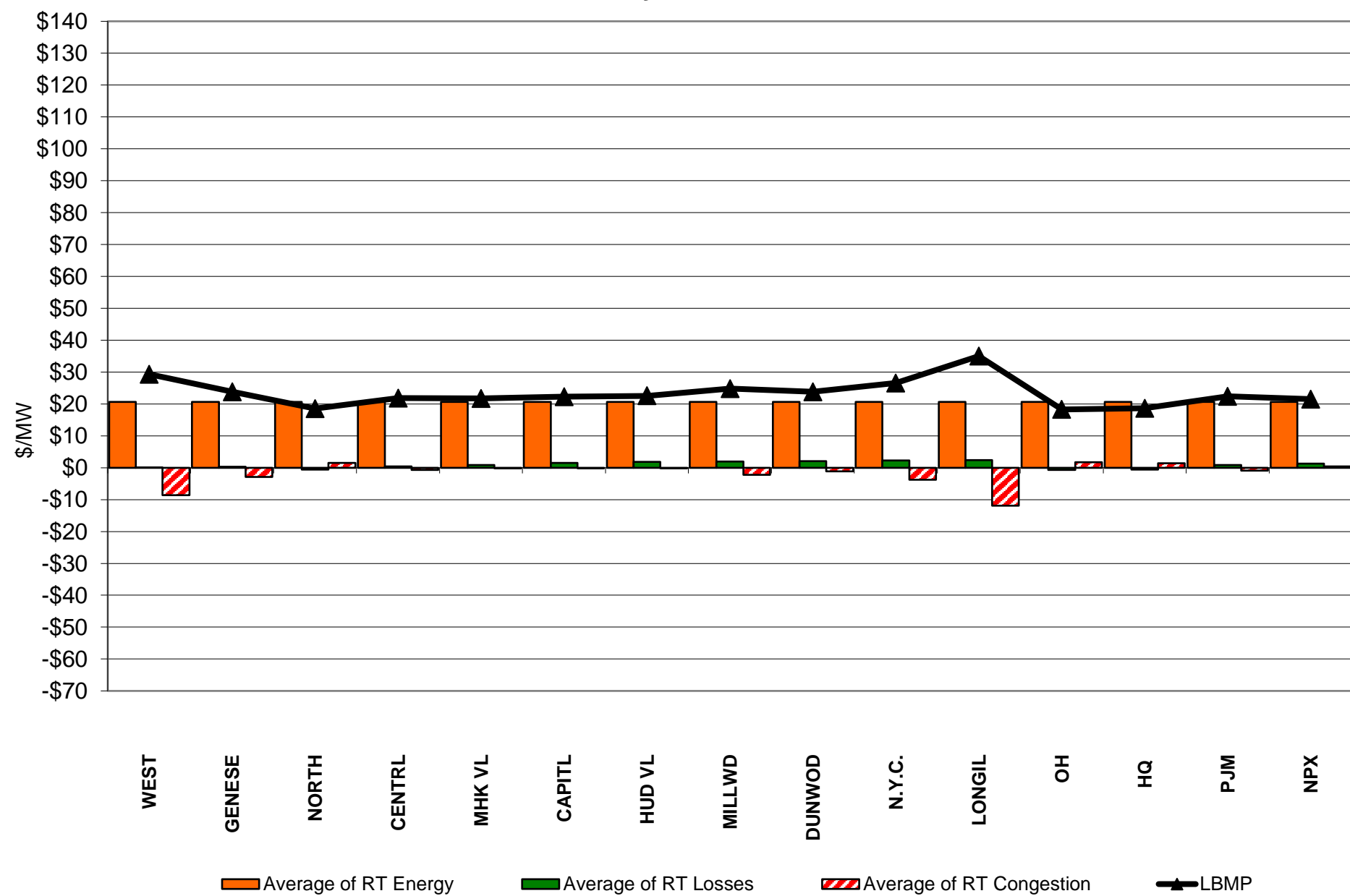




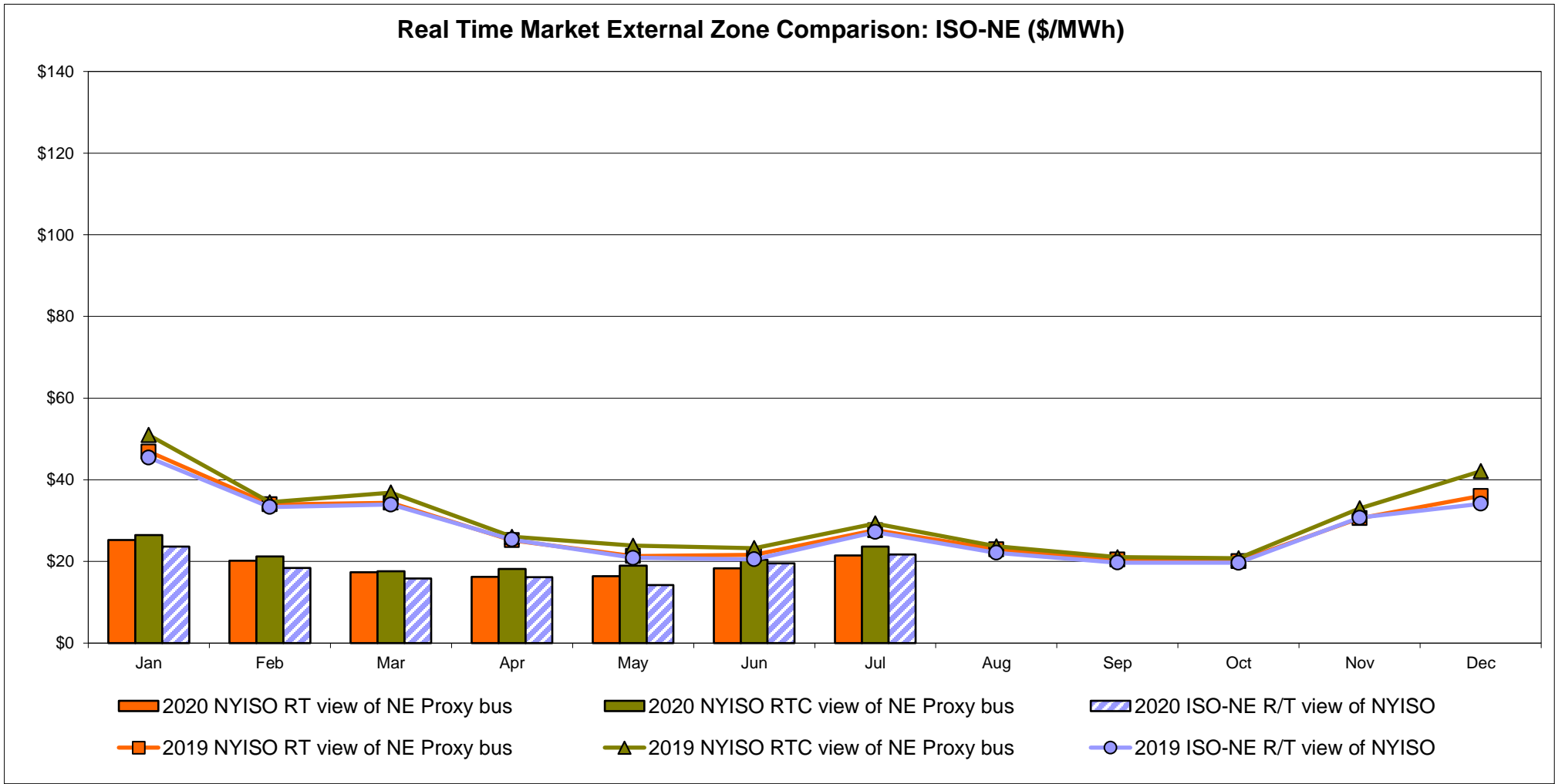
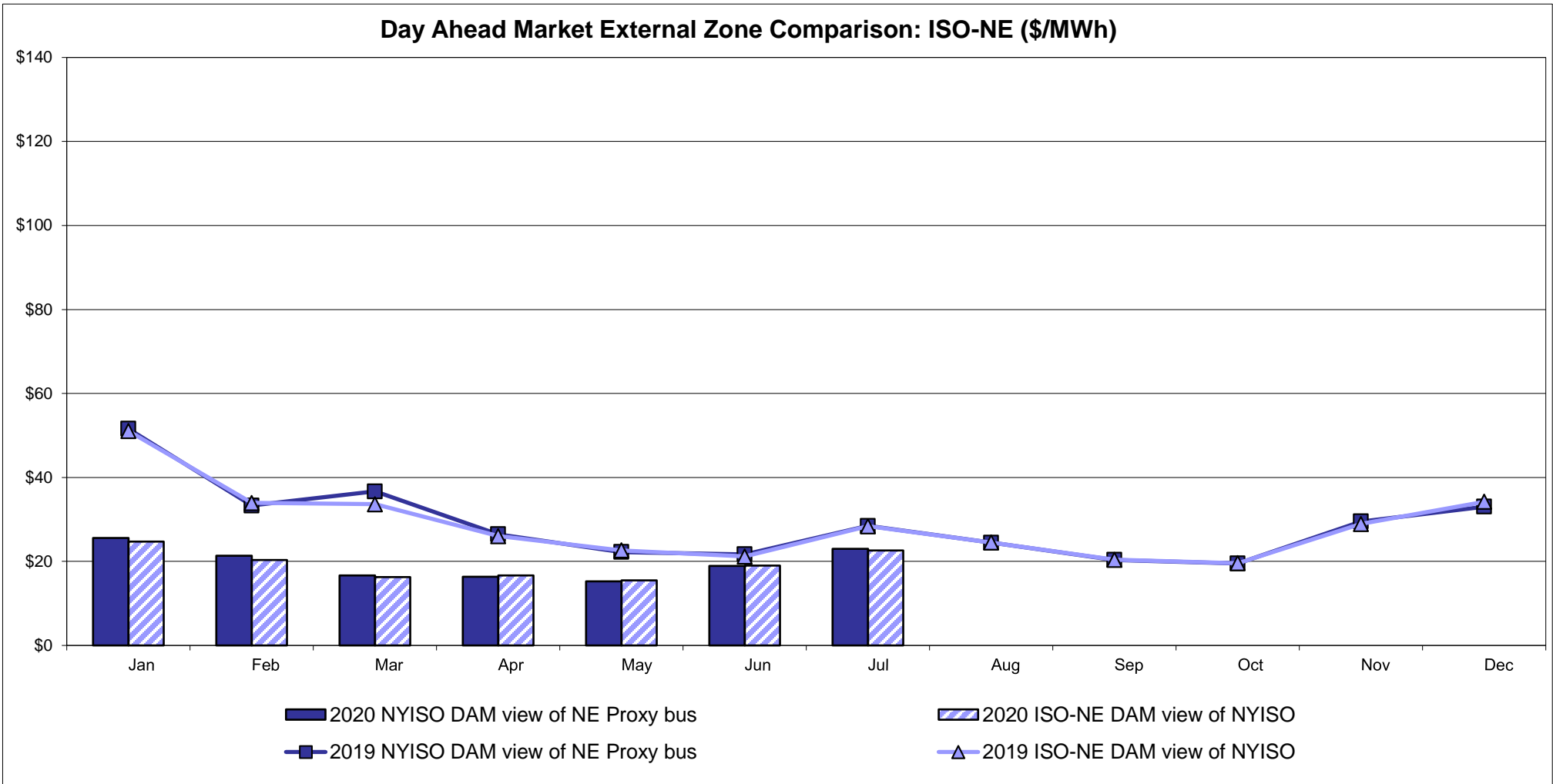
DAM Zonal Unweighted Monthly Average LBMP Components  
thru July 31, 2020



RT Zonal Unweighted Monthly Average LBMP Components  
thru July 31, 2020

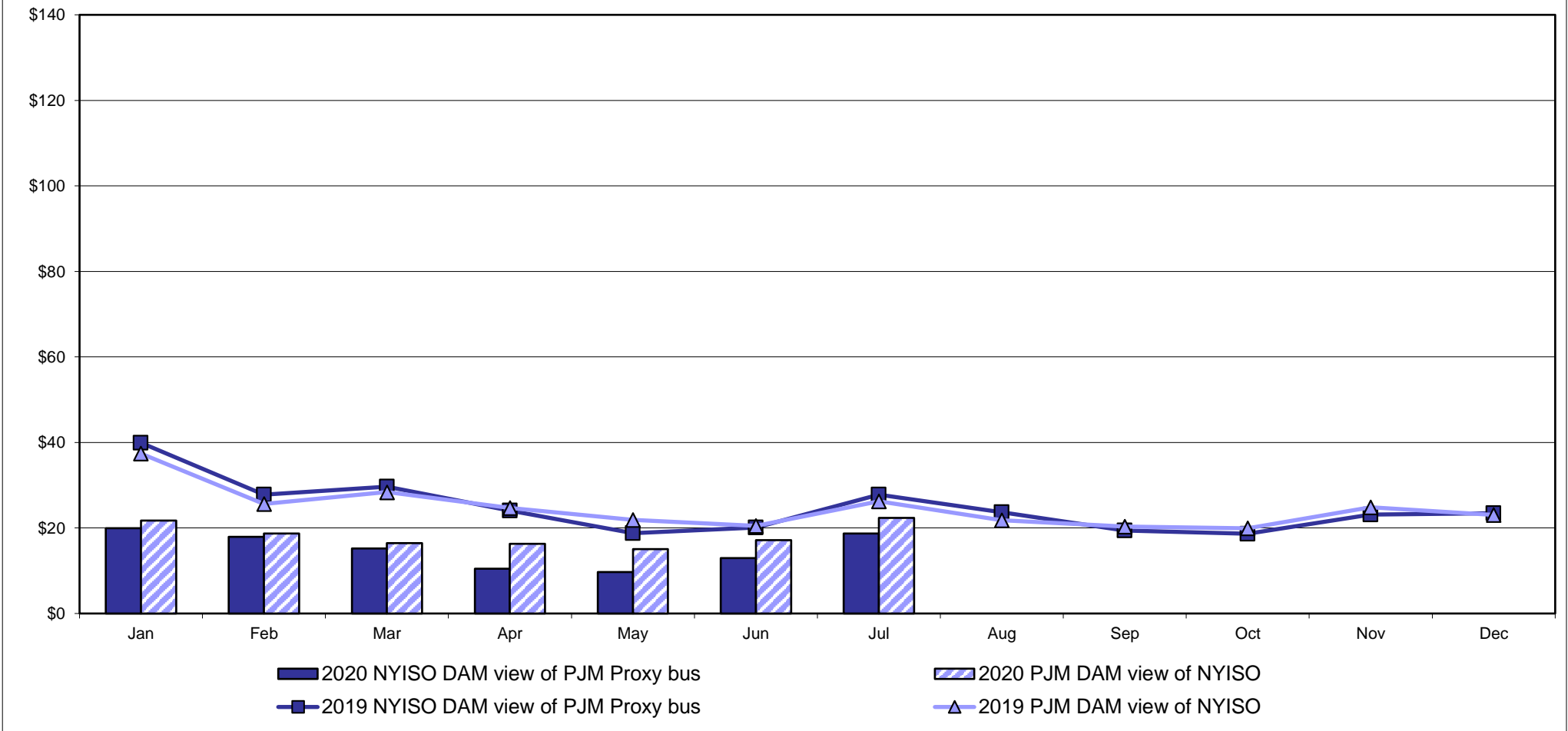


# External Comparison ISO-New England

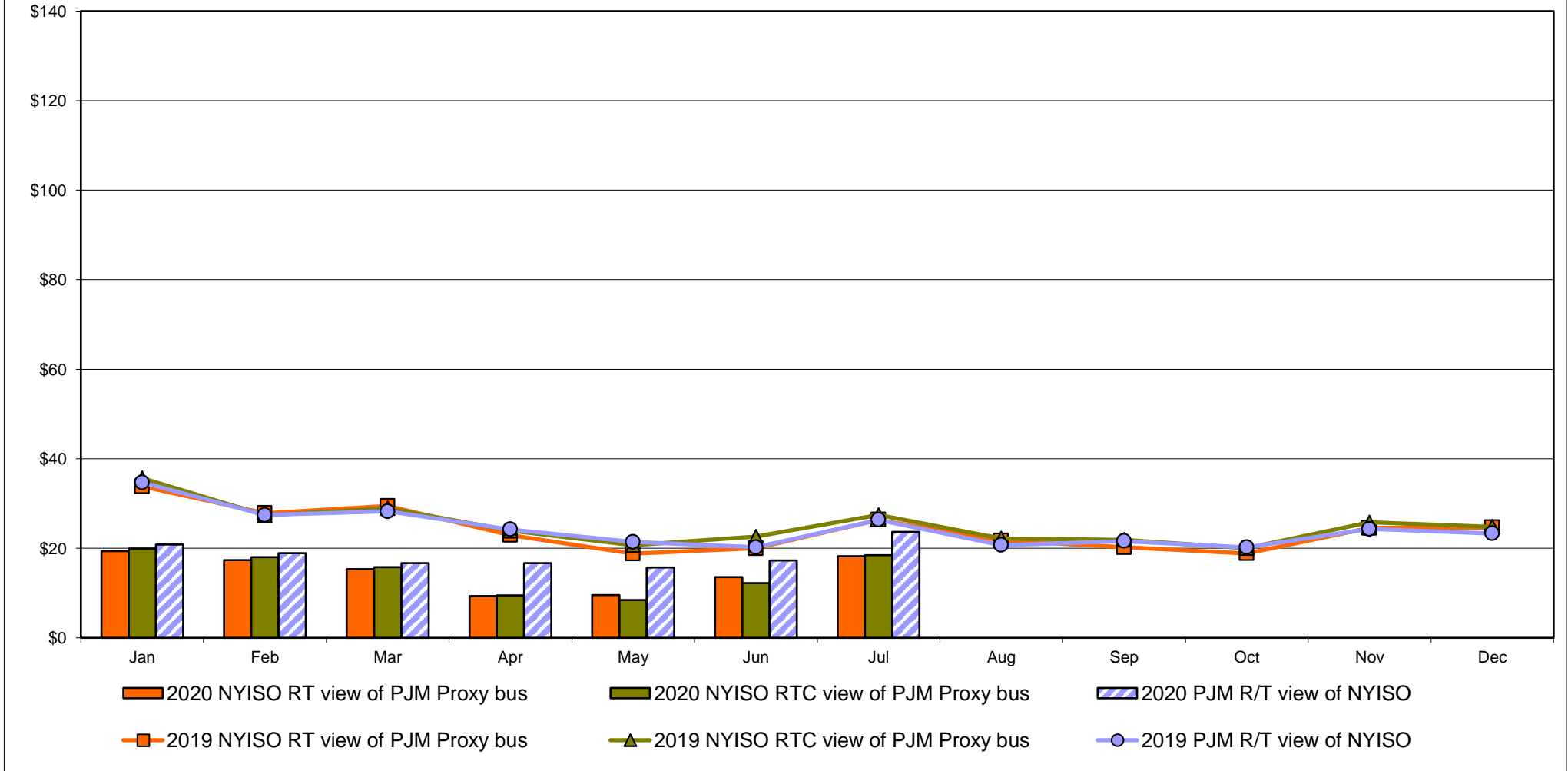


# External Comparison PJM

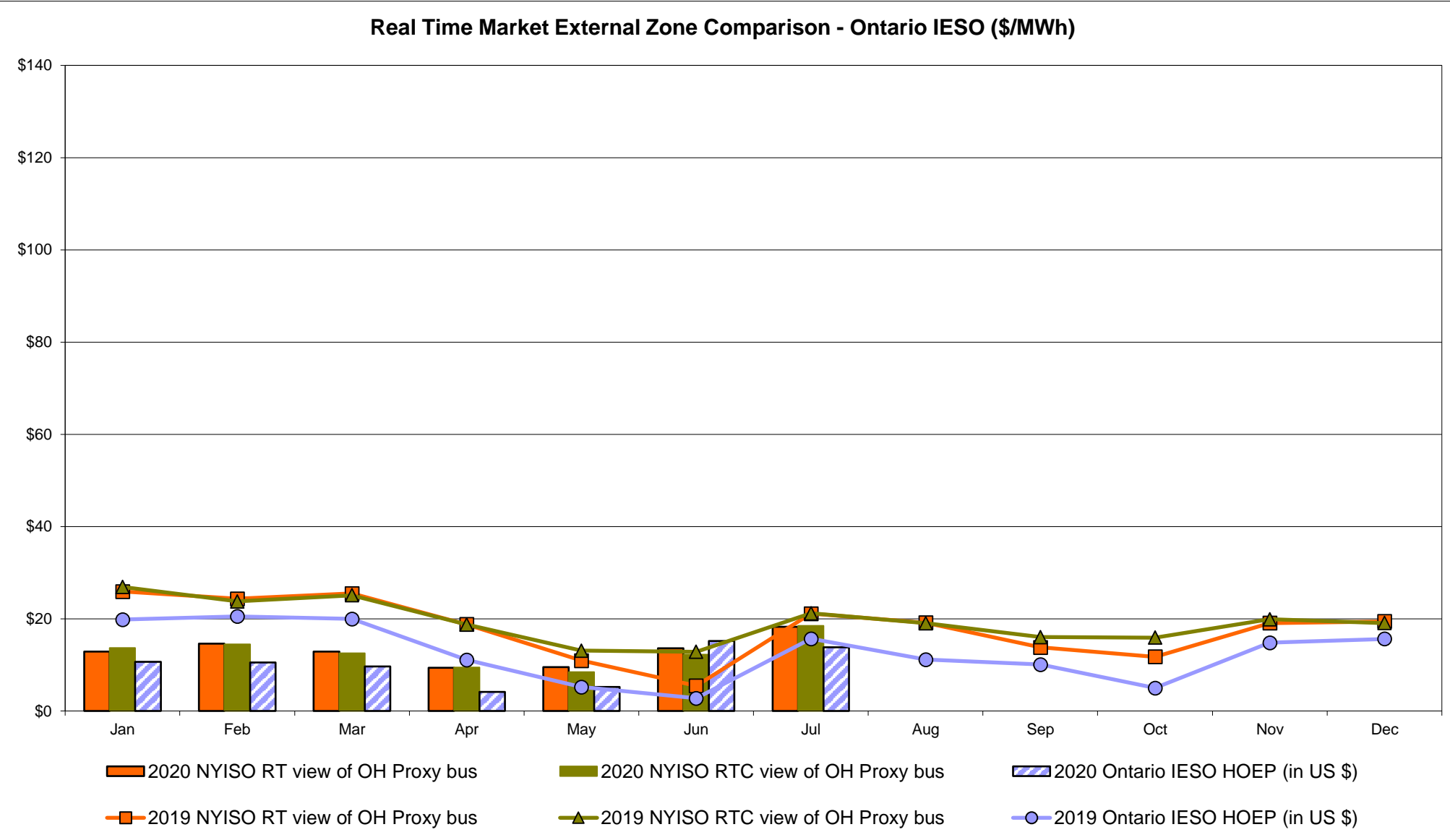
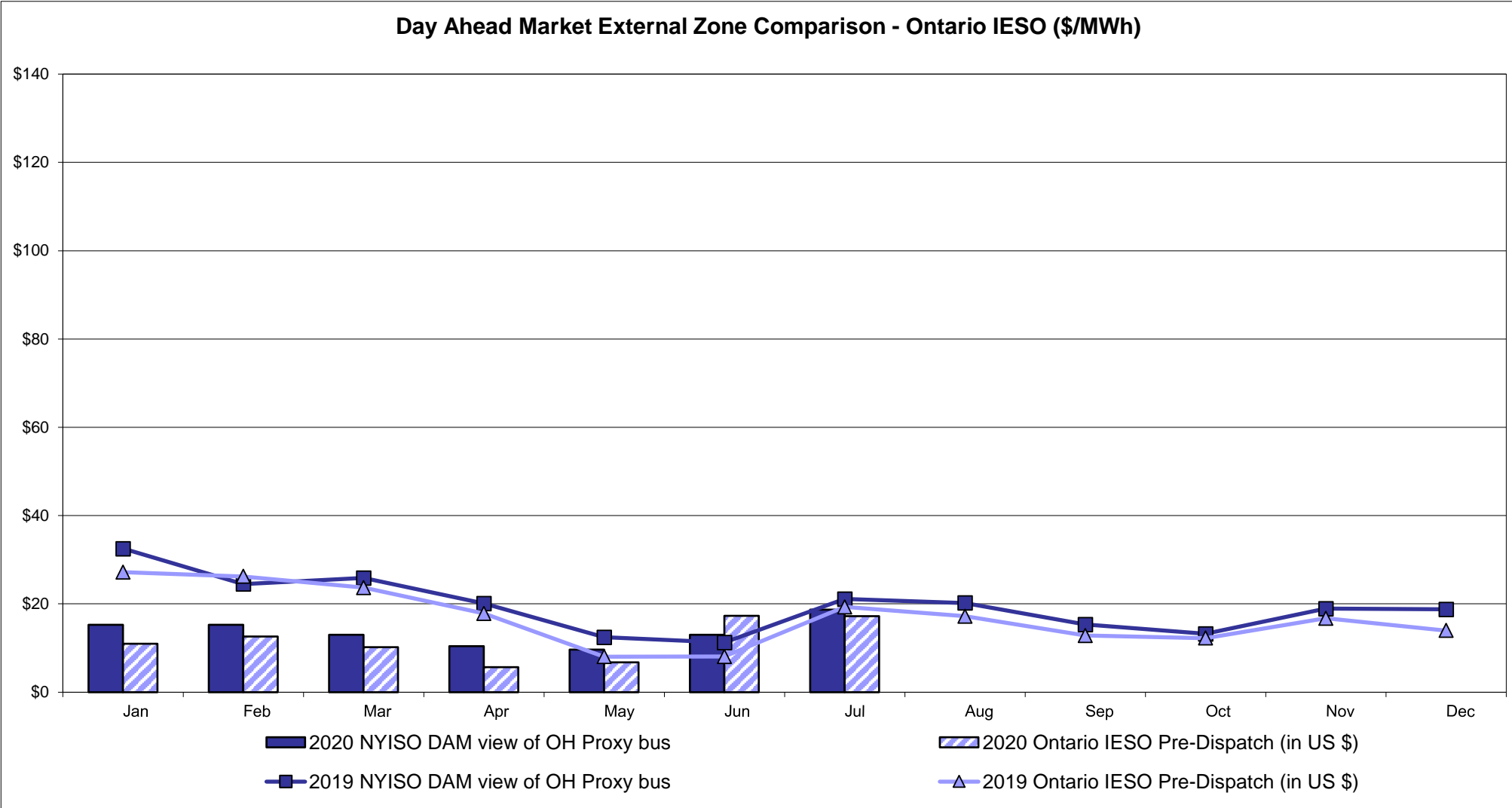
Day Ahead Market External Zone Comparison - PJM (\$/MWh)



