

# **Monthly Report**

A Report by the New York Independent System Operator

August 2020



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# Operations Performance Metrics Monthly Report









# August 2020 Report

# Operations & Reliability Department New York Independent System Operator



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## **August 2020 Operations Performance Highlights**

- Peak load of 29,685 MW occurred on 08/10/2020 HB 17
- All-time summer capability period peak load of 33,956 MW occurred on 7/19/2013 HB 16
- 25.25 hours of Thunder Storm Alerts were declared
- 0 hours of NERC TLR level 3 curtailment
- Warmer than normal temperatures offset the COVID-19 load impacts in August
- 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.
- 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	(\$0.19)	\$2.75
NY Savings from PJM-NY Coordinated Transaction Scheduling	(\$0.16)	(\$0.57)
NY Savings from NE-NY Coordinated Transaction Scheduling	\$0.65	\$1.69
Total NY Savings	\$0.30	\$3.87
Regional Savings from PJM-NY Coordinated Transaction Scheduling	\$0.49	\$1.66
Regional Savings from NE-NY Coordinated Transaction Scheduling	\$0.16	\$0.34
Total Regional Savings	\$0.65	\$2.00

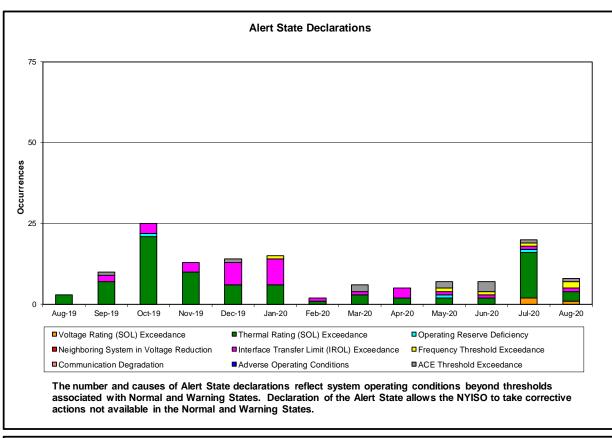
- Statewide uplift cost monthly average was (\$0.33)/MWh
- The following table identifies the Monthly ICAP spot market prices and the price delta.

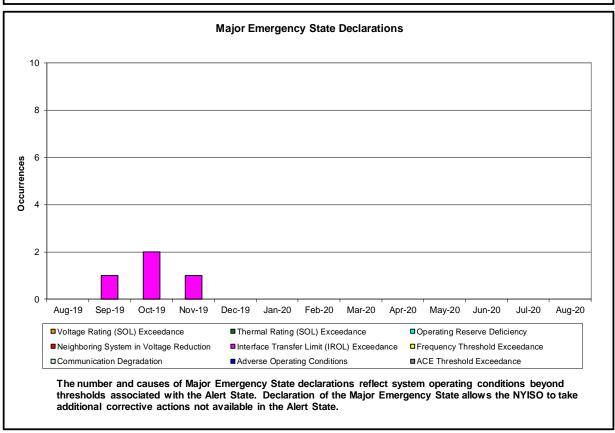
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
September 2020 Spot Price	\$2.78	\$2.78	\$18.62	\$5.18
August 2020 Spot Price	\$2.37	\$2.37	\$18.72	\$5.17
Delta	\$0.41	\$0.41	(\$0.10)	\$0.01

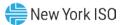
- Lower Hudson Valley Price increased by \$0.41 due to a decrease in Net Imports.
- NYCA Price increased by \$0.41 due to a decrease in Net Imports.