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

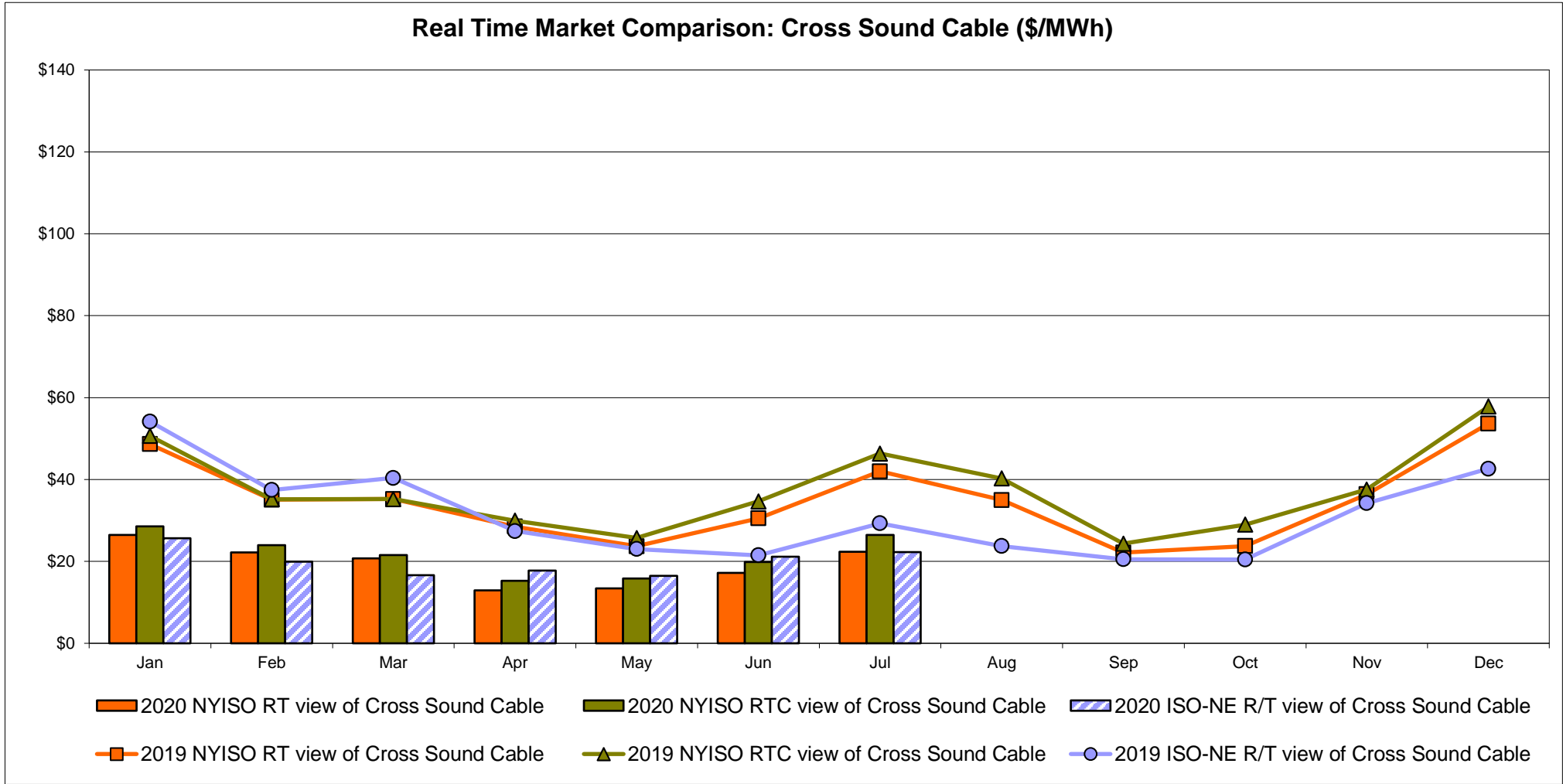
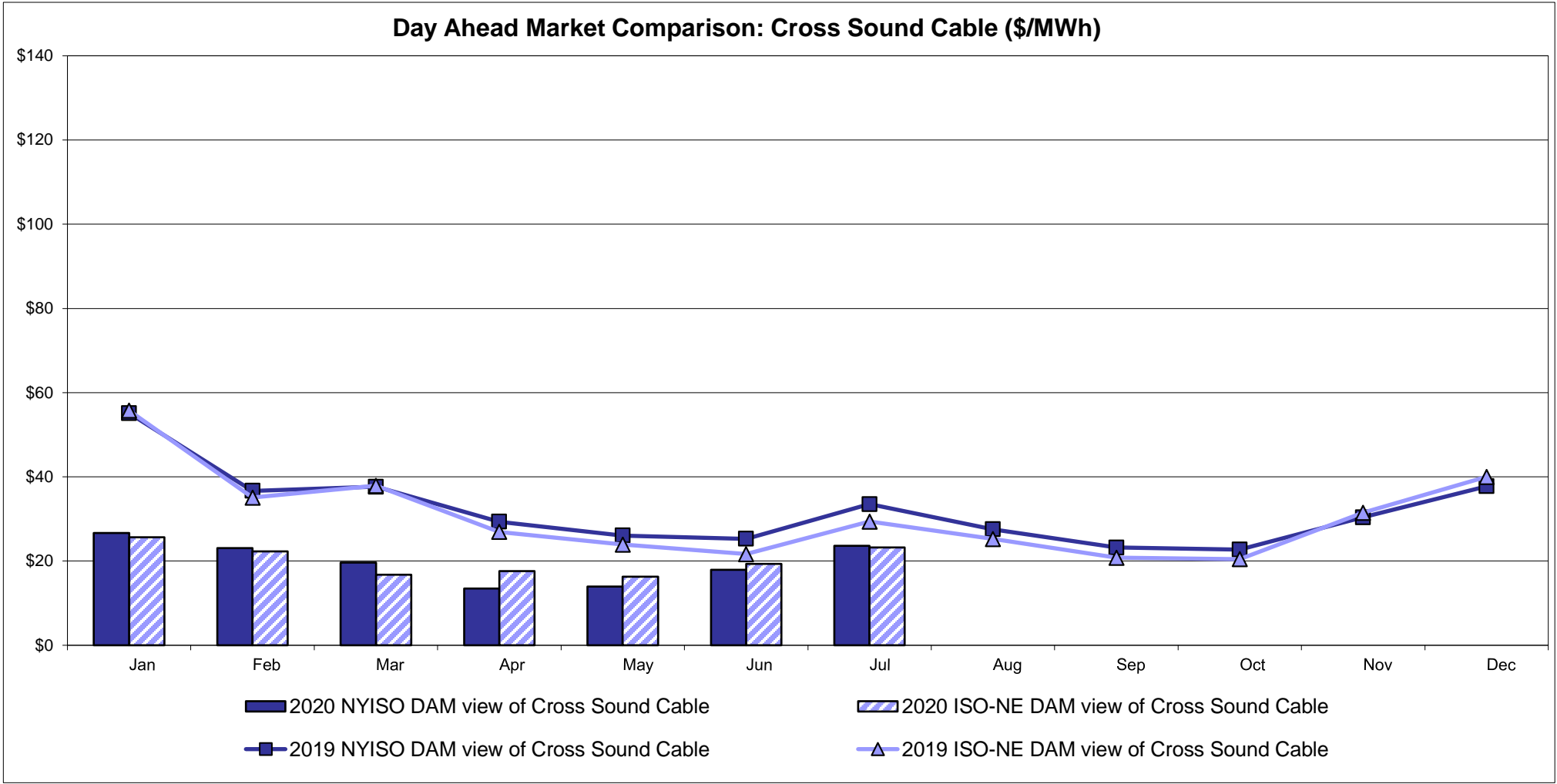


External Comparison Ontario IESO



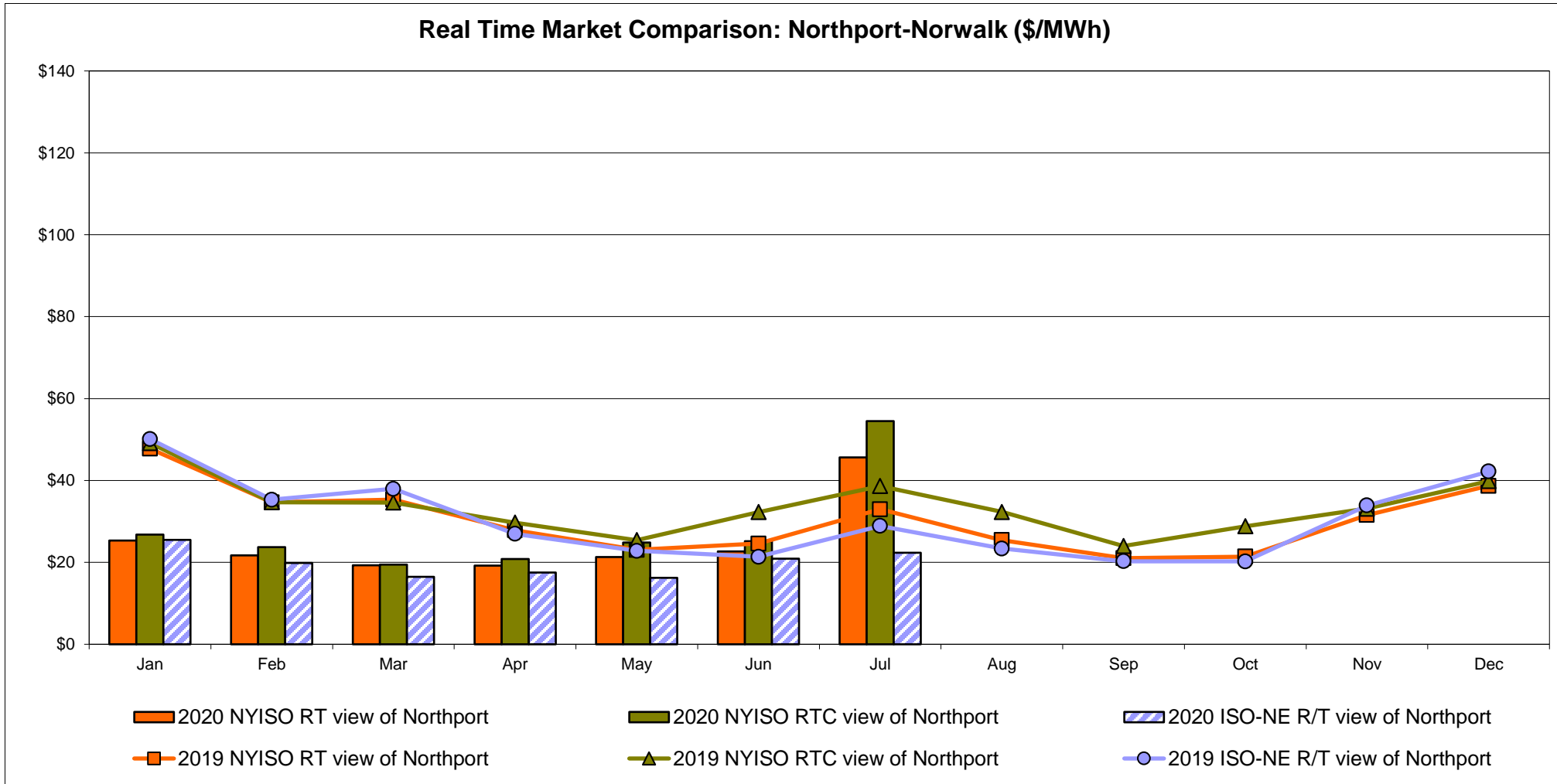
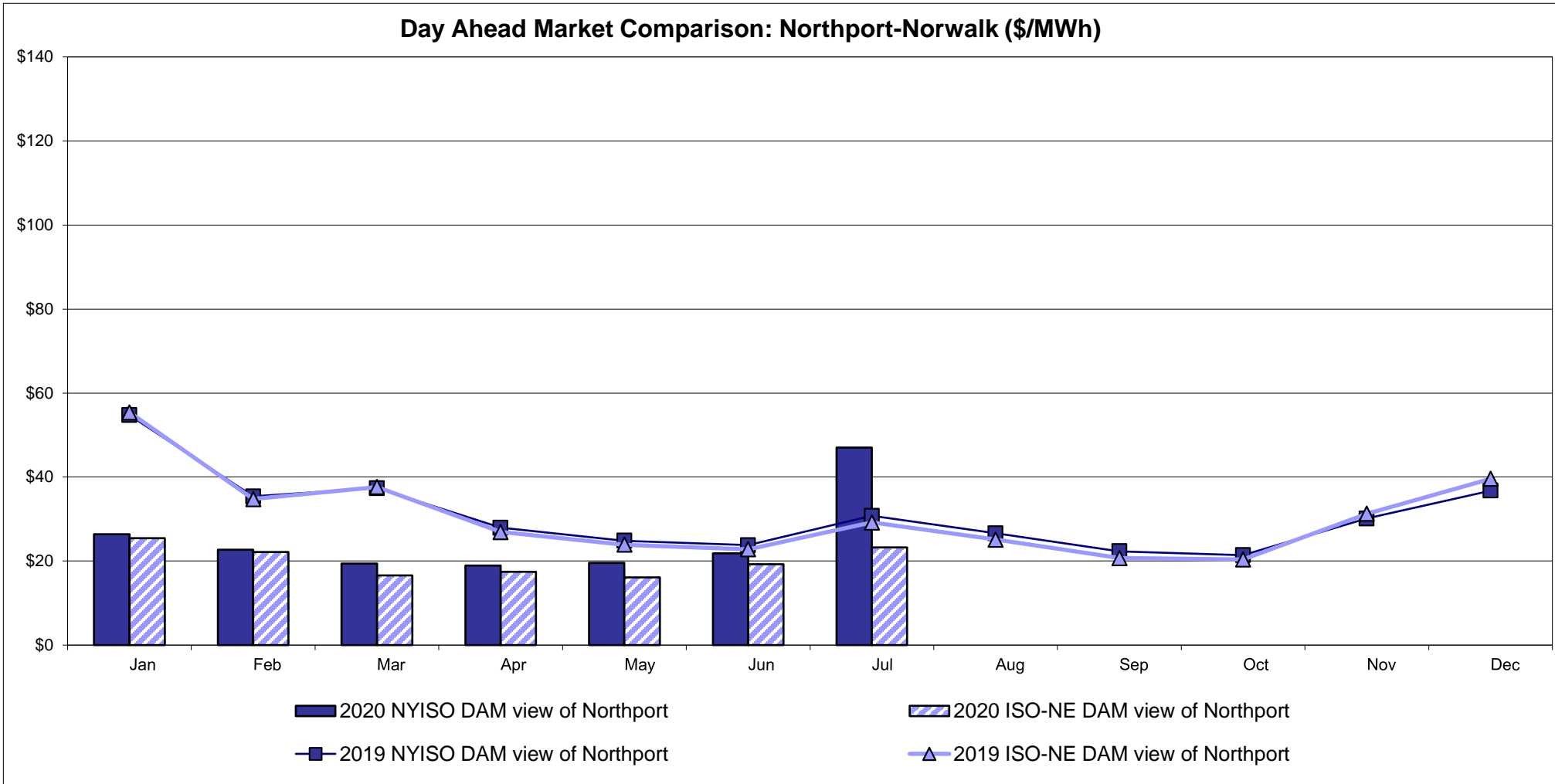
Notes: Exchange factor used for July 2020 was 0.740905386382159 to US  
HOEP: Hourly Ontario Energy Price  
Pre-Dispatch: Projected Energy Price

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



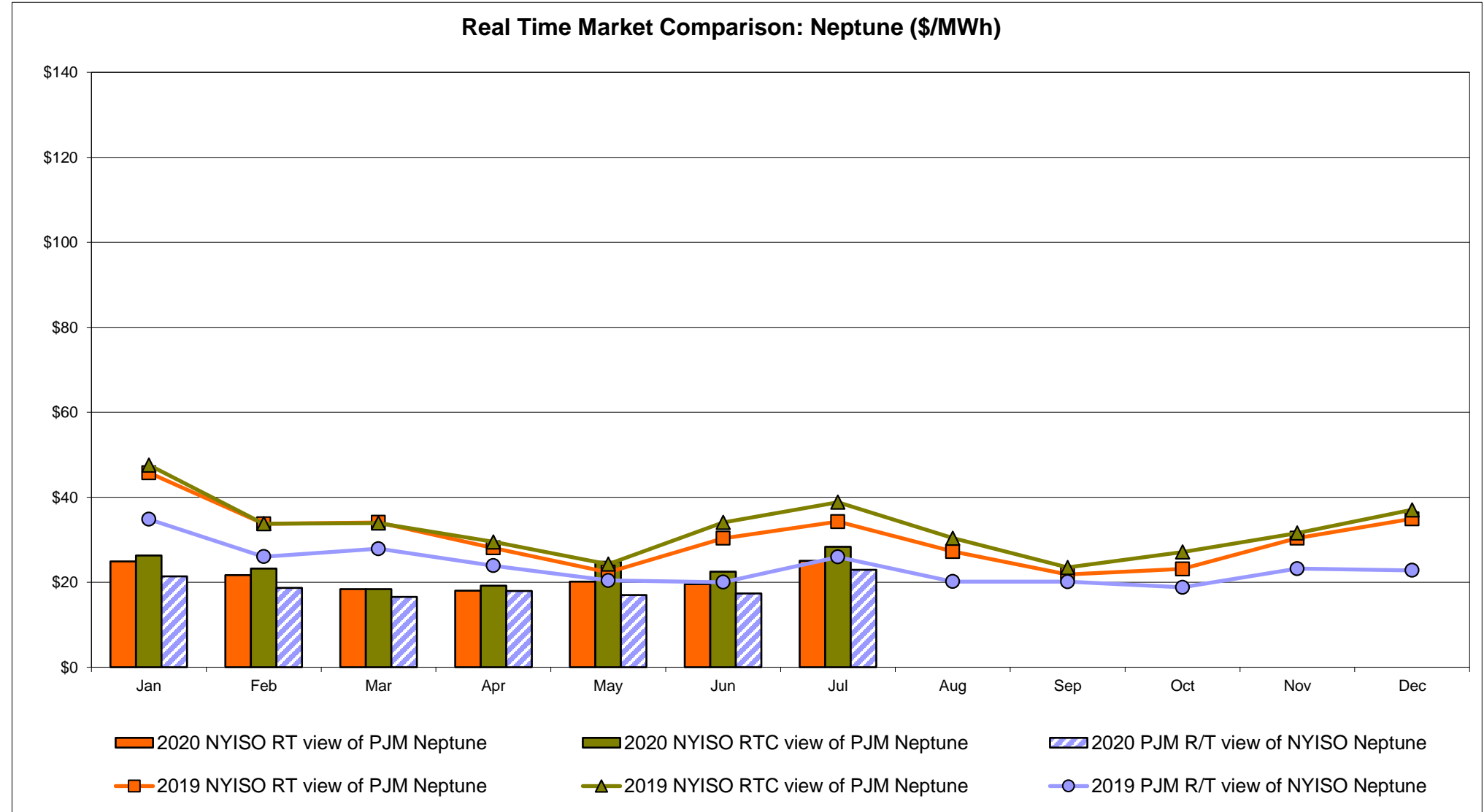
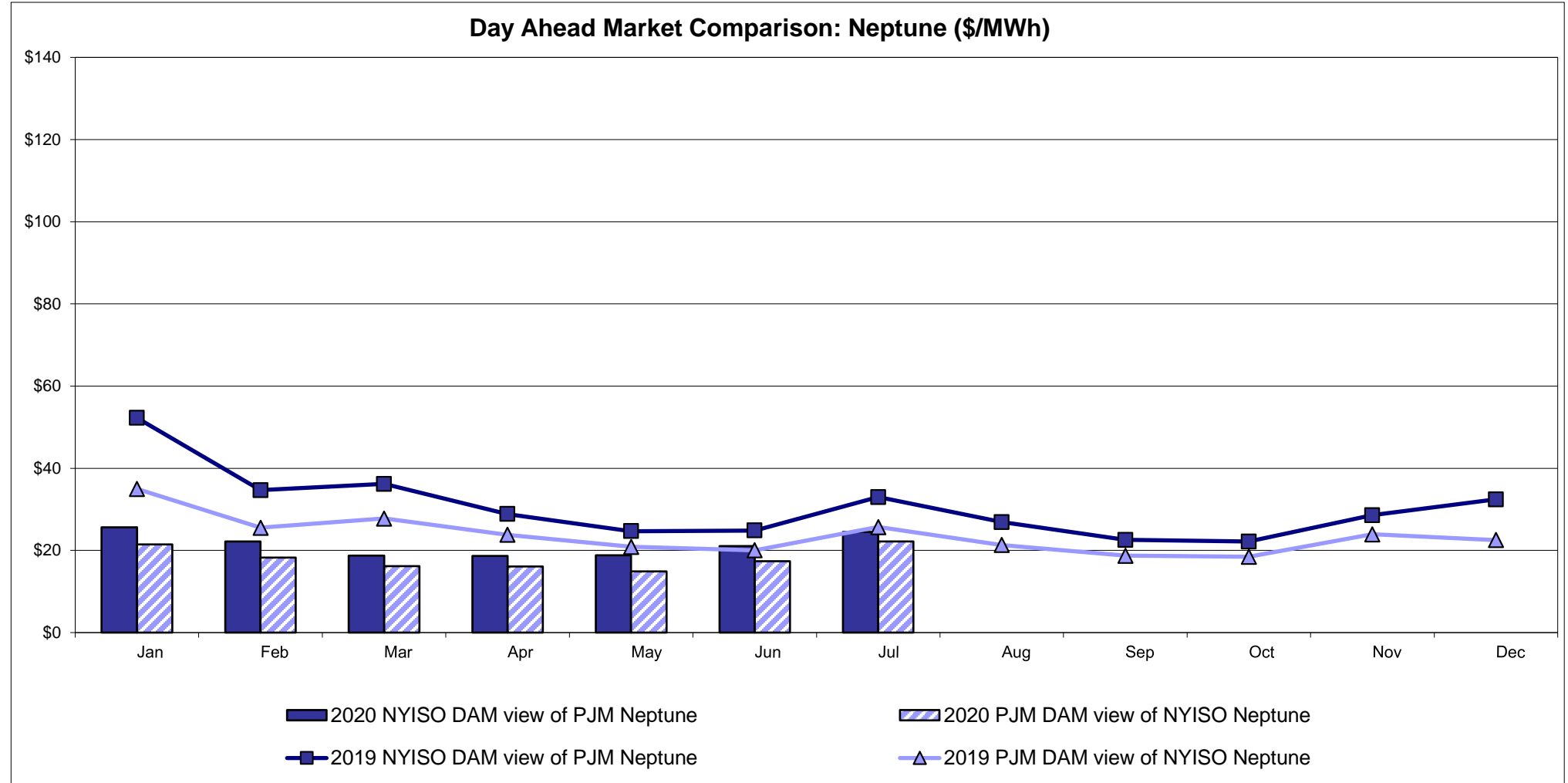
Note:  
ISO-NE Forecast is an advisory posting @ 18:00 day before.  
The DAM and R/T prices at the Shorham 13899 interface are used for ISO-NE.  
The DAM and R/T prices at the CSC interface are used for NYISO.