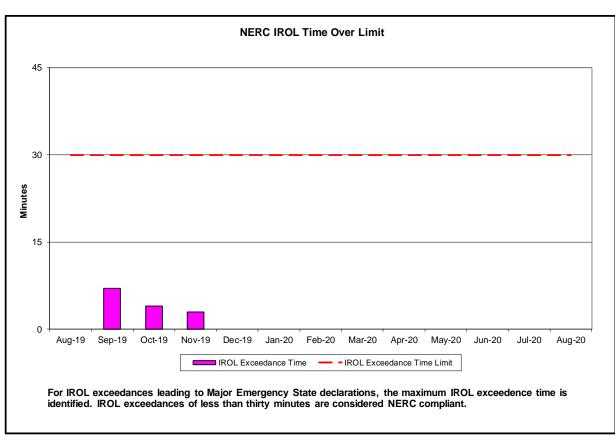


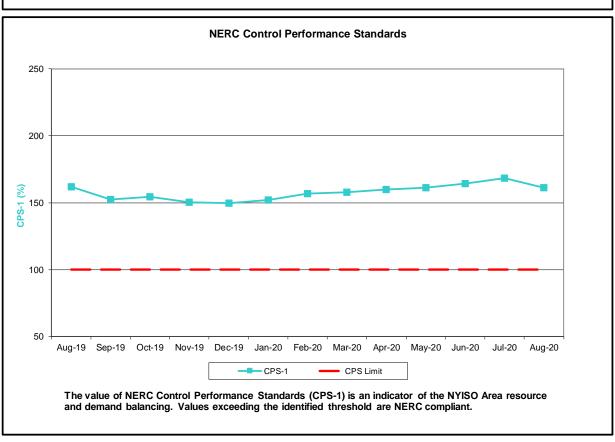
### **Reliability Performance Metrics**



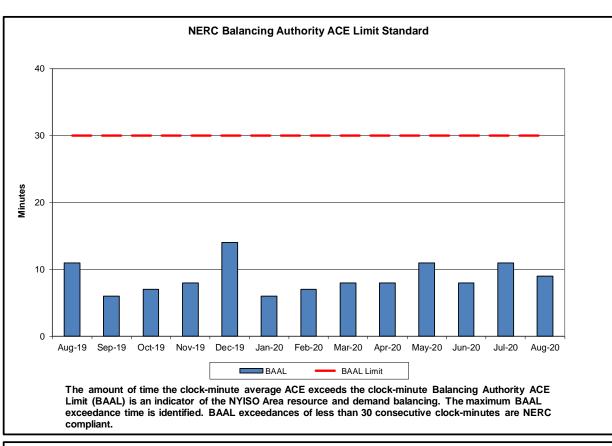


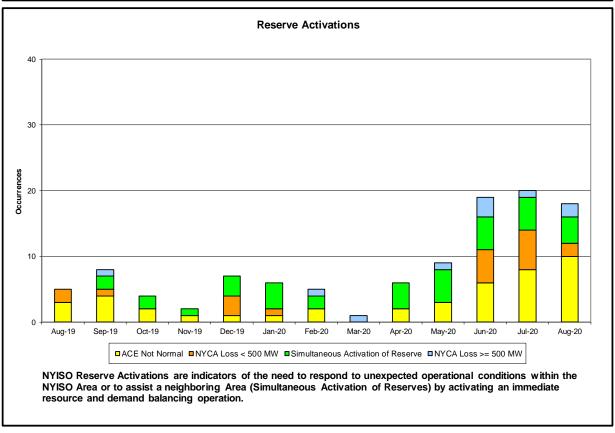




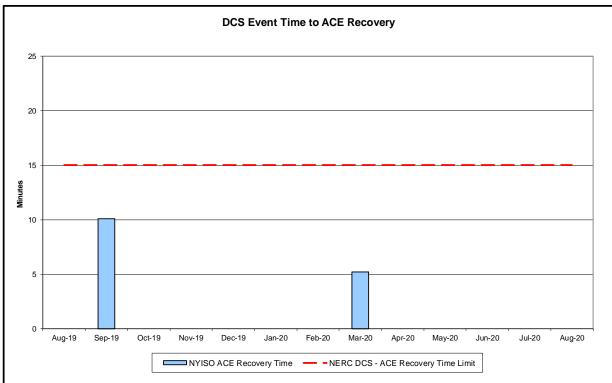


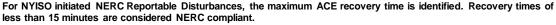


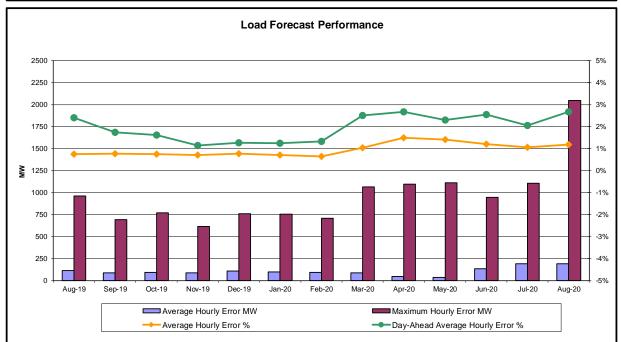










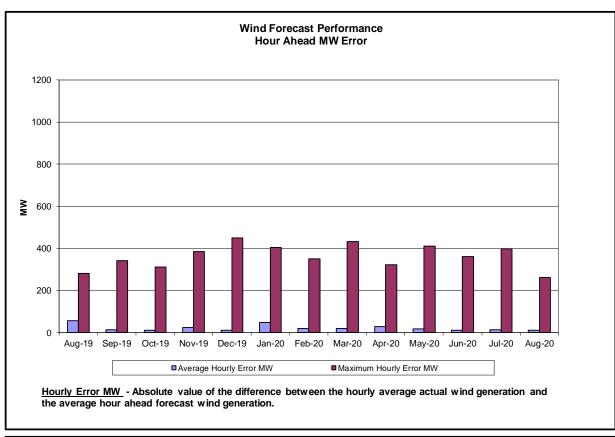


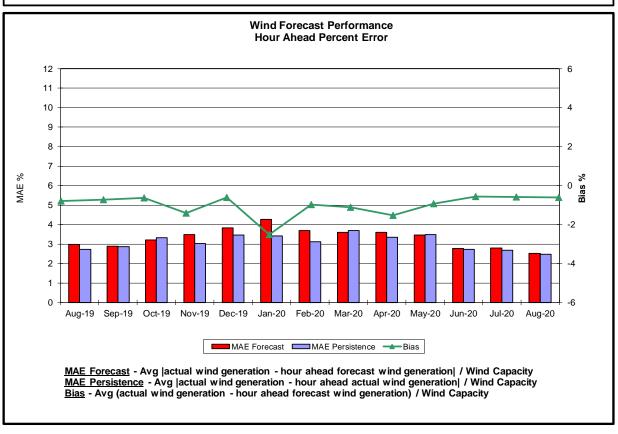
<u>Hourly Error MW</u> - Absolute value of the difference between the hourly average actual load demand and the average hour ahead forecast load demand.

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

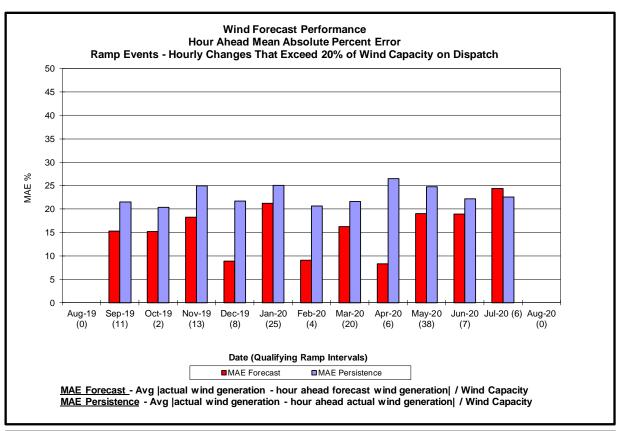
<u>Day-Ahead Average Hourly Error %</u> - Average across all hours of the month of the absolute value of the difference between actual load demand and the Day-Ahead forecast load demand, divided by the actual load demand.