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

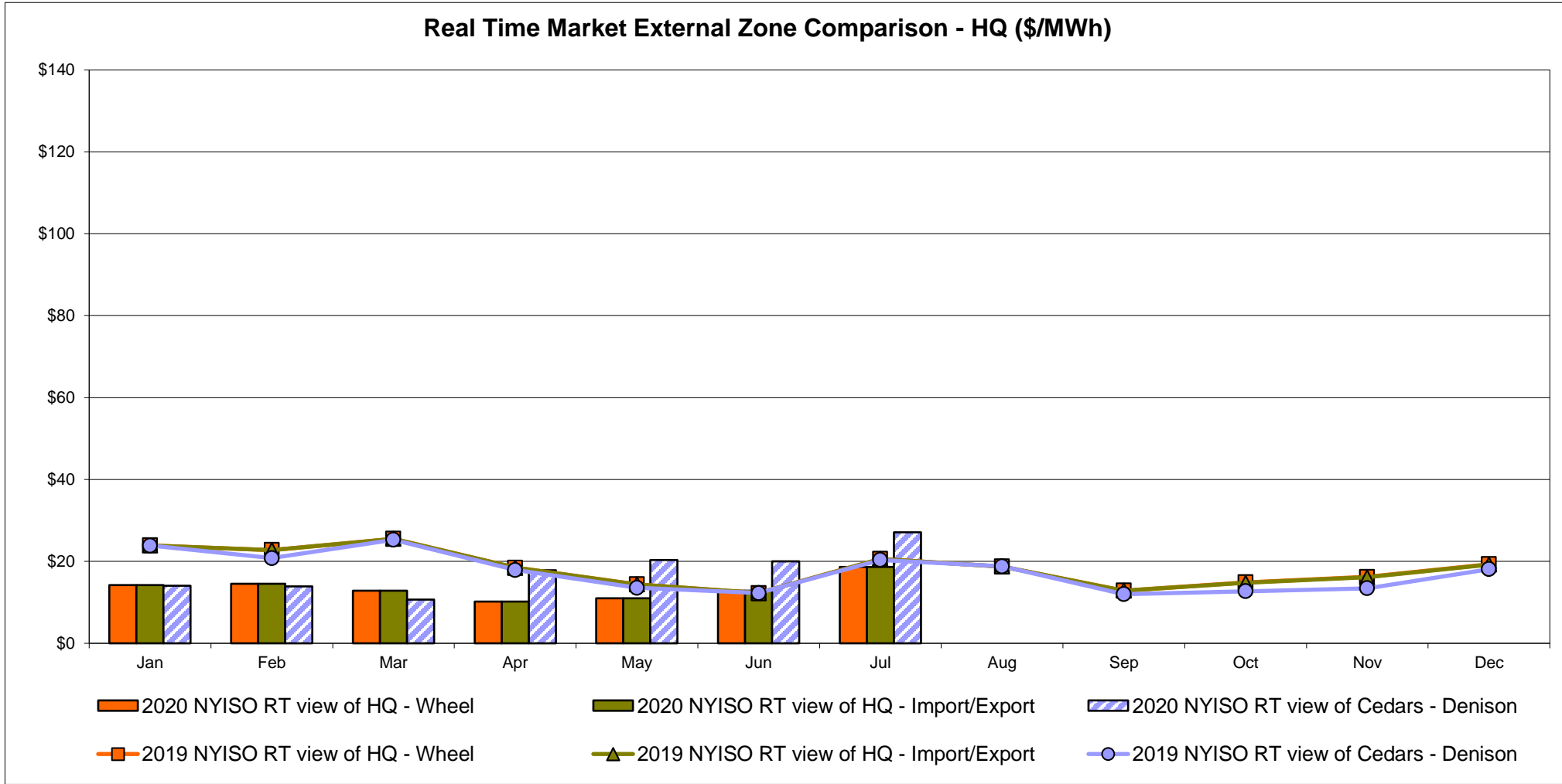
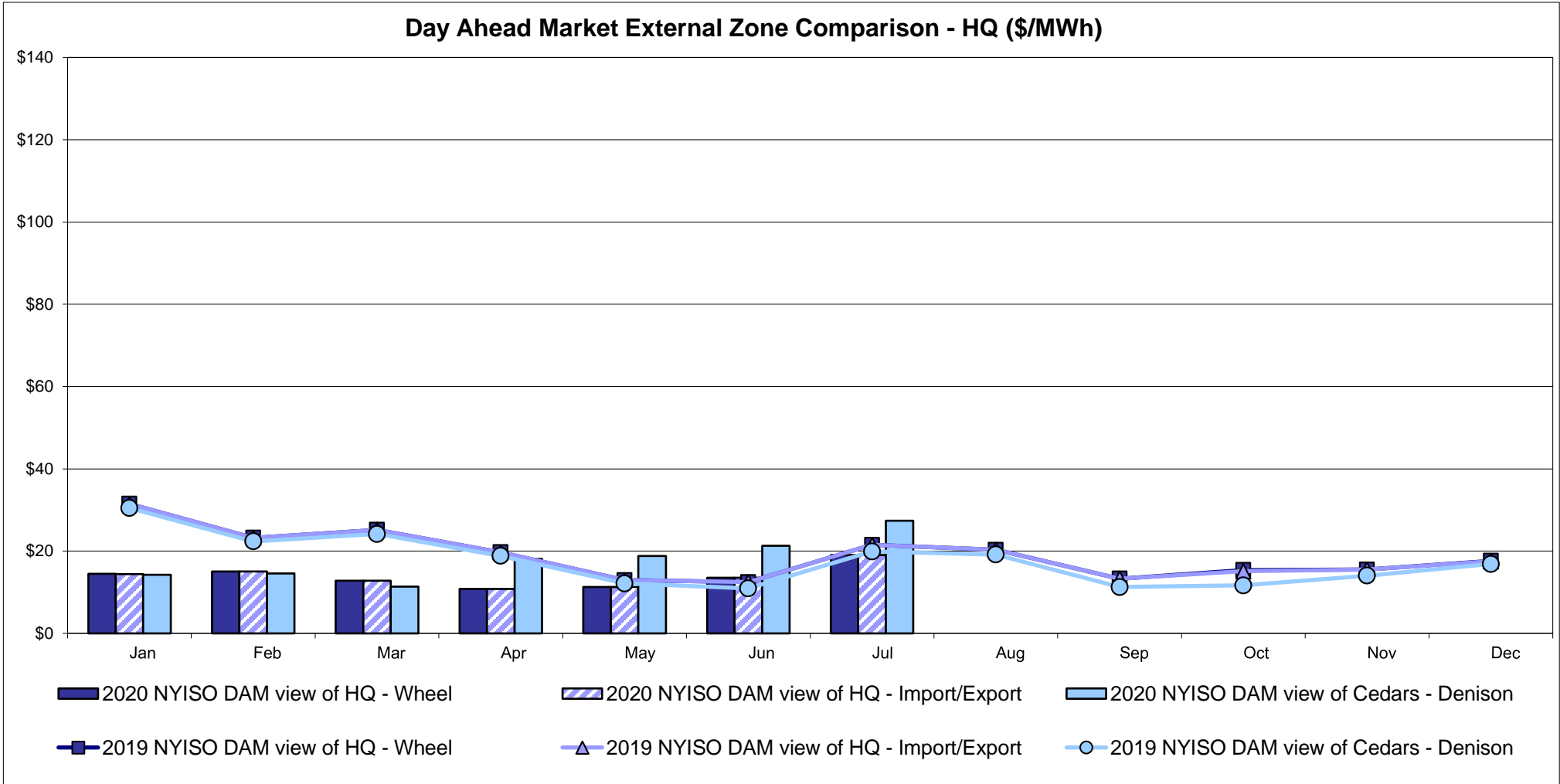


Note:  
ISO-NE Forecast is an advisory posting @ 18:00 day before.  
The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.  
The DAM and R/T prices at the 1385 interface are used for NYISO.

External Controllable Line: Neptune (PJM)



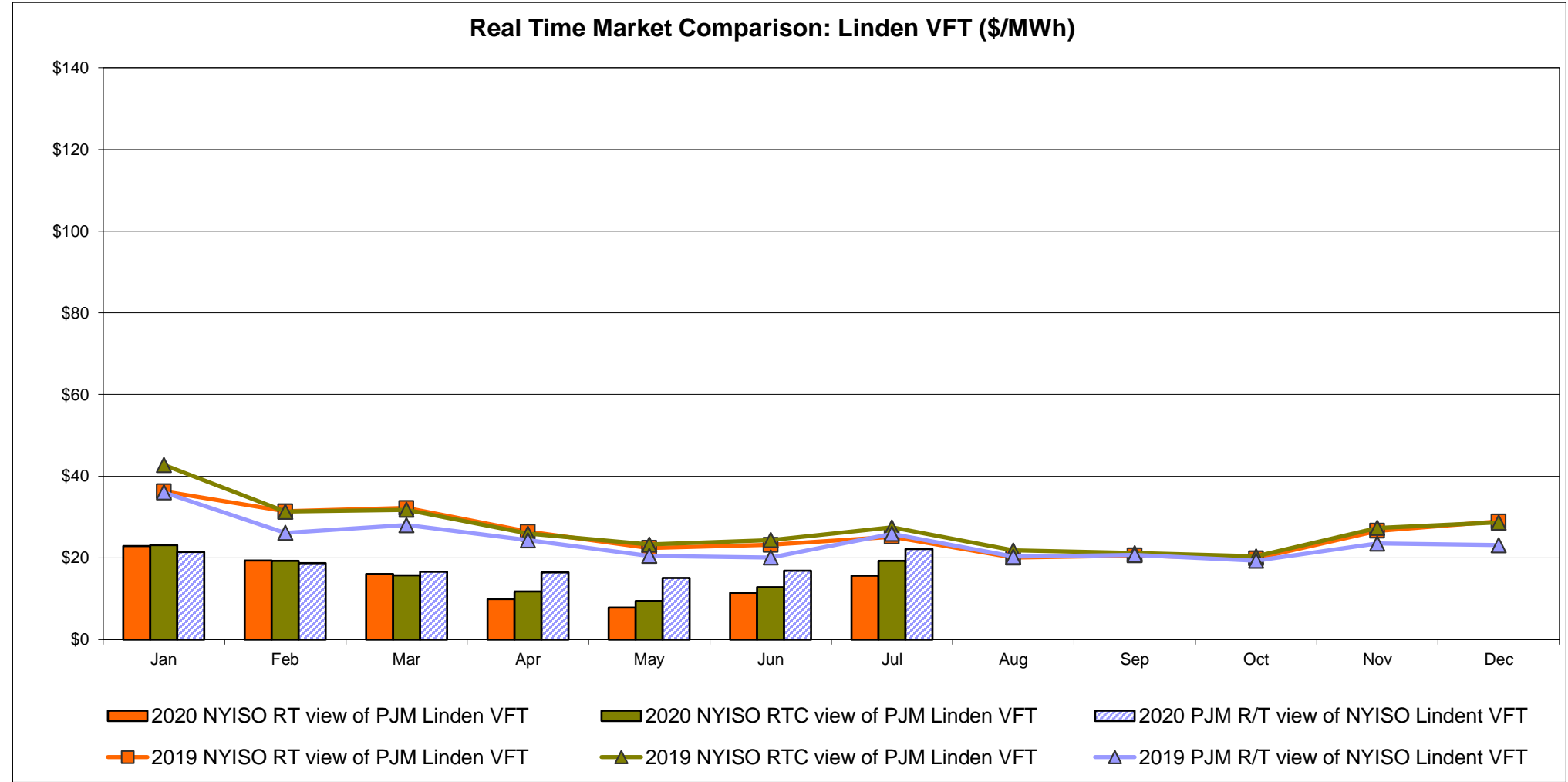
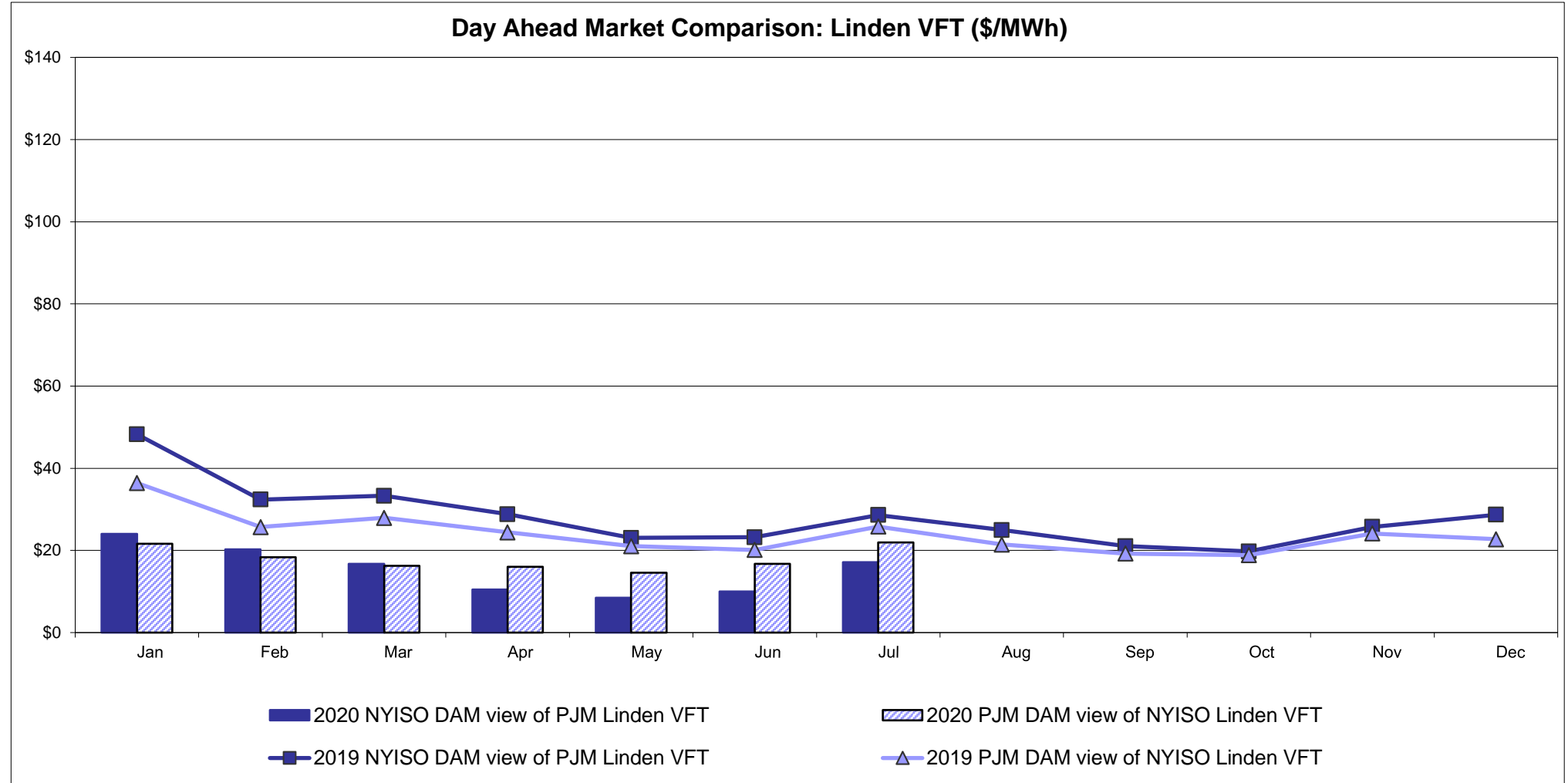
External Comparison Hydro-Quebec



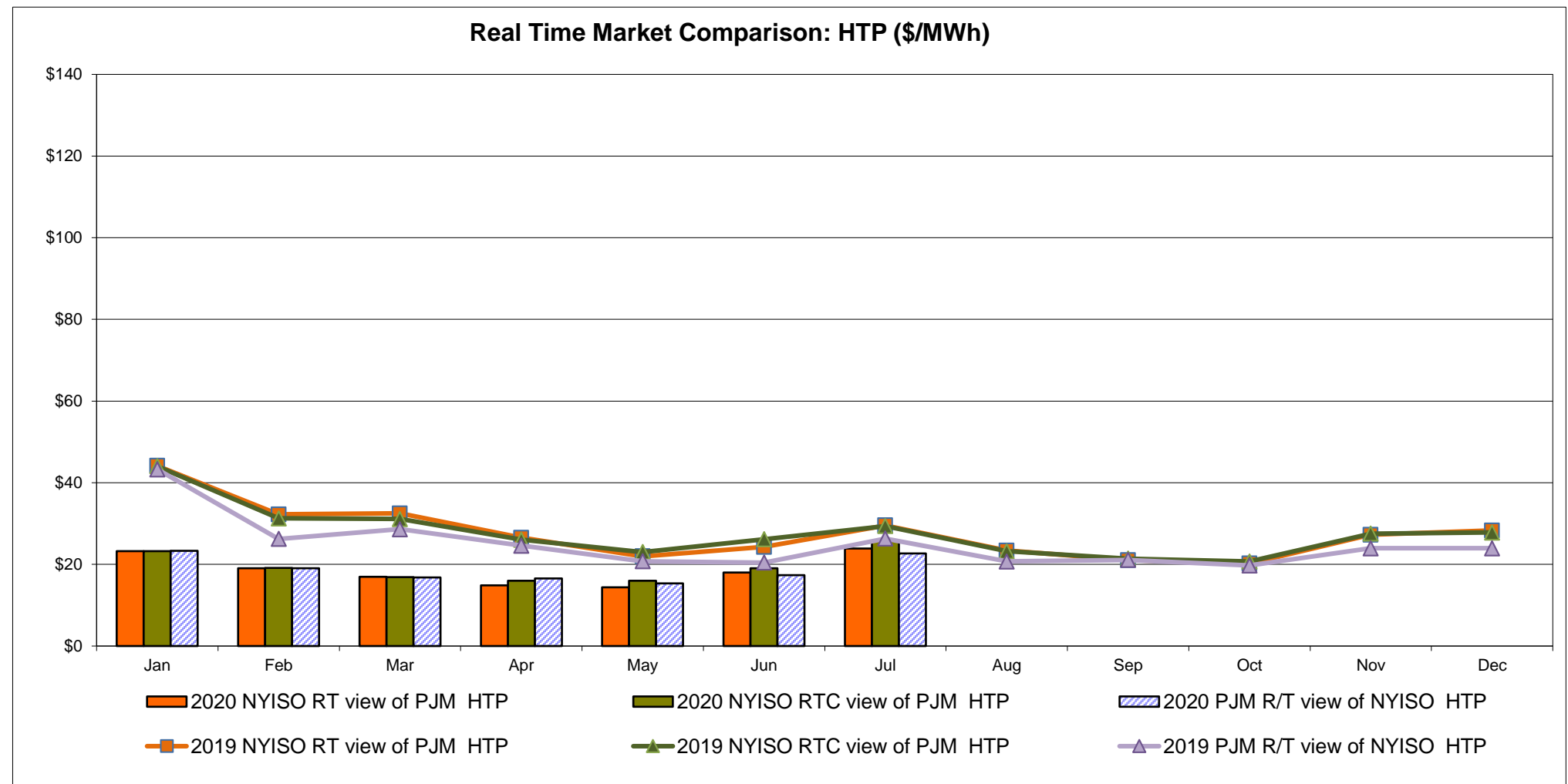
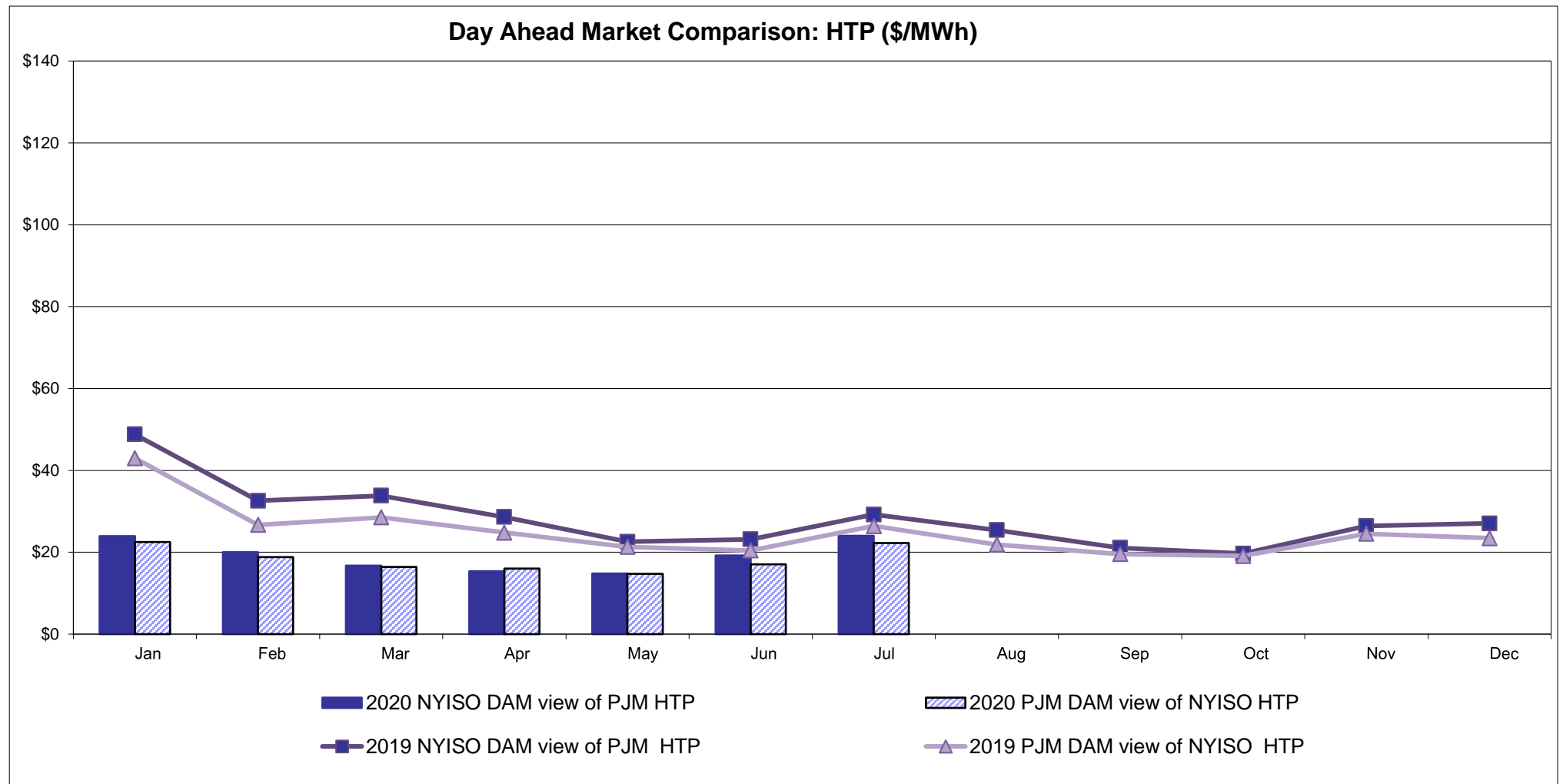
Note:  
Hydro-Quebec Prices are unavailable.