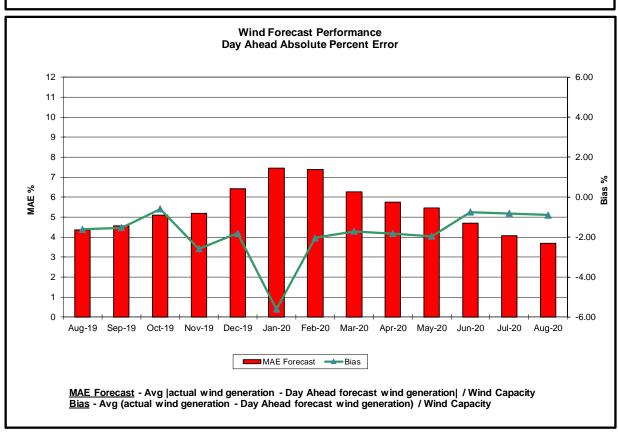




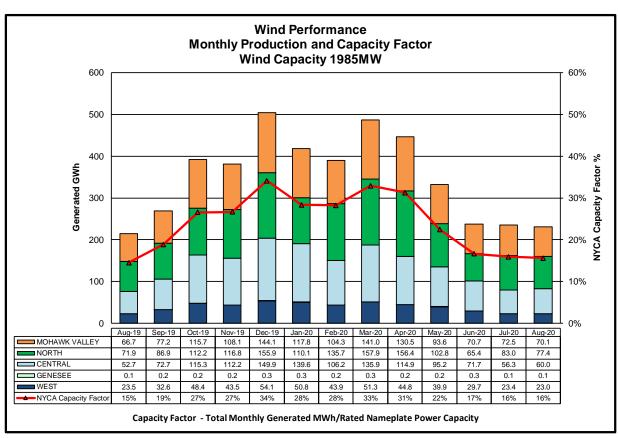


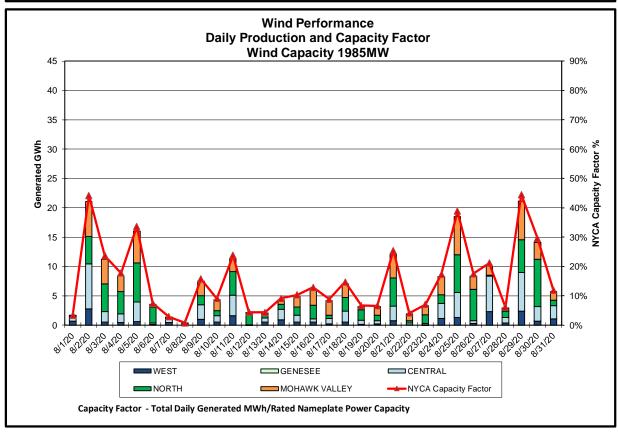




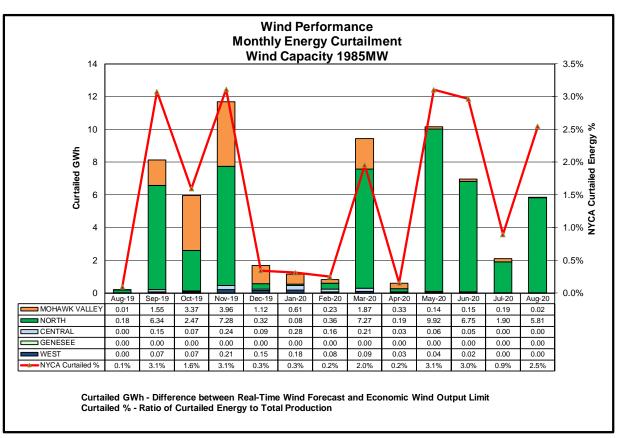


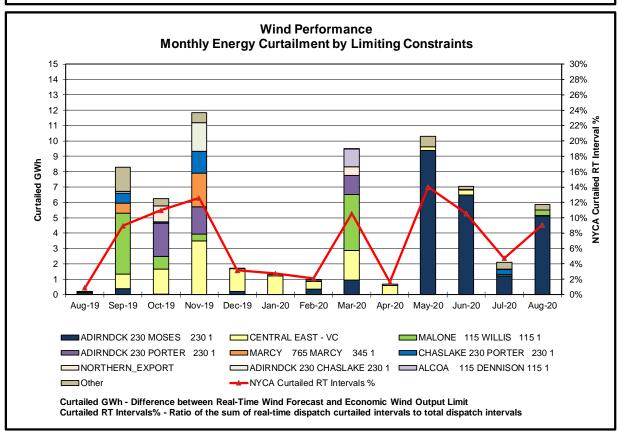




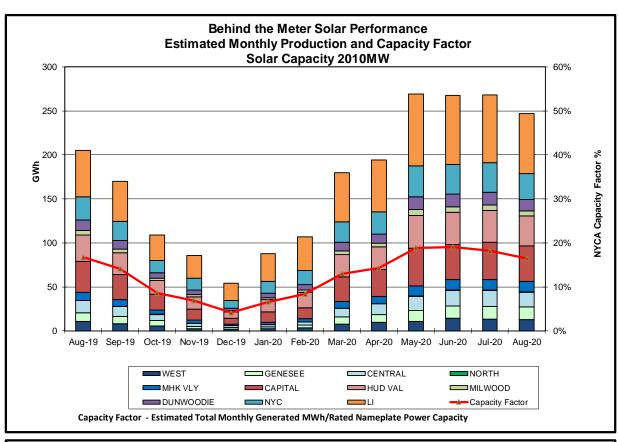


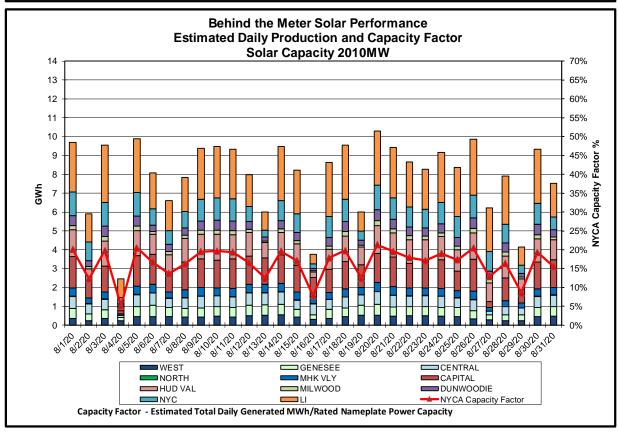




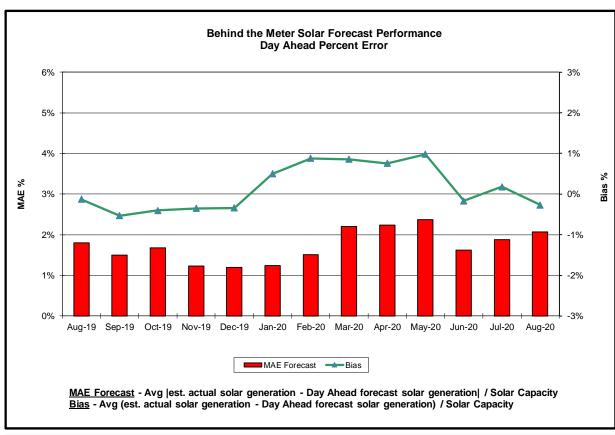


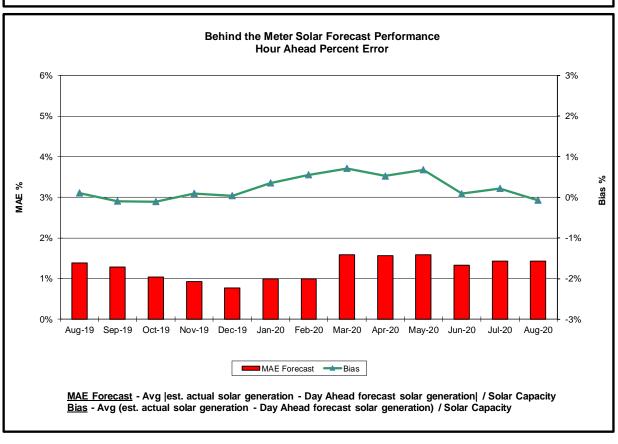




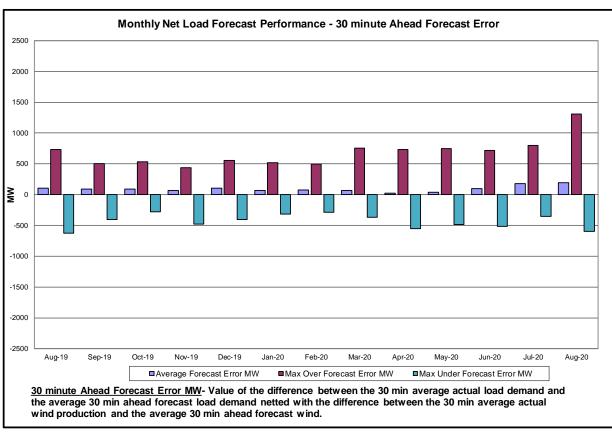