External Controllable Line: Linden VFT (PJM)



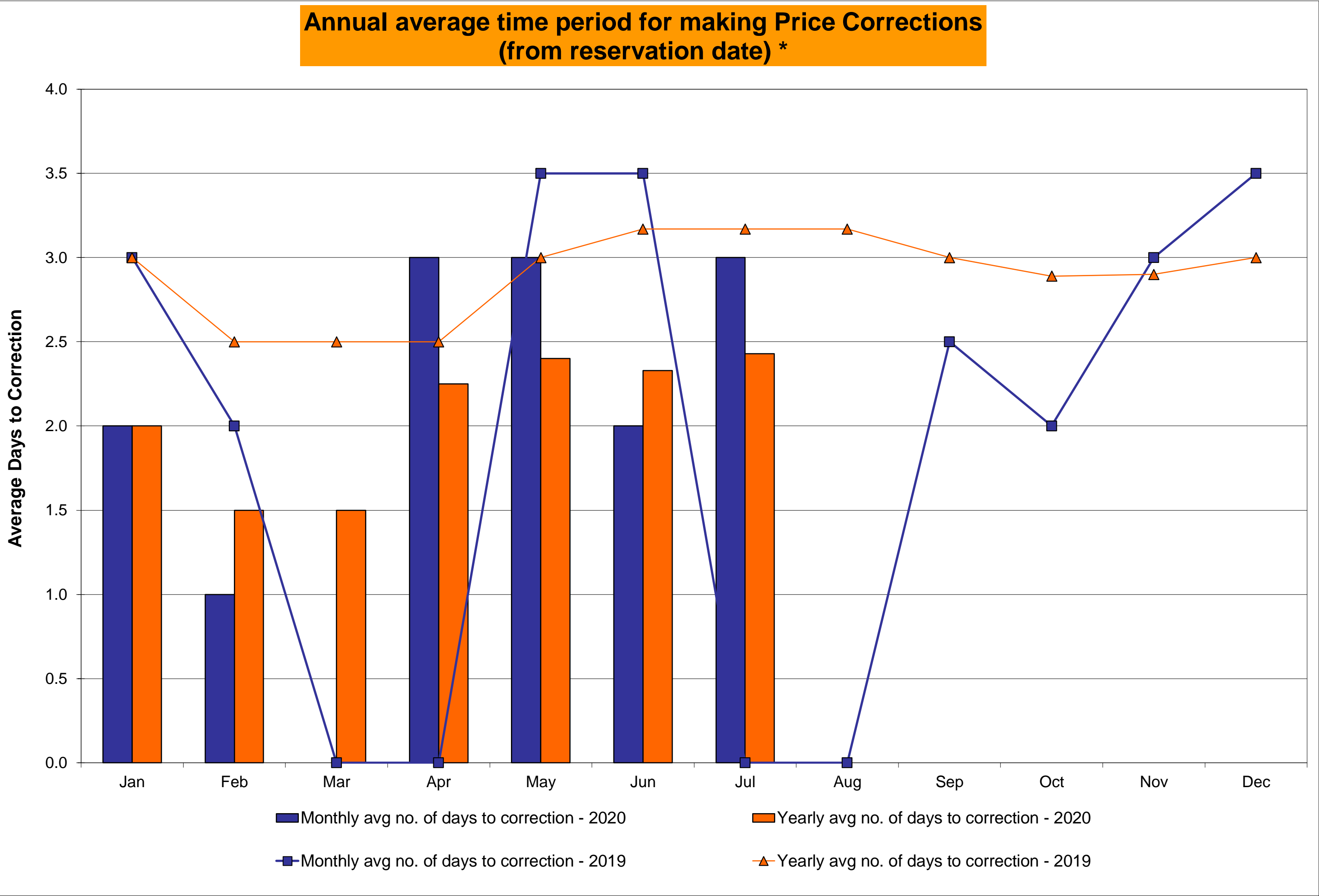
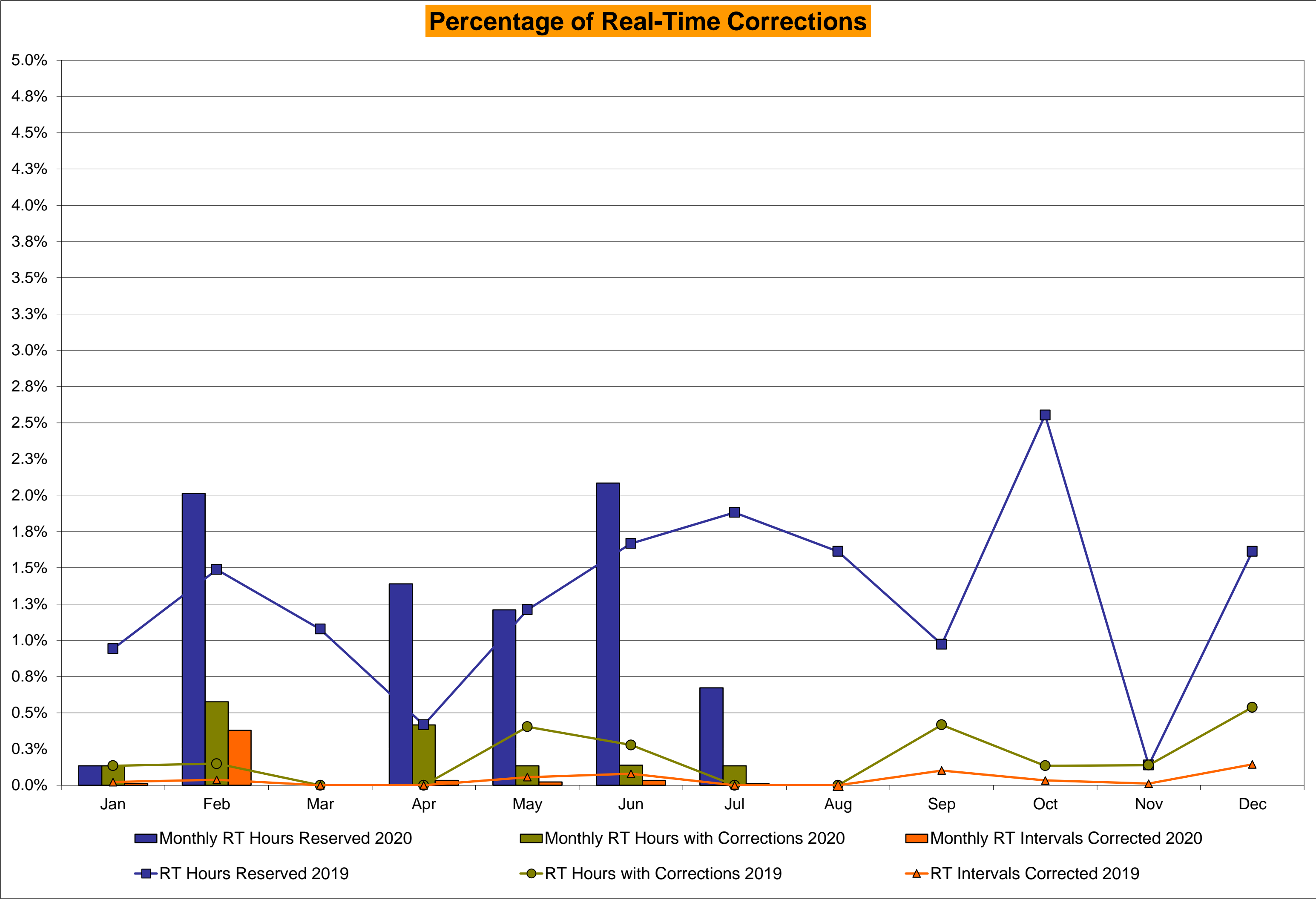
External Controllable Line: Hudson (PJM)



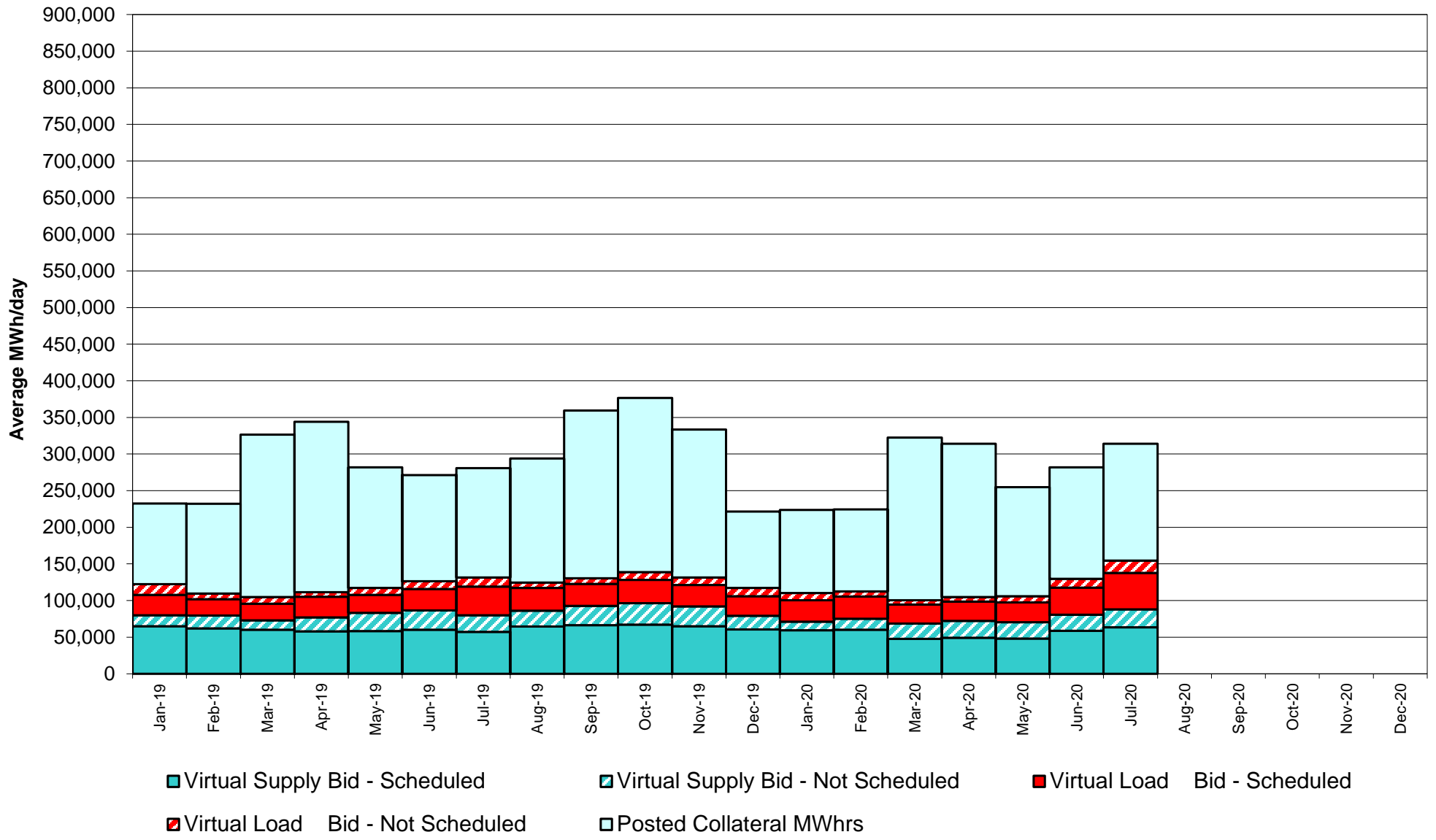
## NYISO Real Time Price Correction Statistics

<b>2020</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Hour Corrections</u></b>													
Number of hours with corrections	in the month	1	4	0	3	1	1	1					
Number of hours	in the month	744	696	743	720	744	720	744					
% of hours with corrections	in the month	0.13%	0.57%	0.00%	0.42%	0.13%	0.14%	0.13%					
% of hours with corrections	year-to-date	0.13%	0.35%	0.23%	0.28%	0.25%	0.23%	0.22%					
<b><u>Interval Corrections</u></b>													
Number of intervals corrected	in the month	1	32	0	3	2	3	1					
Number of intervals	in the month	9,088	8,460	9,011	8,776	9,030	8,826	9,128					
% of intervals corrected	in the month	0.01%	0.38%	0.00%	0.03%	0.02%	0.03%	0.01%					
% of intervals corrected	year-to-date	0.01%	0.19%	0.12%	0.10%	0.09%	0.08%	0.07%					
<b><u>Hours Reserved</u></b>													
Number of hours reserved	in the month	1	14	0	10	9	15	5					
Number of hours	in the month	744	696	743	720	744	720	744					
% of hours reserved	in the month	0.13%	2.01%	0.00%	1.39%	1.21%	2.08%	0.67%					
% of hours reserved	year-to-date	0.13%	1.04%	0.69%	0.86%	0.93%	1.12%	1.06%					
<b><u>Days to Correction</u> *</b>													
Avg. number of days to correction	in the month	2.00	1.00	0.00	3.00	3.00	2.00	3.00					
Avg. number of days to correction	year-to-date	2.00	1.50	1.50	2.25	2.40	2.33	2.43					
<b><u>Days Without Corrections</u></b>													
Days without corrections	in the month	30	28	31	28	30	29	30					
Days without corrections	year-to-date	30	58	89	117	147	176	206					
<b>2019</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Hour Corrections</u></b>													
Number of hours with corrections	in the month	1	1	0	0	3	2	0	0	3	1	1	4
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	0.13%	0.15%	0.00%	0.00%	0.40%	0.28%	0.00%	0.00%	0.42%	0.13%	0.14%	0.54%
% of hours with corrections	year-to-date	0.13%	0.14%	0.09%	0.07%	0.14%	0.16%	0.14%	0.12%	0.15%	0.15%	0.15%	0.18%
<b><u>Interval Corrections</u></b>													
Number of intervals corrected	in the month	2	3	0	0	5	7	0	0	9	3	1	13
Number of intervals	in the month	9,071	8,131	9,008	8,750	9,033	8,863	9,243	9,048	8,820	9,087	8,788	9,021
% of intervals corrected	in the month	0.02%	0.04%	0.00%	0.00%	0.06%	0.08%	0.00%	0.00%	0.10%	0.03%	0.01%	0.14%
% of intervals corrected	year-to-date	0.02%	0.03%	0.02%	0.01%	0.02%	0.03%	0.03%	0.02%	0.03%	0.03%	0.03%	0.04%
<b><u>Hours Reserved</u></b>													
Number of hours reserved	in the month	7	10	8	3	9	12	14	12	7	19	1	12
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours reserved	in the month	0.94%	1.49%	1.08%	0.42%	1.21%	1.67%	1.88%	1.61%	0.97%	2.55%	0.14%	1.61%
% of hours reserved	year-to-date	0.94%	1.20%	1.16%	0.97%	1.02%	1.13%	1.24%	1.29%	1.25%	1.38%	1.27%	1.30%
<b><u>Days to Correction</u> *</b>													
Avg. number of days to correction	in the month	3.00	2.00	0.00	0.00	3.50	3.50	0.00	0.00	2.50	2.00	3.00	3.50
Avg. number of days to correction	year-to-date	3.00	2.50	2.50	2.50	3.00	3.17	3.17	3.17	3.00	2.89	2.90	3.00
<b><u>Days Without Corrections</u></b>													
Days without corrections	in the month	30	27	31	30	29	28	31	31	28	30	29	29
Days without corrections	year-to-date	30	57	88	118	147	175	206	237	265	295	324	353

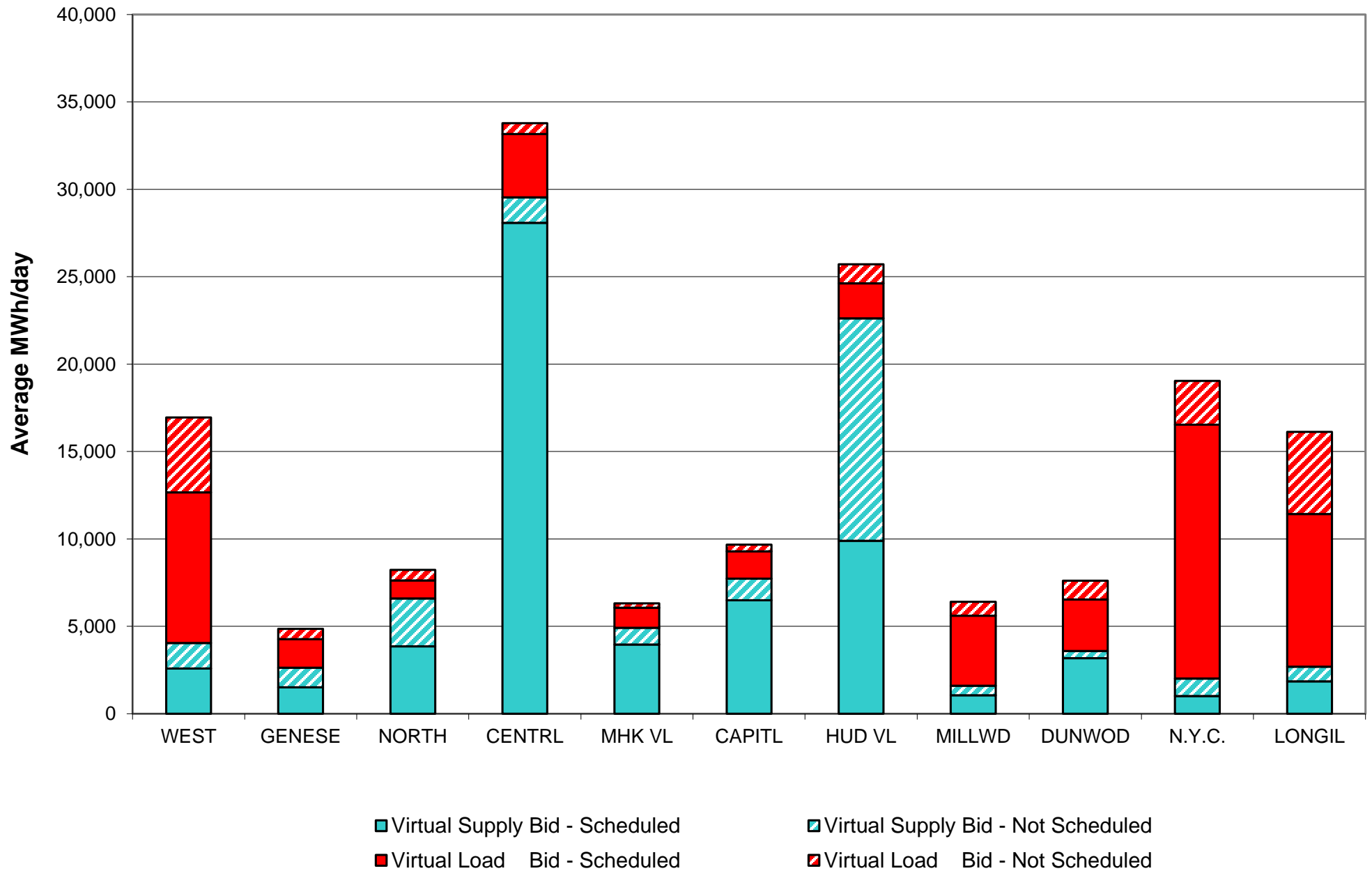
\*Calendar days from reservation date; for June 2018 forward, business days from market date



# NYISO Virtual Trading Average MWh per day



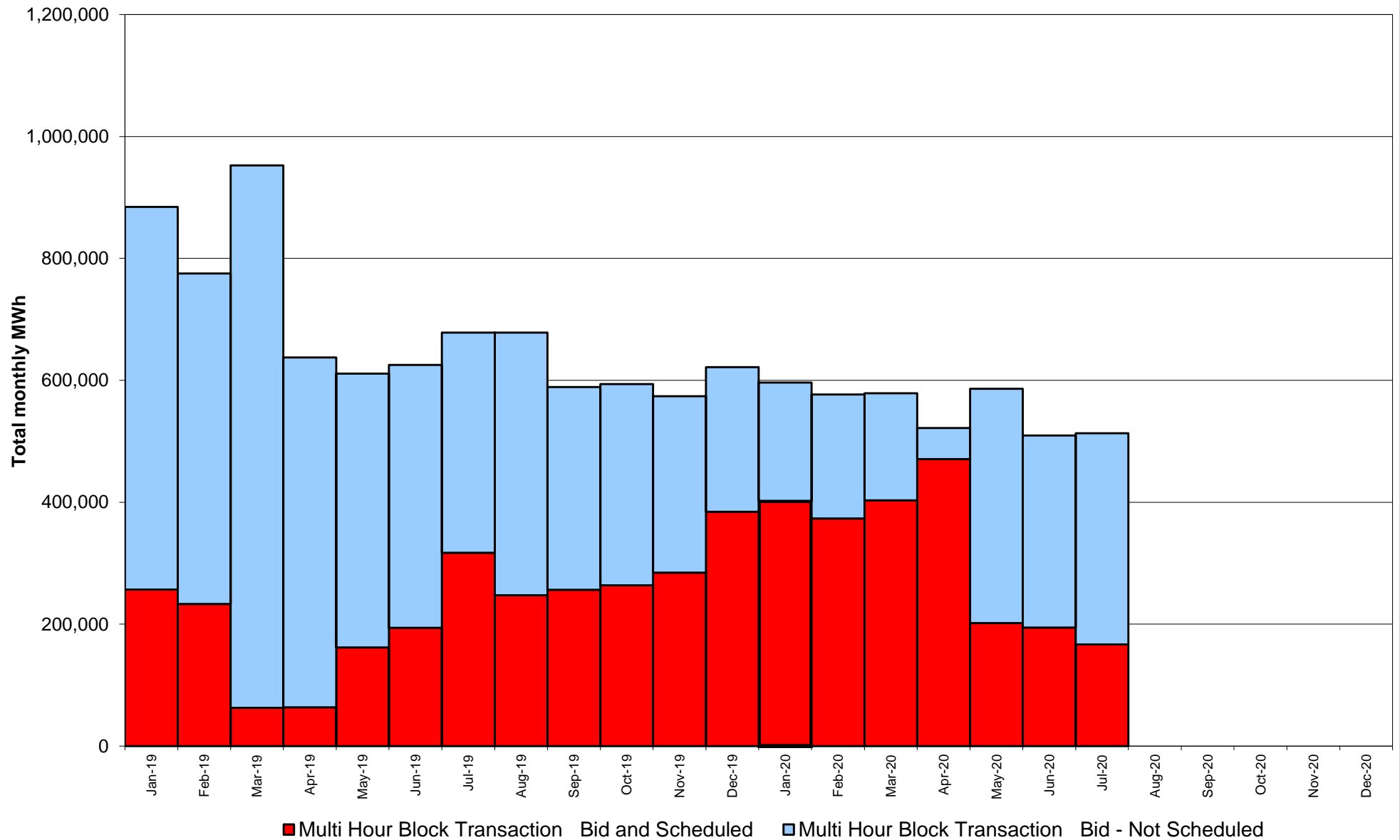
# Virtual Load and Supply Zonal Statistics through July 31, 2020



## Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2020

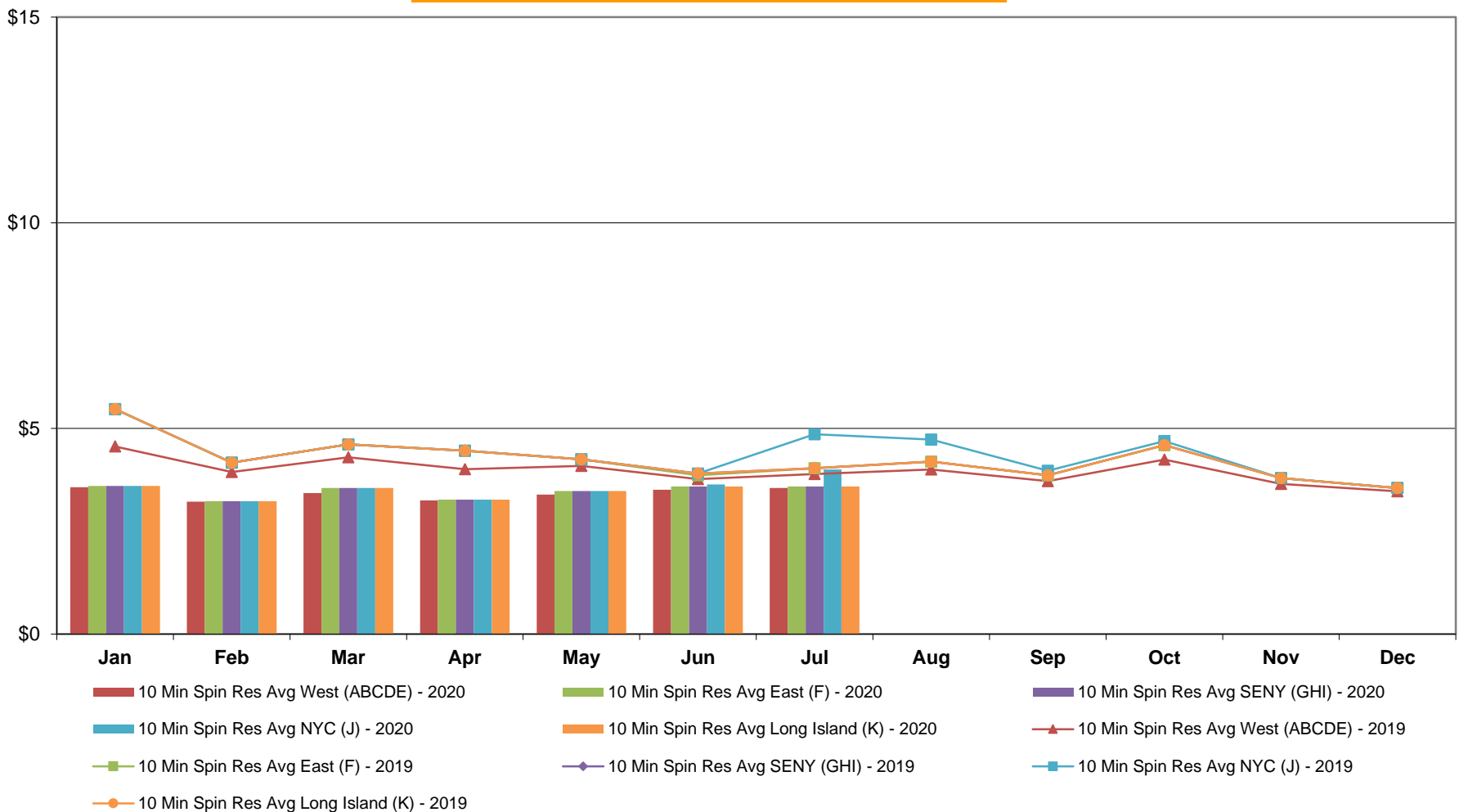
		Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid	
Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled		Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled		Zone	Date	Scheduled	Not Scheduled
WEST	Jan-20	7,809	1,328	1,765	984		MHK VL	Jan-20	747	77	2,155	793		DUNWOD	Jan-20	1,120	241
	Feb-20	8,213	1,248	2,597	947			Feb-20	724	88	2,339	504			Feb-20	536	298
	Mar-20	9,155	1,778	1,637	1,236			Mar-20	481	97	2,455	542			Mar-20	766	109
	Apr-20	10,056	2,032	1,542	1,018			Apr-20	577	86	2,599	888			Apr-20	1,185	423
	May-20	7,943	3,322	2,105	3,397			May-20	586	70	1,878	287			May-20	1,114	196
	Jun-20	8,014	3,448	1,729	1,706			Jun-20	746	100	2,597	770			Jun-20	1,893	1,124
	Jul-20	8,616	4,286	2,582	1,469			Jul-20	1,144	250	3,965	951			Jul-20	2,944	1,069
	Aug-20							Aug-20							Aug-20		
	Sep-20							Sep-20							Sep-20		
	Oct-20							Oct-20							Oct-20		
	Nov-20							Nov-20							Nov-20		
	Dec-20							Dec-20							Dec-20		
GENESE	Jan-20	553	131	1,749	995		CAPITL	Jan-20	1,772	539	3,324	1,235		N.Y.C.	Jan-20	6,699	2,678
	Feb-20	534	79	2,082	640			Feb-20	2,046	418	3,149	673			Feb-20	9,452	1,841
	Mar-20	397	46	2,294	550			Mar-20	1,446	443	3,181	837			Mar-20	4,317	1,126
	Apr-20	422	42	2,940	622			Apr-20	2,367	825	3,335	928			Apr-20	2,089	546
	May-20	356	47	2,051	618			May-20	1,982	151	2,597	541			May-20	2,759	548
	Jun-20	949	163	2,238	939			Jun-20	1,622	328	2,994	472			Jun-20	6,448	1,621
	Jul-20	1,633	590	1,508	1,123			Jul-20	1,547	392	6,489	1,247			Jul-20	14,514	2,512
	Aug-20							Aug-20							Aug-20		
	Sep-20							Sep-20							Sep-20		
	Oct-20							Oct-20							Oct-20		
	Nov-20							Nov-20							Nov-20		
	Dec-20							Dec-20							Dec-20		
NORTH	Jan-20	811	206	5,038	1,765		HUD VL	Jan-20	891	1,274	7,573	2,206		LONGIL	Jan-20	5,640	2,824
	Feb-20	402	276	5,144	2,014			Feb-20	886	722	8,517	5,838			Feb-20	4,795	1,683
	Mar-20	335	293	5,075	2,315			Mar-20	944	634	6,811	10,029			Mar-20	5,402	1,429
	Apr-20	321	210	5,153	2,057			Apr-20	1,001	813	5,955	12,414			Apr-20	5,033	1,036
	May-20	2,305	381	3,547	1,757			May-20	1,088	806	5,998	12,839			May-20	5,948	2,125
	Jun-20	1,277	696	3,692	2,128			Jun-20	1,877	745	9,825	12,284			Jun-20	8,361	2,434
	Jul-20	1,031	612	3,848	2,745			Jul-20	2,011	1,091	9,899	12,718			Jul-20	8,727	4,710
	Aug-20							Aug-20							Aug-20		
	Sep-20							Sep-20							Sep-20		
	Oct-20							Oct-20							Oct-20		
	Nov-20							Nov-20							Nov-20		
	Dec-20							Dec-20							Dec-20		
CENTRL	Jan-20	3,050	214	28,503	541		MILLWD	Jan-20	270	68	1,646	213		NYISO	Jan-20	29,361	9,580
	Feb-20	2,567	118	27,919	487			Feb-20	281	68	1,811	229			Feb-20	30,434	6,838
	Mar-20	2,340	113	17,986	481			Mar-20	494	19	1,844	174			Mar-20	26,077	6,087
	Apr-20	2,568	131	20,490	491			Apr-20	563	55	1,510	90			Apr-20	26,181	6,200
	May-20	2,736	296	22,414	414			May-20	502	198	1,442	76			May-20	27,319	8,140
	Jun-20	4,053	770	28,114	903			Jun-20	1,756	558	1,789	312			Jun-20	36,995	11,988
	Jul-20	3,622	620	28,085	1,455			Jul-20	4,003	800	1,054	553			Jul-20	49,792	16,933
	Aug-20							Aug-20							Aug-20		
	Sep-20							Sep-20							Sep-20		
	Oct-20							Oct-20							Oct-20		
	Nov-20							Nov-20							Nov-20		
	Dec-20							Dec-20							Dec-20		

# NYISO Multi Hour Block Transactions Monthly Total MWh

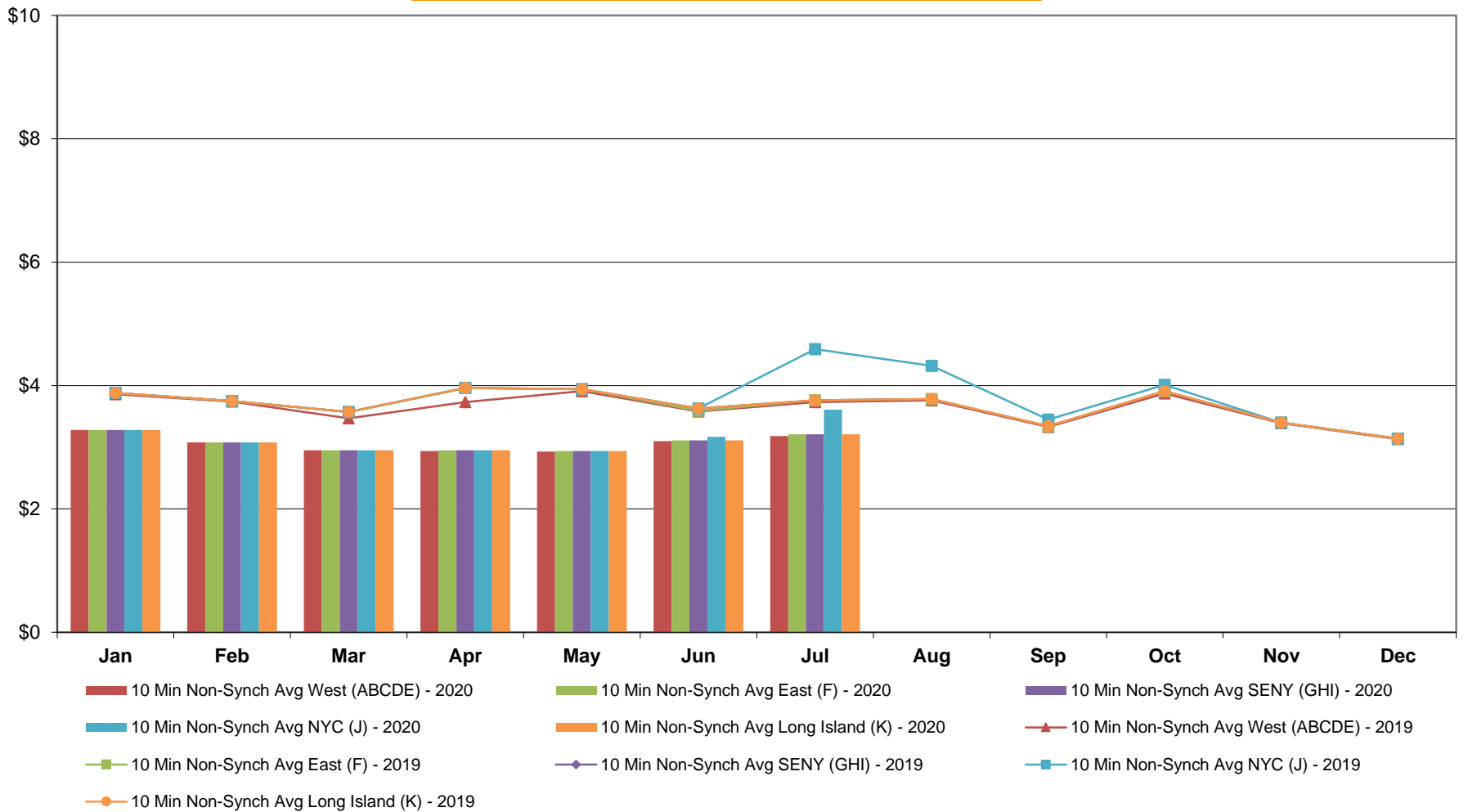




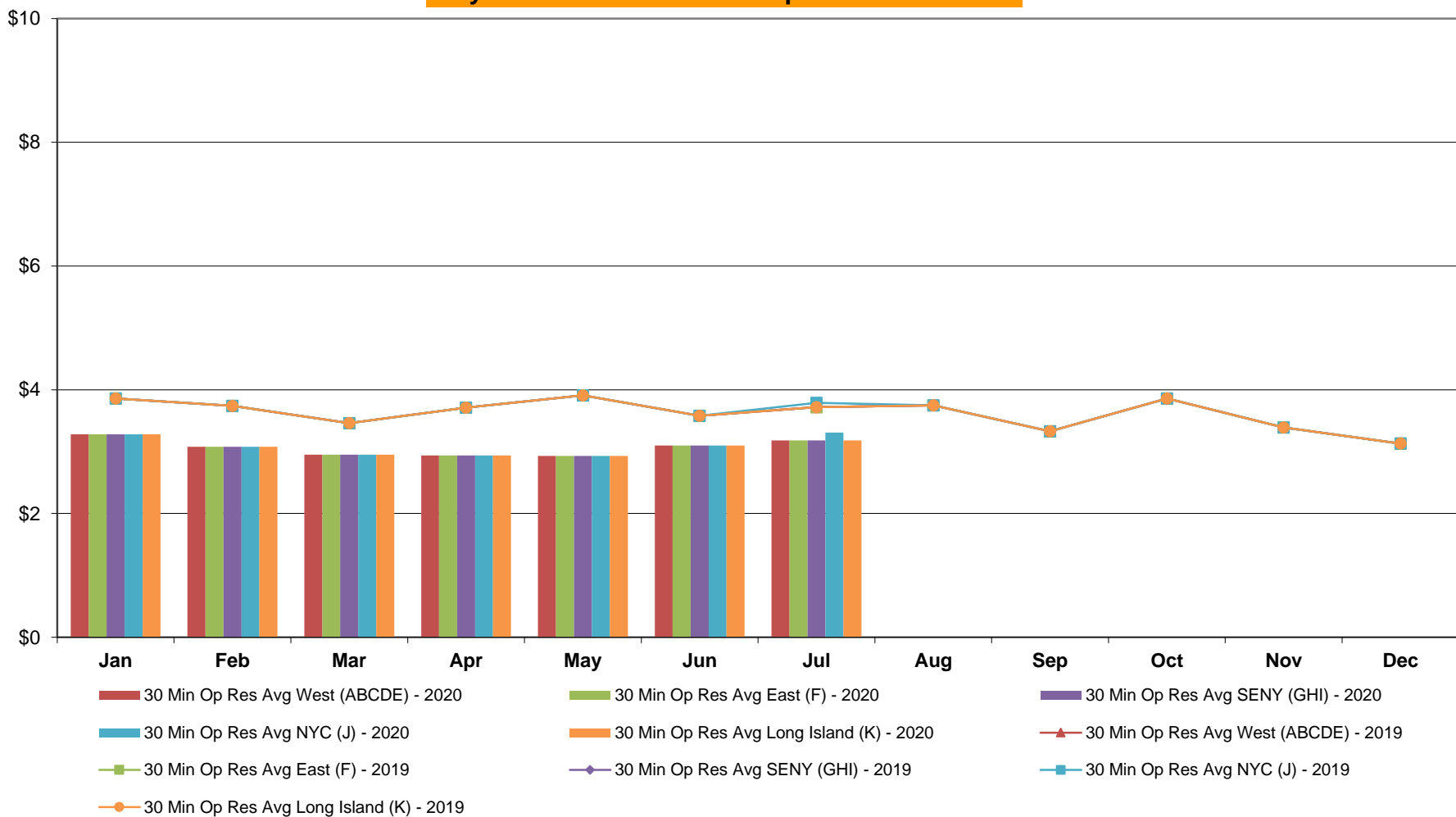
**NYISO Monthly Average Ancillary Service Prices  
Day Ahead Market - 10 Min Spin 2019 - 2020**



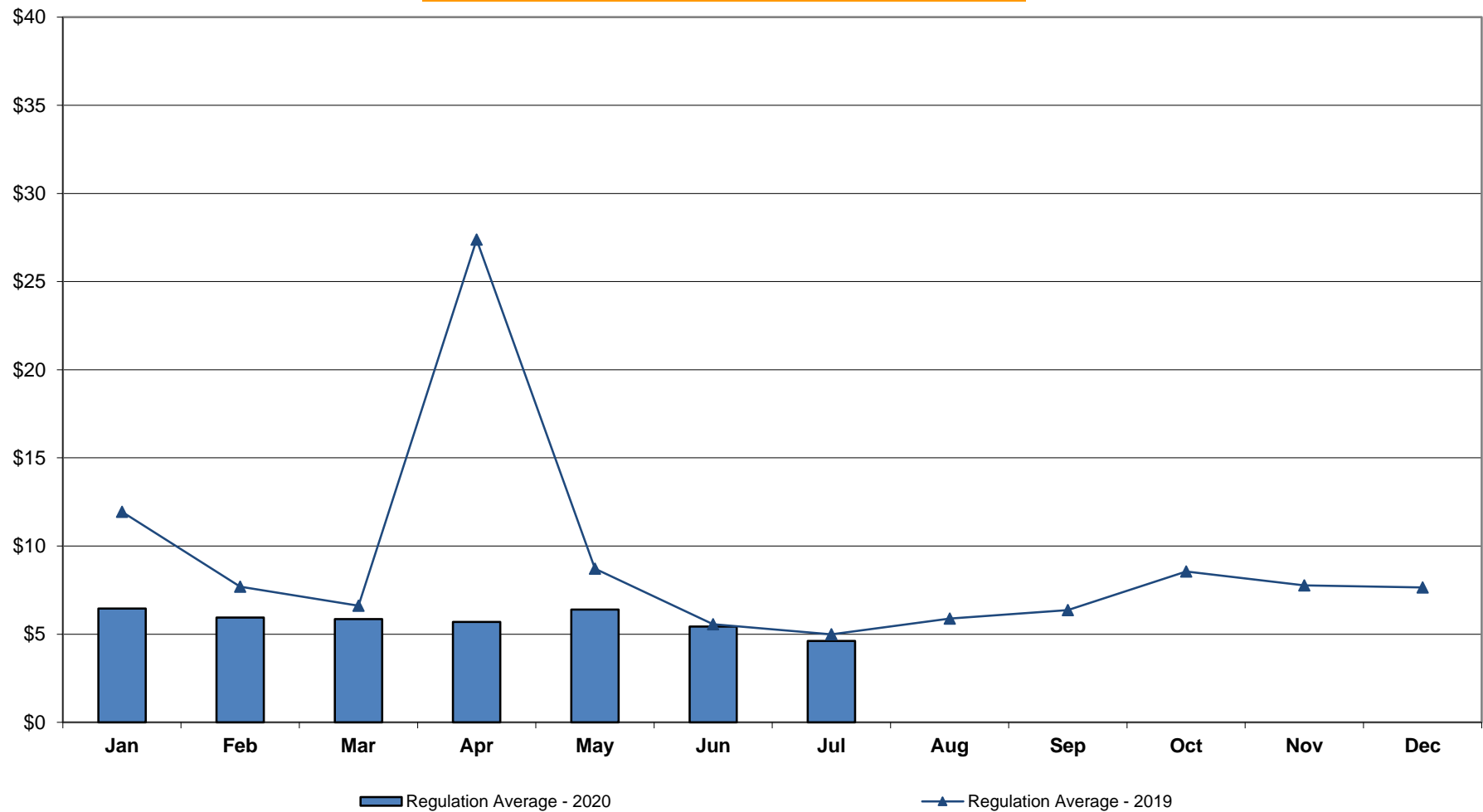
**NYISO Monthly Average Ancillary Service Prices  
Day Ahead Market - 10 Min Non-Synch 2019 - 2020**



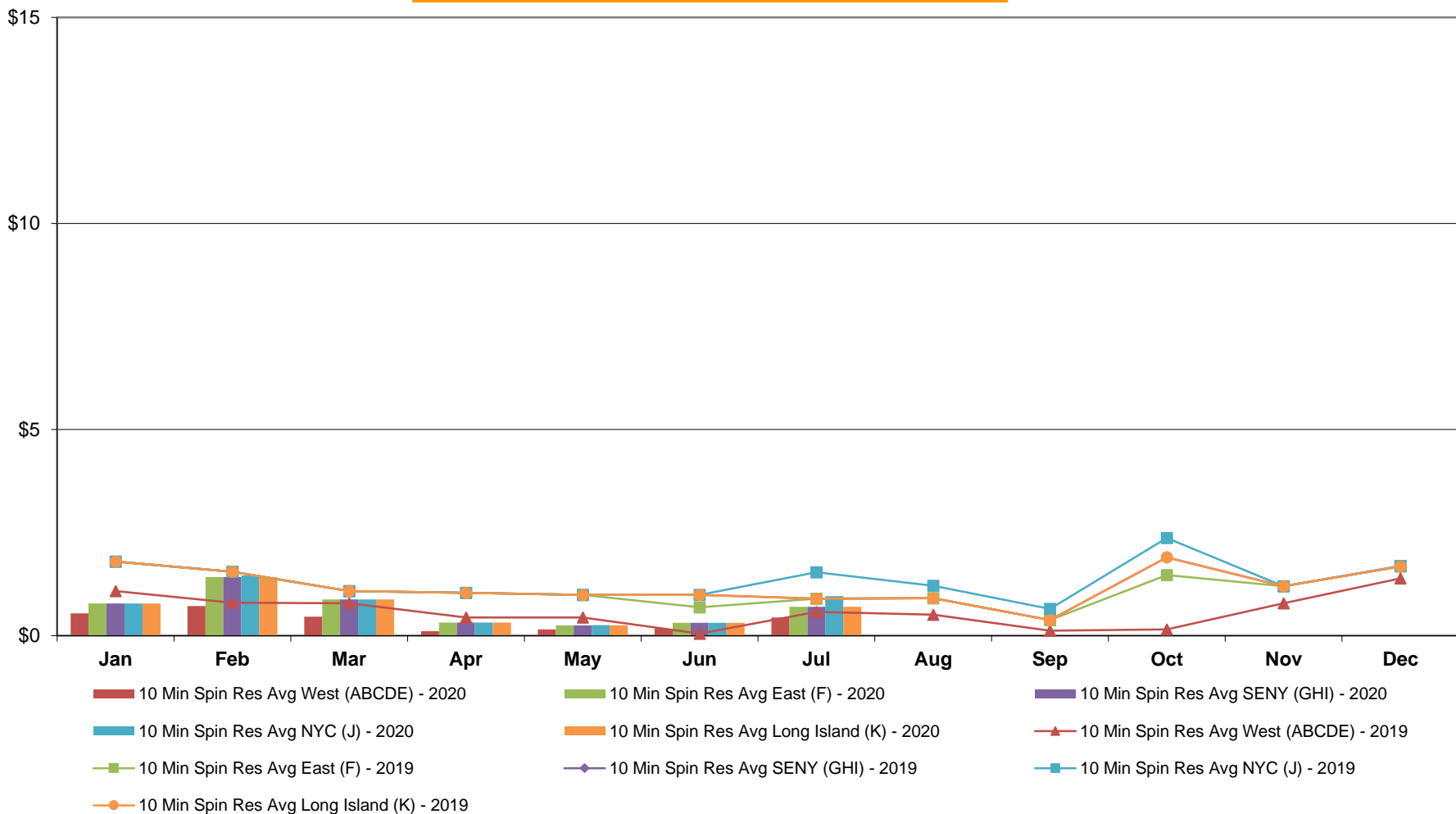
# **NYISO Monthly Average Ancillary Service Prices** **Day Ahead Market - 30 Min Op Res 2019 - 2020**



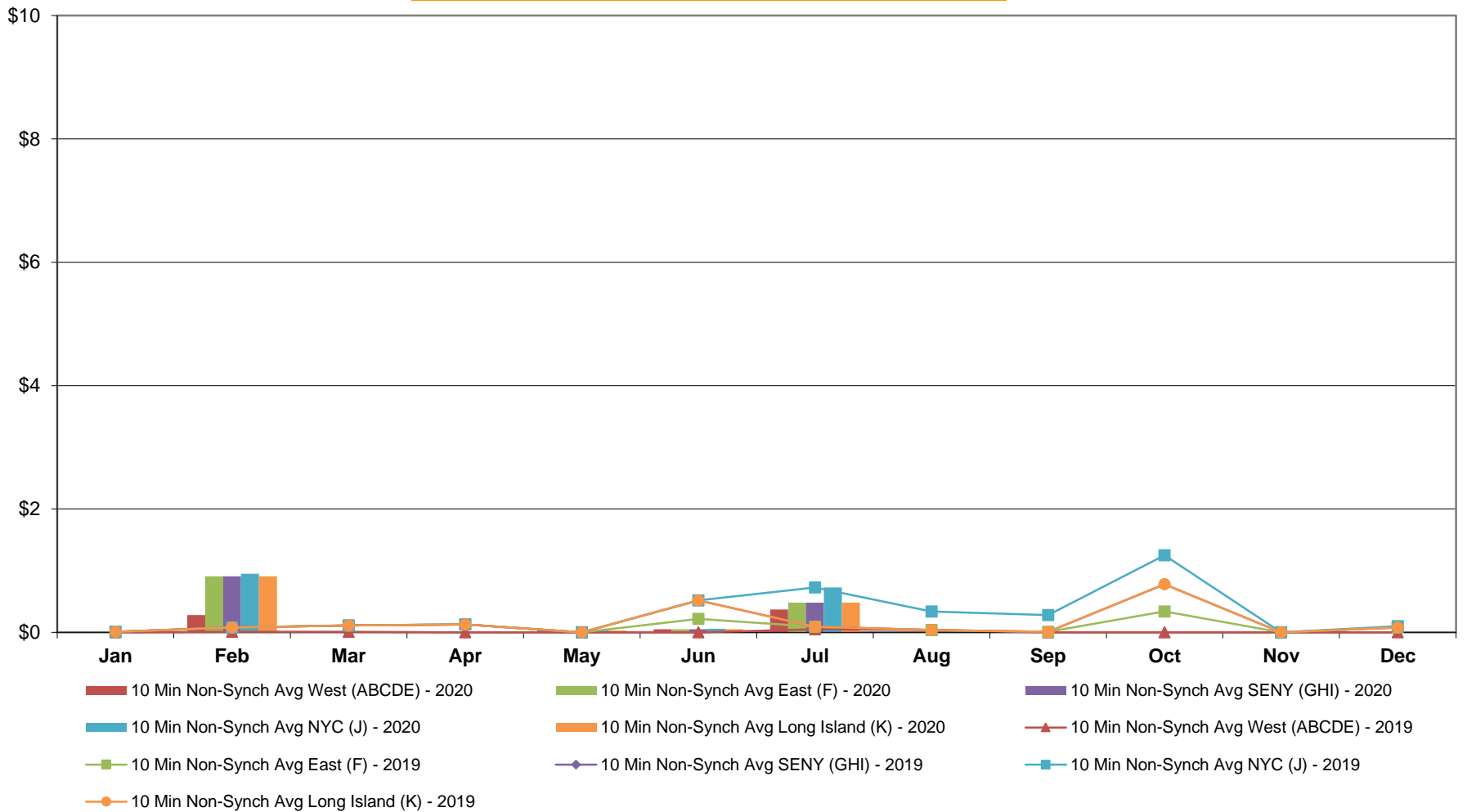
**NYISO Monthly Average Ancillary Service Prices  
Day Ahead Market - Regulation 2019 - 2020**



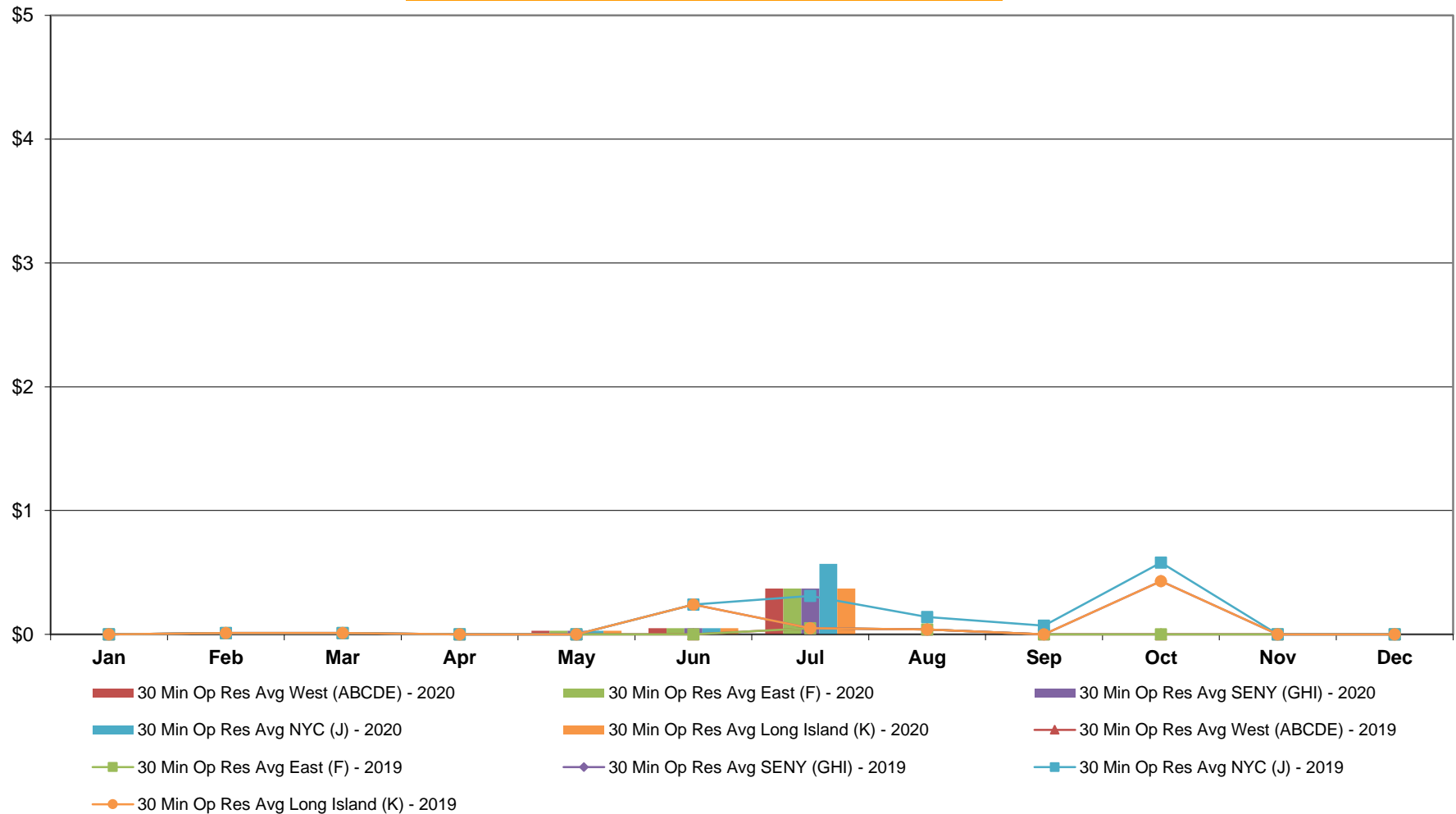
# **NYISO Monthly Average Ancillary Service Prices RTC Market - 10 Min Spin 2019 - 2020**



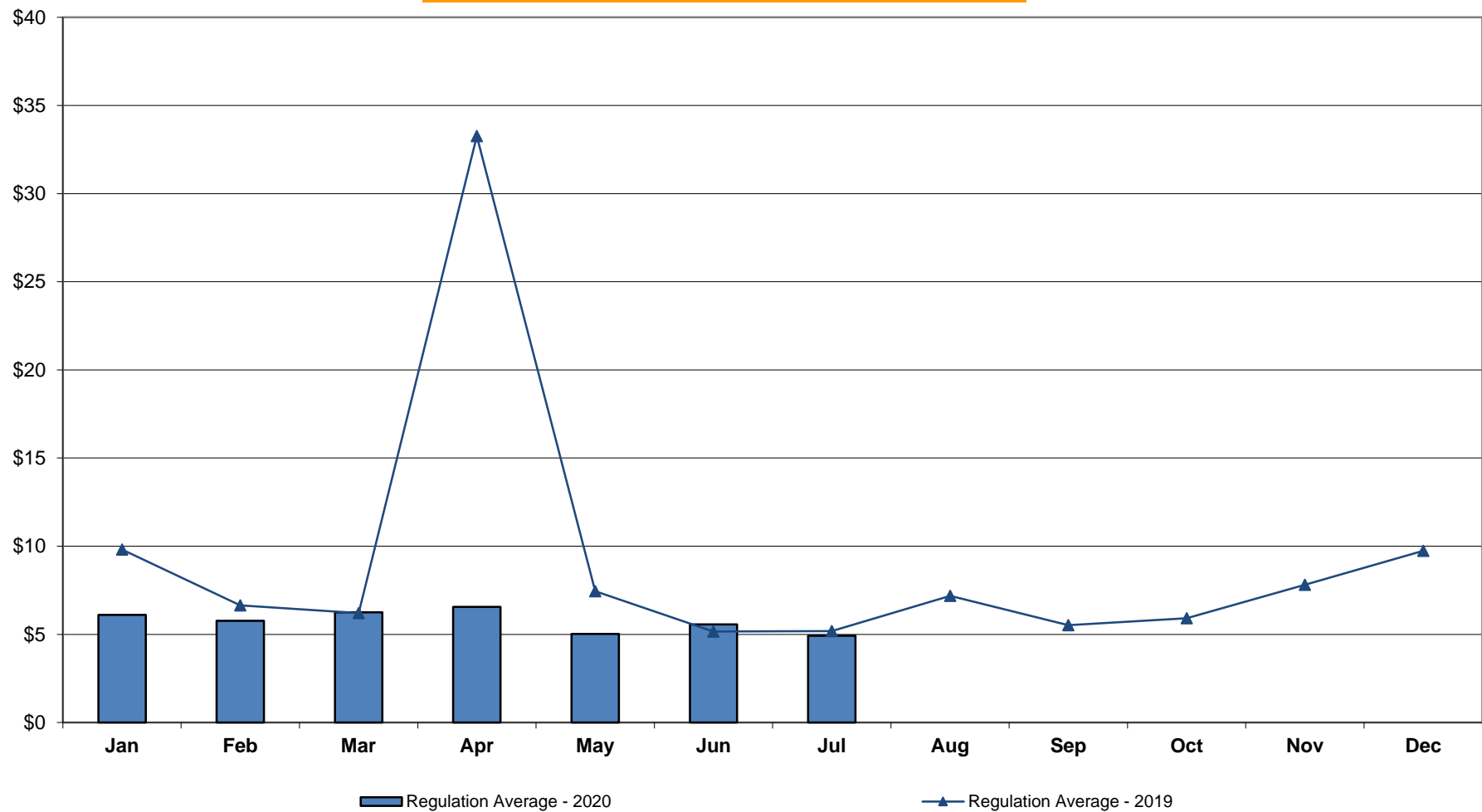
**NYISO Monthly Average Ancillary Service Prices  
RTC Market - 10 Min Non-Synch 2019 - 2020**



# **NYISO Monthly Average Ancillary Service Prices RTC Market - 30 Min Op Res 2019 - 2020**

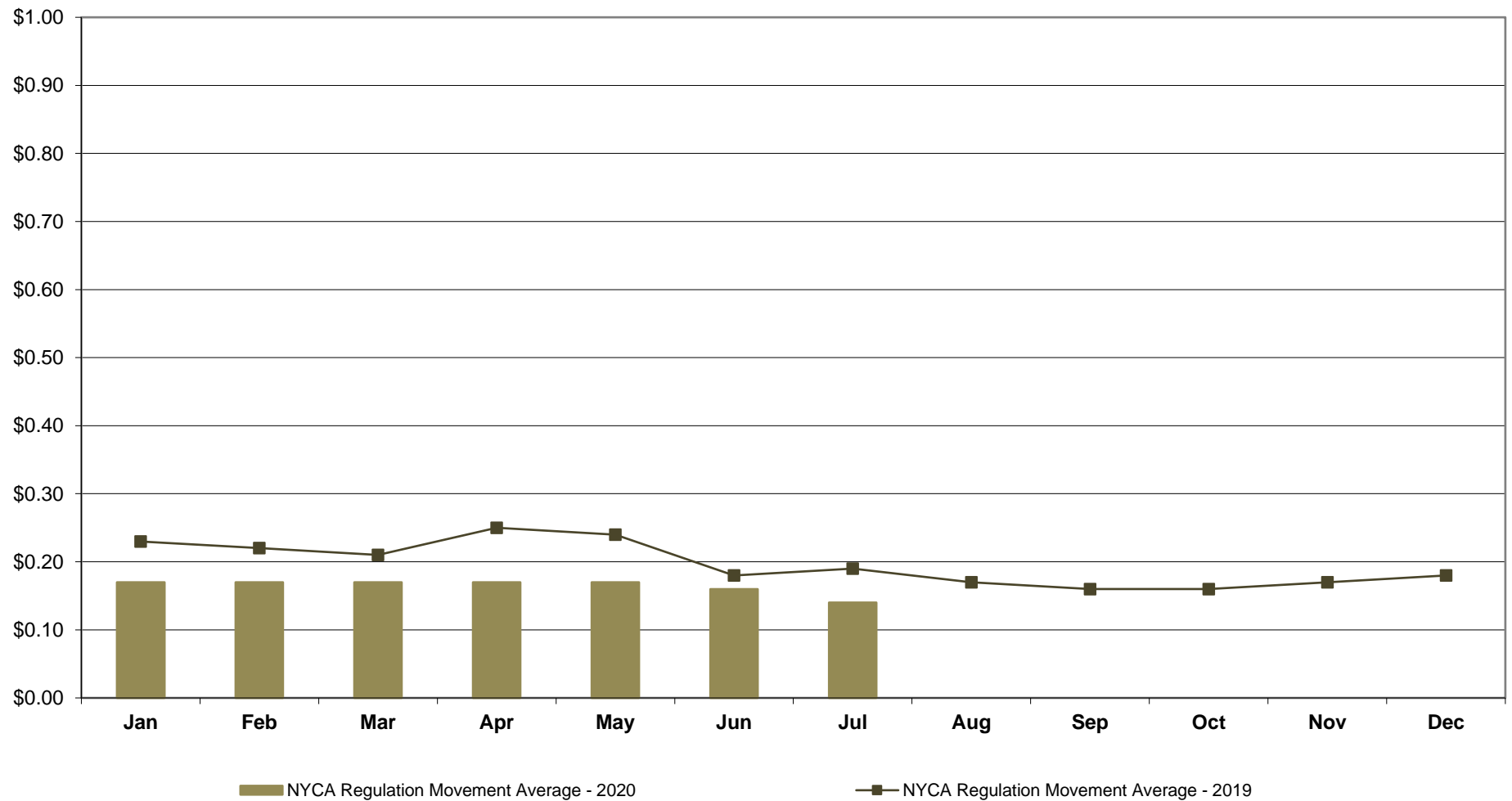


**NYISO Monthly Average Ancillary Service Prices  
RTC Market - Regulation 2019 - 2020**

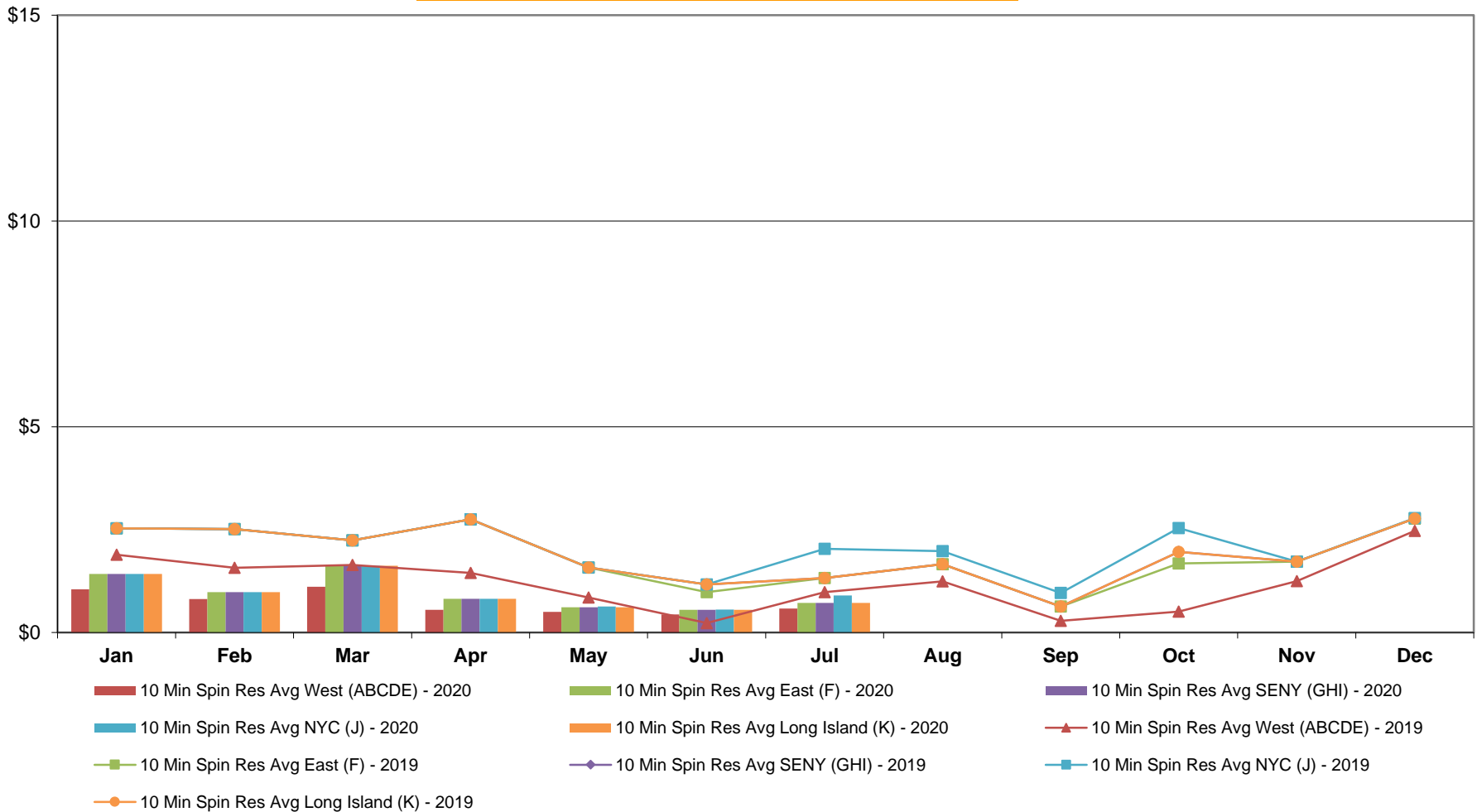




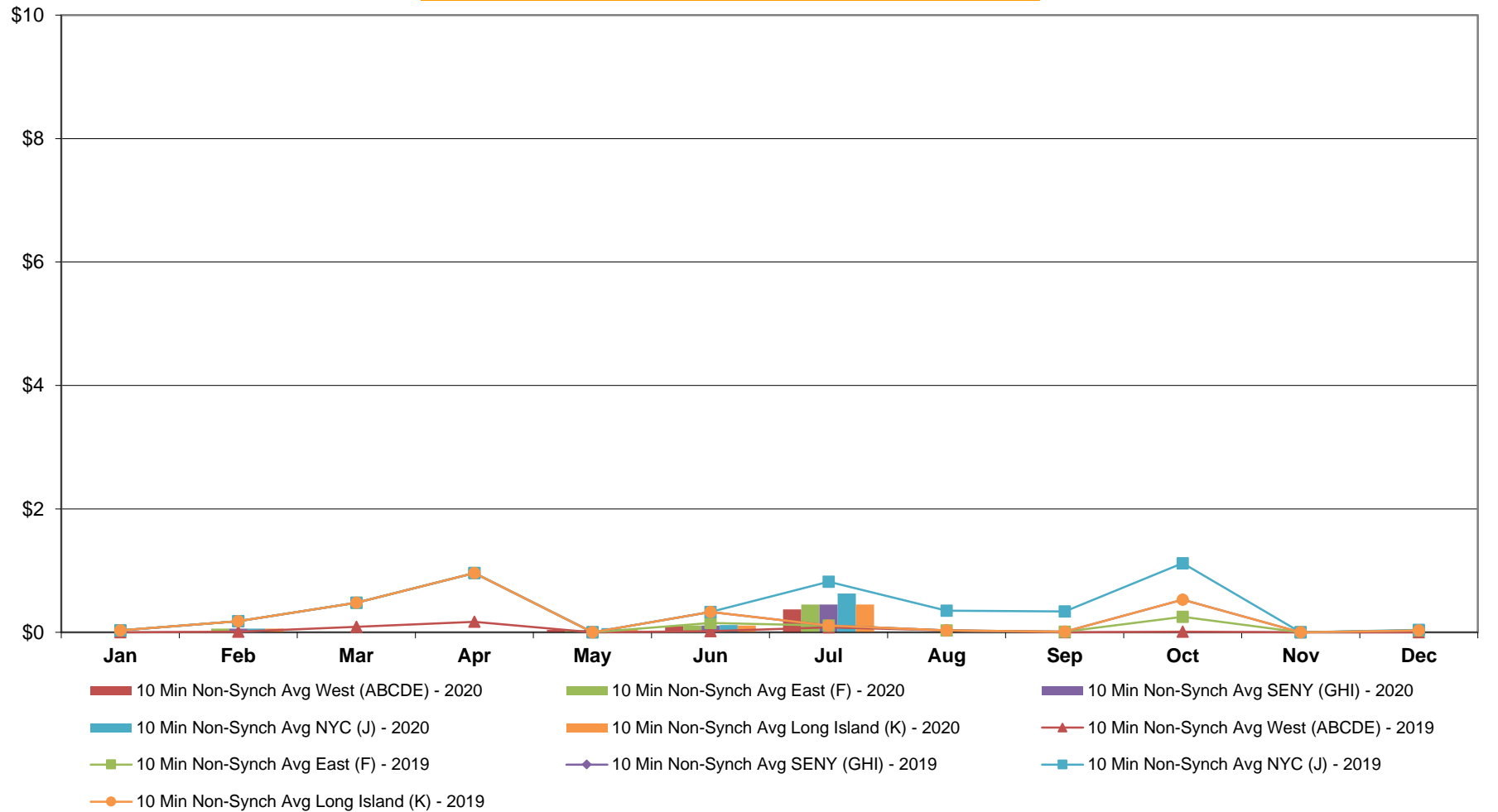
# **NYISO Monthly Average Ancillary Service Prices RTC Market - Regulation Movement 2019 - 2020**



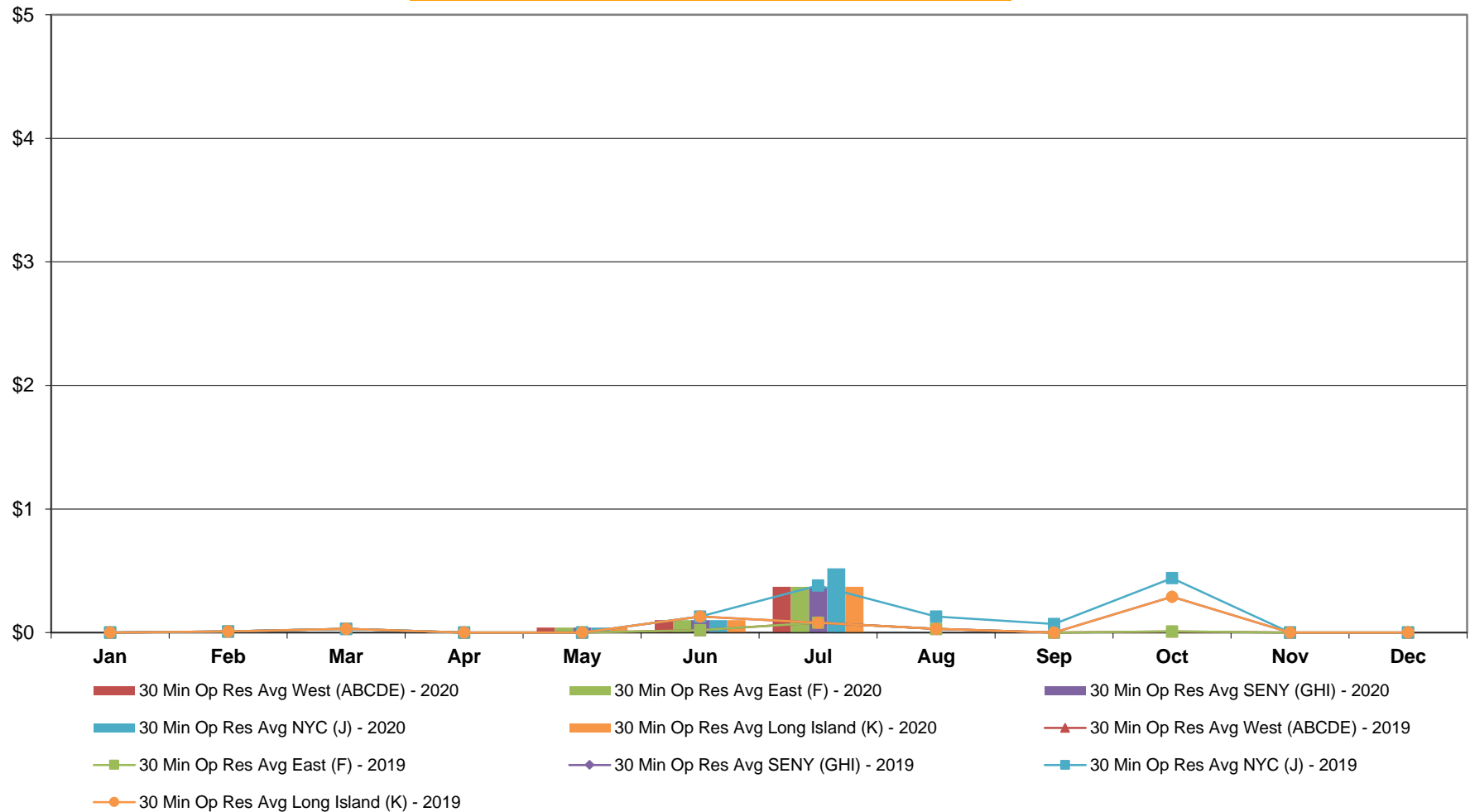
# **NYISO Monthly Average Ancillary Service Prices Real Time Market - 10 Min Spin 2019 - 2020**



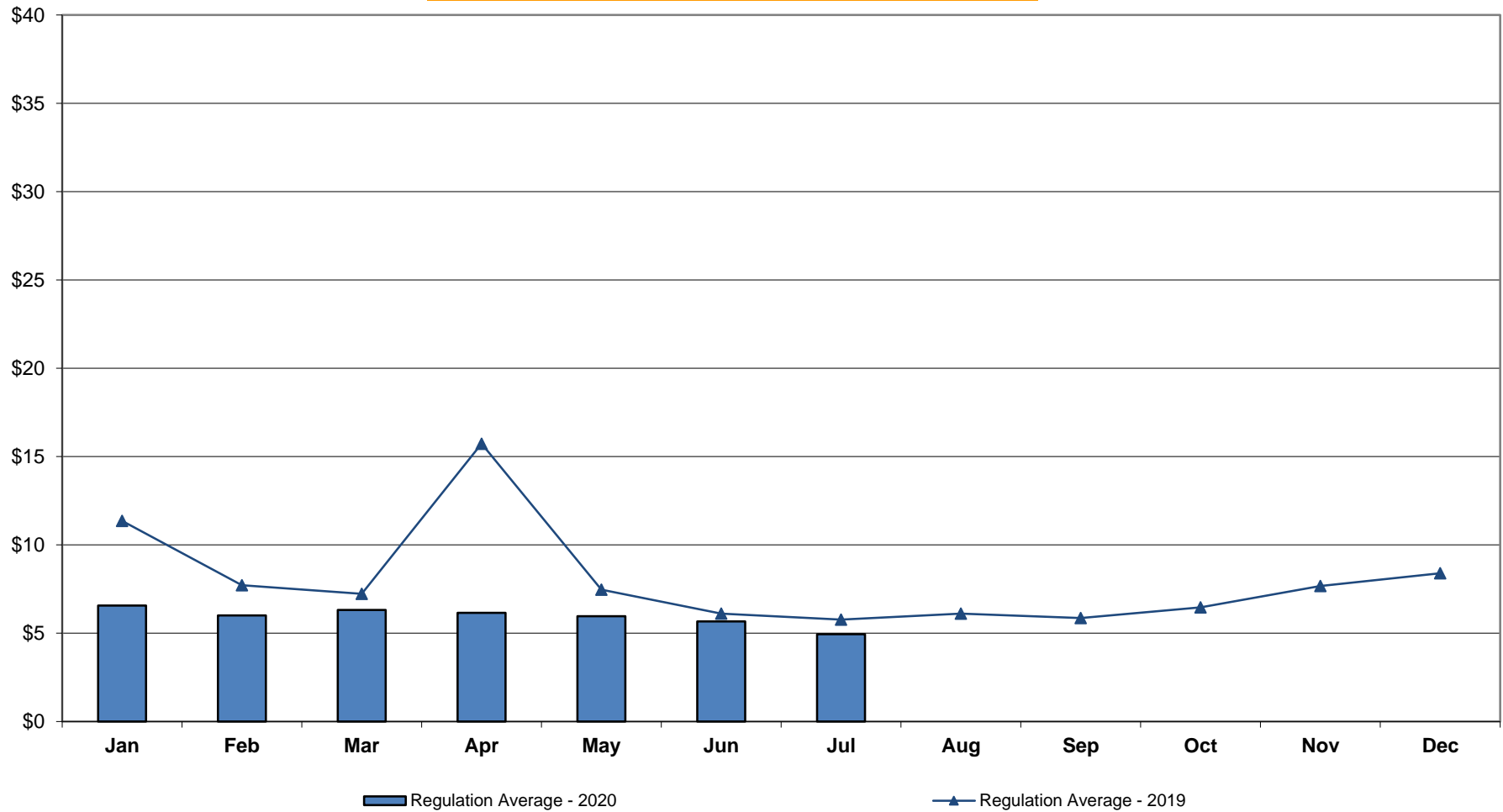
# **NYISO Monthly Average Ancillary Service Prices Real Time Market - 10 Min Non-Synch 2019 - 2020**



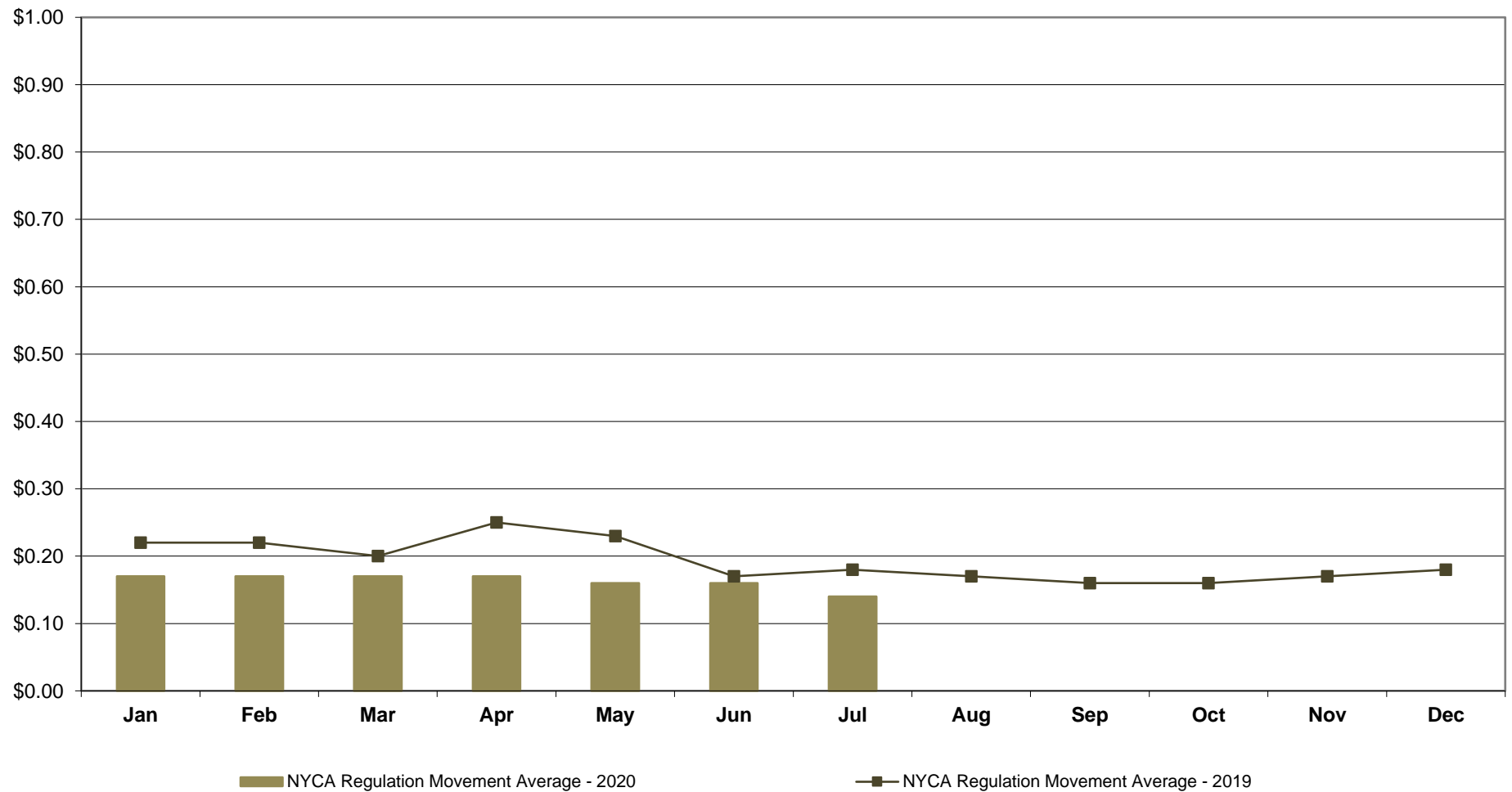
**NYISO Monthly Average Ancillary Service Prices  
Real Time Market - 30 Min Op Res 2019 - 2020**



**NYISO Monthly Average Ancillary Service Prices  
Real Time Market - Regulation 2019 - 2020**



# **NYISO Monthly Average Ancillary Service Prices Real Time Market - Regulation Movement 2019 - 2020**



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

<b><u>2020</u></b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market</u></b>												
10 Min Spin Long Island (K)	3.60	3.23	3.55	3.27	3.48	3.59	3.59					
10 Min Spin NYC (J)	3.60	3.23	3.55	3.27	3.48	3.64	4.00					
10 Min Spin SENY (GHI)	3.60	3.23	3.55	3.27	3.48	3.59	3.59					
10 Min Spin East (F)	3.60	3.23	3.55	3.27	3.48	3.59	3.59					
10 Min Spin West (ABCDE)	3.57	3.22	3.43	3.25	3.39	3.51	3.55					
10 Min Non Synch Long Island (K)	3.28	3.08	2.95	2.95	2.94	3.11	3.21					
10 Min Non Synch NYC (J)	3.28	3.08	2.95	2.95	2.94	3.17	3.61					
10 Min Non Synch SENY (GHI)	3.28	3.08	2.95	2.95	2.94	3.11	3.21					
10 Min Non Synch East (F)	3.28	3.08	2.95	2.95	2.94	3.11	3.21					
10 Min Non Synch West (ABCDE)	3.28	3.08	2.95	2.94	2.93	3.10	3.18					
30 Min Long Island (K)	3.28	3.08	2.95	2.94	2.93	3.10	3.18					
30 Min NYC (J)	3.28	3.08	2.95	2.94	2.93	3.10	3.31					
30 Min SENY (GHI)	3.28	3.08	2.95	2.94	2.93	3.10	3.18					
30 Min East (F)	3.28	3.08	2.95	2.94	2.93	3.10	3.18					
30 Min West (ABCDE)	3.28	3.08	2.95	2.94	2.93	3.10	3.18					
Regulation	6.46	5.94	5.86	5.70	6.40	5.44	4.61					
<b><u>2019</u></b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market</u></b>												
10 Min Spin Long Island (K)	5.47	5.47	4.61	4.46	4.25	4.25	4.25	4.19	3.86	4.59	3.79	3.55
10 Min Spin NYC (J)	5.47	5.47	4.61	4.46	4.25	4.25	4.25	4.73	3.97	4.69	3.79	3.55
10 Min Spin SENY (GHI)	5.47	4.17	4.61	4.46	4.25	3.90	4.03	4.19	3.86	4.59	3.79	3.55
10 Min Spin East (F)	5.47	4.17	4.61	4.46	4.25	3.86	4.03	4.19	3.86	4.59	3.79	3.55
10 Min Spin West (ABCDE)	4.56	3.94	4.30	4.01	4.09	3.77	3.89	4.00	3.72	4.24	3.65	3.47
10 Min Non Synch Long Island (K)	3.88	3.88	3.57	3.96	3.94	3.94	3.94	3.78	3.34	3.91	3.40	3.14
10 Min Non Synch NYC (J)	3.88	3.88	3.57	3.96	3.94	3.94	3.94	4.32	3.45	4.01	3.40	3.14
10 Min Non Synch SENY (GHI)	3.88	3.75	3.57	3.96	3.94	3.63	3.76	3.78	3.34	3.91	3.40	3.14
10 Min Non Synch East (F)	3.88	3.75	3.57	3.96	3.94	3.59	3.76	3.78	3.34	3.91	3.40	3.14
10 Min Non Synch West (ABCDE)	3.86	3.74	3.47	3.73	3.91	3.58	3.73	3.76	3.33	3.87	3.39	3.13
30 Min Long Island (K)	3.86	3.86	3.46	3.71	3.91	3.91	3.91	3.75	3.33	3.86	3.39	3.13
30 Min NYC (J)	3.86	3.86	3.46	3.71	3.91	3.91	3.91	3.75	3.33	3.86	3.39	3.13
30 Min SENY (GHI)	3.86	3.74	3.46	3.71	3.91	3.58	3.72	3.75	3.33	3.86	3.39	3.13
30 Min East (F)	3.86	3.74	3.46	3.71	3.91	3.58	3.72	3.75	3.33	3.86	3.39	3.13
30 Min West (ABCDE)	3.86	3.74	3.46	3.71	3.91	3.58	3.72	3.75	3.33	3.86	3.39	3.13
Regulation	11.94	7.69	6.62	27.38	8.71	5.57	4.99	5.89	6.36	8.55	7.77	7.65

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

<b><u>2020</u></b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>RTC Market</u></b>												
10 Min Spin Long Island (K)	0.78	1.42	0.88	0.32	0.25	0.31	0.70					
10 Min Spin NYC (J)	0.78	1.46	0.88	0.32	0.26	0.31	0.96					
10 Min Spin SENY (GHI)	0.78	1.42	0.88	0.32	0.25	0.31	0.70					
10 Min Spin East (F)	0.78	1.42	0.88	0.32	0.25	0.31	0.70					
10 Min Spin West (ABCDE)	0.54	0.72	0.46	0.11	0.15	0.17	0.44					
10 Min Non Synch Long Island (K)	0.00	0.91	0.00	0.00	0.03	0.05	0.48					
10 Min Non Synch NYC (J)	0.00	0.95	0.00	0.00	0.04	0.06	0.73					
10 Min Non Synch SENY (GHI)	0.00	0.91	0.00	0.00	0.03	0.05	0.48					
10 Min Non Synch East (F)	0.00	0.91	0.00	0.00	0.03	0.05	0.48					
10 Min Non Synch West (ABCDE)	0.00	0.28	0.00	0.00	0.03	0.05	0.37					
30 Min Long Island (K)	0.00	0.01	0.00	0.00	0.03	0.05	0.37					
30 Min NYC (J)	0.00	0.01	0.00	0.00	0.03	0.05	0.57					
30 Min SENY (GHI)	0.00	0.01	0.00	0.00	0.03	0.05	0.37					
30 Min East (F)	0.00	0.01	0.00	0.00	0.03	0.05	0.37					
30 Min West (ABCDE)	0.00	0.01	0.00	0.00	0.03	0.05	0.37					
Regulation	6.11	5.77	6.25	6.56	5.02	5.56	4.92					
NYCA Regulation Movement	0.17	0.17	0.17	0.17	0.17	0.16	0.14					
<b><u>2019</u></b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>RTC Market</u></b>												
10 Min Spin Long Island (K)	1.80	1.80	1.08	1.04	0.99	0.99	0.99	0.91	0.38	1.90	1.20	1.68
10 Min Spin NYC (J)	1.80	1.80	1.08	1.04	0.99	0.99	0.99	1.21	0.65	2.37	1.20	1.69
10 Min Spin SENY (GHI)	1.80	1.55	1.08	1.04	0.99	0.99	0.90	0.91	0.38	1.90	1.20	1.68
10 Min Spin East (F)	1.80	1.55	1.08	1.04	0.99	0.69	0.90	0.91	0.38	1.47	1.20	1.68
10 Min Spin West (ABCDE)	1.08	0.80	0.79	0.44	0.44	0.05	0.58	0.51	0.12	0.15	0.79	1.39
10 Min Non Synch Long Island (K)	0.01	0.01	0.11	0.13	0.00	0.00	0.00	0.04	0.01	0.78	0.00	0.08
10 Min Non Synch NYC (J)	0.01	0.01	0.11	0.13	0.00	0.00	0.00	0.34	0.28	1.25	0.00	0.10
10 Min Non Synch SENY (GHI)	0.01	0.08	0.11	0.13	0.00	0.52	0.09	0.04	0.01	0.78	0.00	0.08
10 Min Non Synch East (F)	0.01	0.08	0.11	0.13	0.00	0.22	0.09	0.04	0.01	0.34	0.00	0.08
10 Min Non Synch West (ABCDE)	0.00	0.01	0.01	0.00	0.00	0.00	0.05	0.04	0.00	0.00	0.00	0.00
30 Min Long Island (K)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.04	0.00	0.43	0.00	0.00
30 Min NYC (J)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.14	0.07	0.58	0.00	0.00
30 Min SENY (GHI)	0.00	0.01	0.01	0.00	0.00	0.24	0.05	0.04	0.00	0.43	0.00	0.00
30 Min East (F)	0.00	0.01	0.01	0.00	0.00	0.00	0.05	0.04	0.00	0.00	0.00	0.00
30 Min West (ABCDE)	0.00	0.01	0.01	0.00	0.00	0.00	0.05	0.04	0.00	0.00	0.00	0.00
Regulation	9.81	6.64	6.21	33.26	7.45	5.16	5.19	7.19	5.52	5.91	7.81	9.74
NYCA Regulation Movement	0.23	0.22	0.21	0.25	0.24	0.18	0.19	0.17	0.16	0.16	0.17	0.18

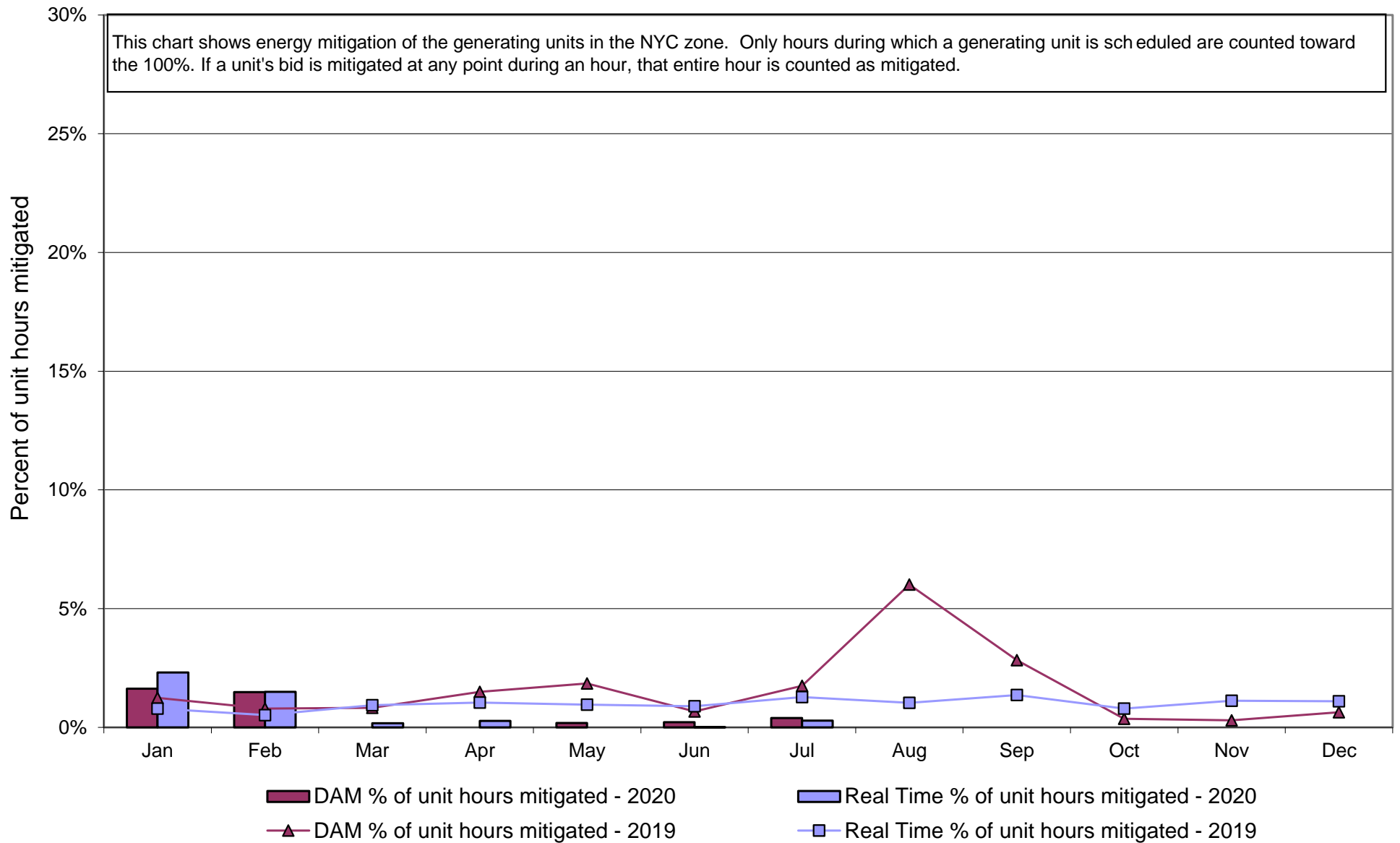


## **NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - RT**

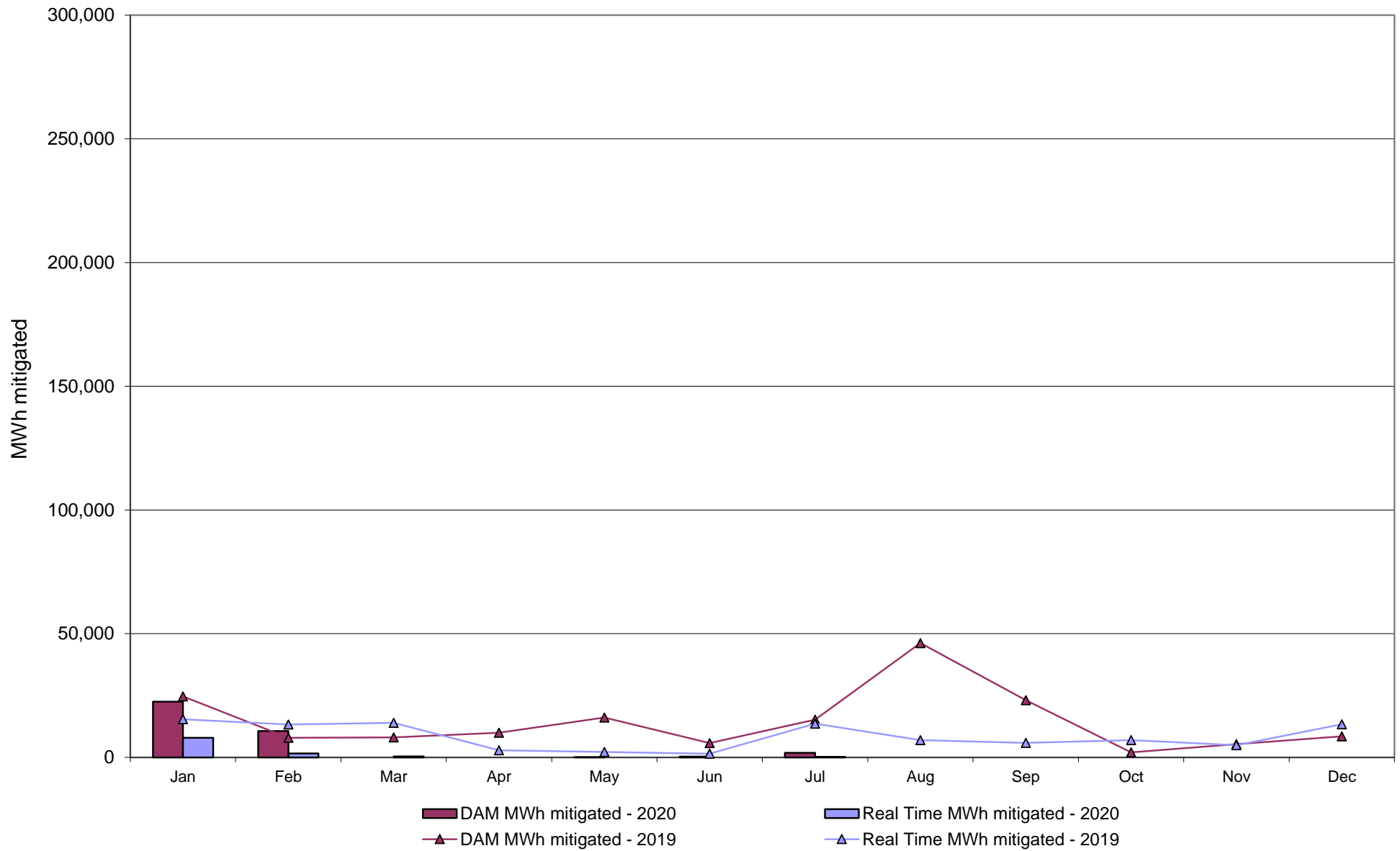
<b><u>2020</u></b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Real Time Market</u></b>												
10 Min Spin Long Island (K)	1.42	0.98	1.62	0.82	0.61	0.55	0.72					
10 Min Spin NYC (J)	1.42	0.98	1.62	0.82	0.63	0.56	0.90					
10 Min Spin SENY (GHI)	1.42	0.98	1.62	0.82	0.61	0.55	0.72					
10 Min Spin East (F)	1.42	0.98	1.62	0.82	0.61	0.55	0.72					
10 Min Spin West (ABCDE)	1.05	0.81	1.11	0.55	0.50	0.44	0.58					
10 Min Non Synch Long Island (K)	0.00	0.06	0.00	0.00	0.04	0.11	0.45					
10 Min Non Synch NYC (J)	0.00	0.06	0.00	0.00	0.07	0.12	0.63					
10 Min Non Synch SENY (GHI)	0.00	0.06	0.00	0.00	0.04	0.11	0.45					
10 Min Non Synch East (F)	0.00	0.06	0.00	0.00	0.04	0.11	0.45					
10 Min Non Synch West (ABCDE)	0.00	0.00	0.00	0.00	0.04	0.10	0.37					
30 Min Long Island (K)	0.00	0.00	0.00	0.00	0.04	0.10	0.37					
30 Min NYC (J)	0.00	0.00	0.00	0.00	0.04	0.10	0.52					
30 Min SENY (GHI)	0.00	0.00	0.00	0.00	0.04	0.10	0.37					
30 Min East (F)	0.00	0.00	0.00	0.00	0.04	0.10	0.37					
30 Min West (ABCDE)	0.00	0.00	0.00	0.00	0.04	0.10	0.37					
Regulation	6.57	6.00	6.32	6.16	5.96	5.67	4.94					
NYCA Regulation Movement	0.17	0.17	0.17	0.17	0.16	0.16	0.14					
<b><u>2019</u></b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Real Time Market</u></b>												
10 Min Spin Long Island (K)	2.53	2.53	2.24	2.75	1.58	1.58	1.58	1.66	0.63	1.96	1.72	2.77
10 Min Spin NYC (J)	2.53	2.53	2.24	2.75	1.58	1.58	1.58	1.98	0.96	2.54	1.72	2.78
10 Min Spin SENY (GHI)	2.53	2.51	2.24	2.75	1.58	1.17	1.32	1.66	0.63	1.96	1.72	2.77
10 Min Spin East (F)	2.53	2.51	2.24	2.75	1.58	0.98	1.32	1.66	0.63	1.68	1.72	2.77
10 Min Spin West (ABCDE)	1.89	1.57	1.64	1.45	0.85	0.23	0.98	1.24	0.28	0.51	1.25	2.47
10 Min Non Synch Long Island (K)	0.03	0.03	0.48	0.96	0.00	0.00	0.00	0.03	0.01	0.53	0.00	0.03
10 Min Non Synch NYC (J)	0.03	0.03	0.48	0.96	0.00	0.00	0.00	0.35	0.34	1.12	0.00	0.04
10 Min Non Synch SENY (GHI)	0.03	0.18	0.48	0.96	0.00	0.33	0.11	0.03	0.01	0.53	0.00	0.03
10 Min Non Synch East (F)	0.03	0.18	0.48	0.96	0.00	0.15	0.11	0.03	0.01	0.25	0.00	0.03
10 Min Non Synch West (ABCDE)	0.00	0.01	0.09	0.17	0.00	0.02	0.08	0.03	0.00	0.01	0.00	0.00
30 Min Long Island (K)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.03	0.00	0.29	0.00	0.00
30 Min NYC (J)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.13	0.07	0.44	0.00	0.00
30 Min SENY (GHI)	0.00	0.01	0.03	0.00	0.00	0.13	0.08	0.03	0.00	0.29	0.00	0.00
30 Min East (F)	0.00	0.01	0.03	0.00	0.00	0.02	0.08	0.03	0.00	0.01	0.00	0.00
30 Min West (ABCDE)	0.00	0.01	0.03	0.00	0.00	0.02	0.08	0.03	0.00	0.01	0.00	0.00
Regulation	11.36	7.72	7.23	15.73	7.47	6.11	5.77	6.11	5.86	6.47	7.67	8.40
NYCA Regulation Movement	0.22	0.22	0.20	0.25	0.23	0.17	0.18	0.17	0.16	0.16	0.17	0.18

## NYISO In City Energy Mitigation - AMP (NYC Zone) 2019 - 2020

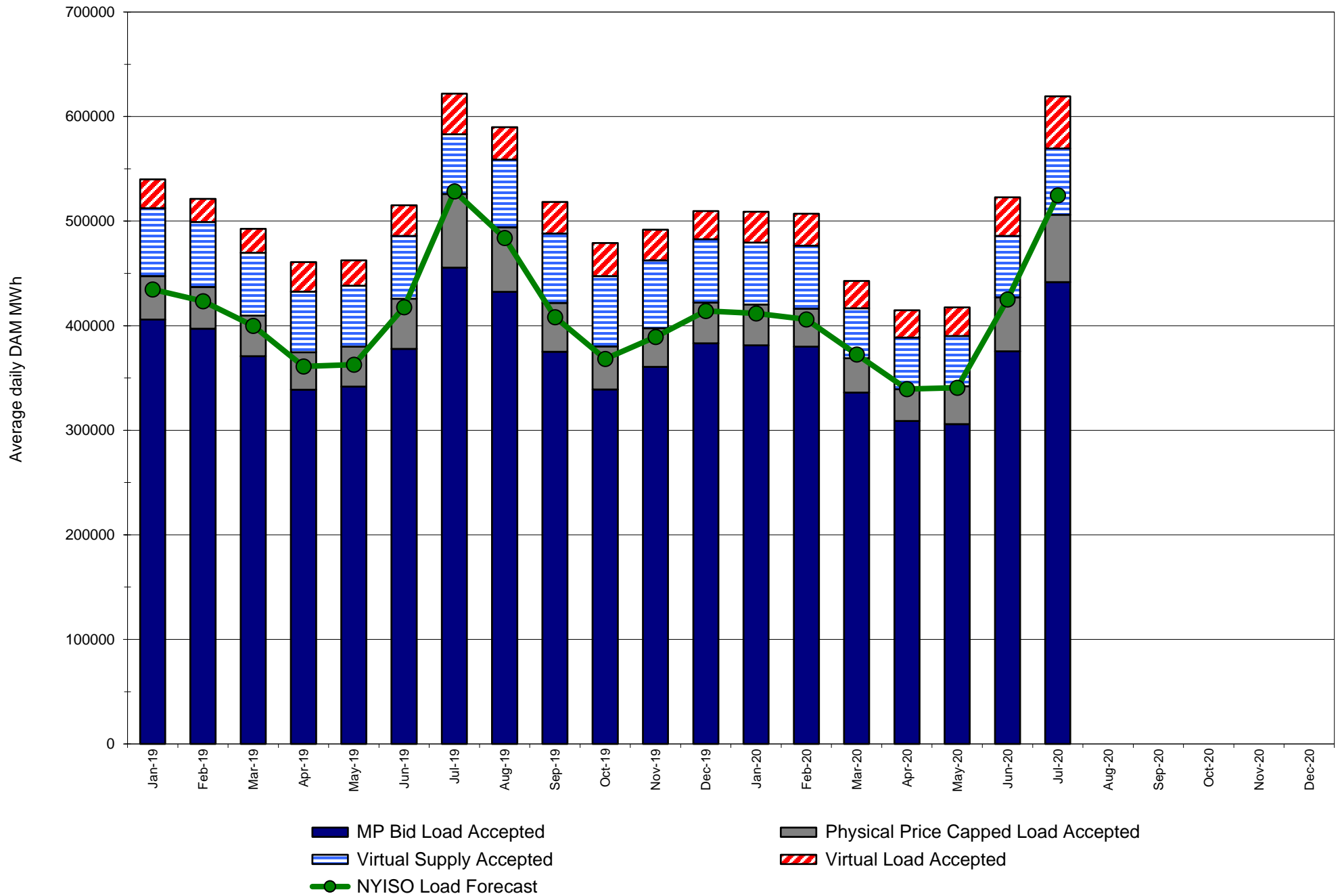
### Percentage of committed unit-hours mitigated



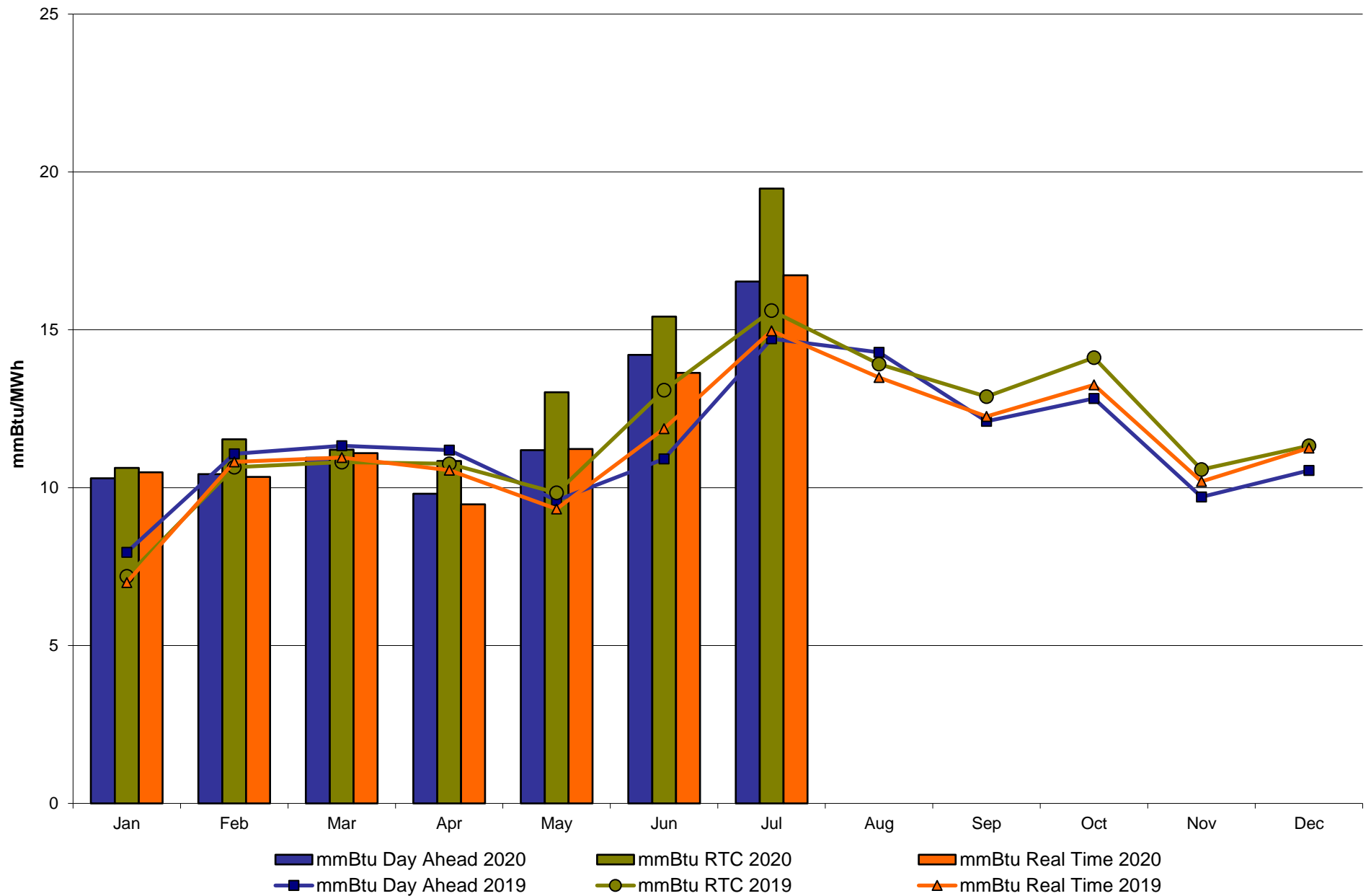
# **NYISO In City Energy Mitigation (NYC Zone) 2019 - 2020** **Monthly megawatt hours mitigated**



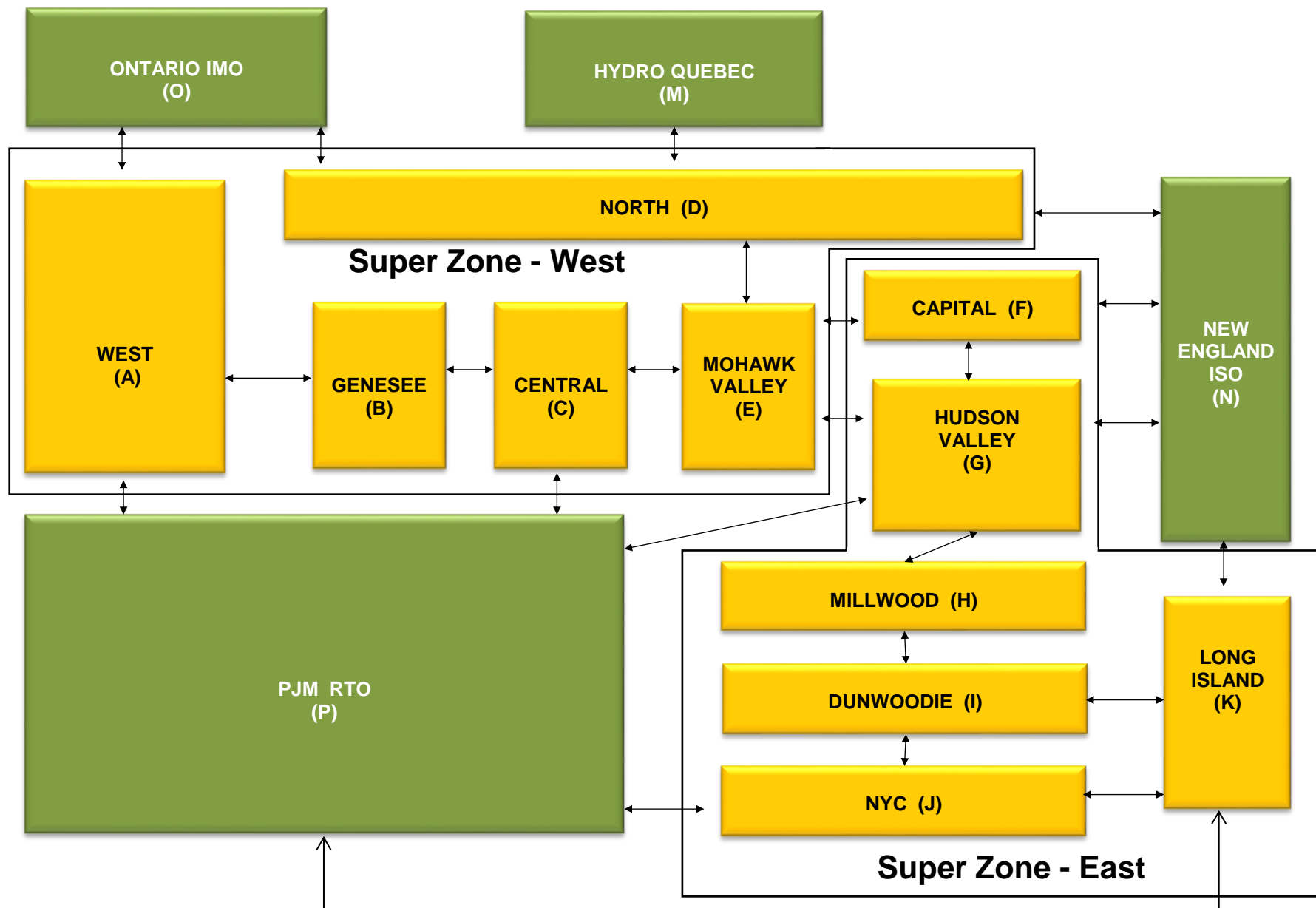
# NYISO Average Daily DAM Load Bid Summary



# Monthly Implied Heat Rate 2019-2020



# 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

# Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the power system





## Summary Description of Upcoming Regulatory Compliance Filings, Recently Submitted Filings and Issued Orders on NYISO Matters

### Upcoming Compliance Filings

Filing Due Date	Upcoming Compliance Filings (Description)	Docket Number

### Recently Issued Orders

Filing Date	Filing Summary (Order Issued)	Order Date	Order Summary	Docket Number
06/19/2020	NYISO 205 filing re: sustainability of operating reserves and energy storage resource schedules during reserve pickups	08/06/2020	Order accepted revisions subject to a compliance filing to be made two weeks prior to effective date	ER20-2113-000

### Recently Submitted Filings

Filing Date	Filing Summary	Docket Number
07/30/2020	NYISO 205 filing re: revisions to clarify the process of calculating the minimum installed capacity requirement and defining a new term: NYCA Peak Load Forecast	ER20-2555-000
08/12/2020	NYISO compliance to establish an effective date for the Energy Storage Resource participation model	ER19-467-005
08/12/2020	NYISO compliance to establish an effective date for the Energy Storage Resource participation model	ER20-1696-001
08/12/2020	NYISO compliance to establish an effective date for the Energy Storage Resource participation model	ER20-2113-001
08/13/2020	NYISO compliance to clarify its proposal for Incremental Regulatory Retirements under the Buyer Side Mitigation Rules	ER16-1404-003
08/14/2020	NYISO filing of an answer to a limited protest filed by TDI-USA HOLDINGS CORP related to tariff revisions proposing Part A Enhancements to the Buyer Side Mitigation Rules	ER20-1718-000