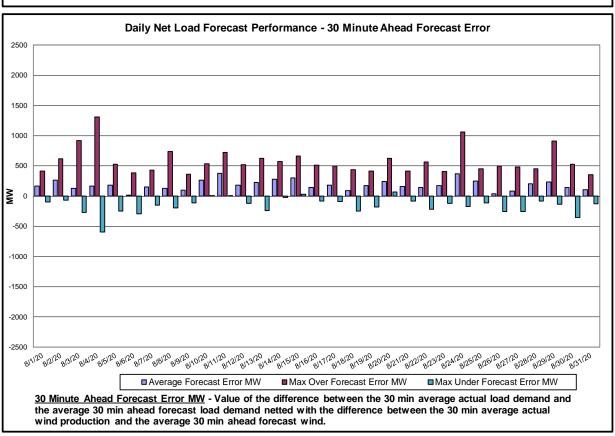


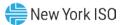


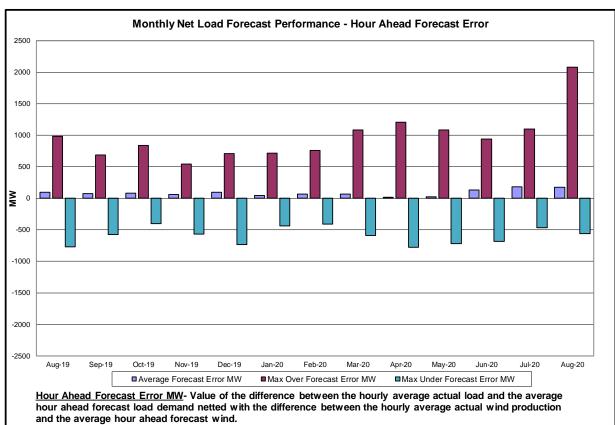


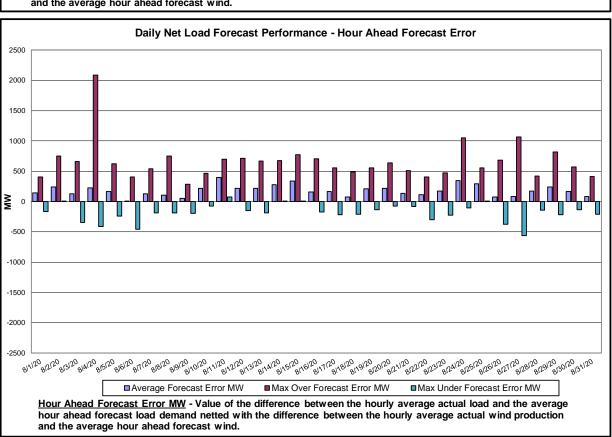




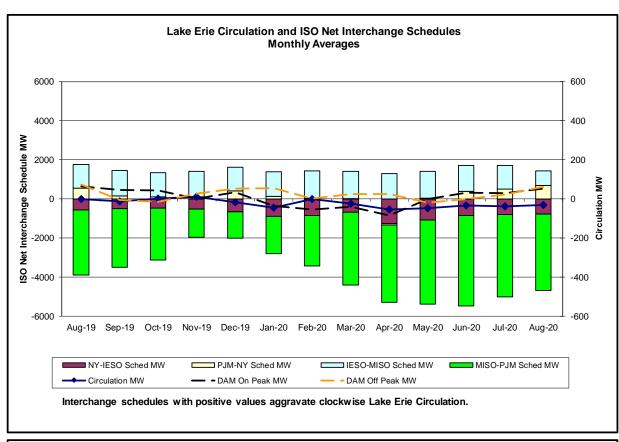


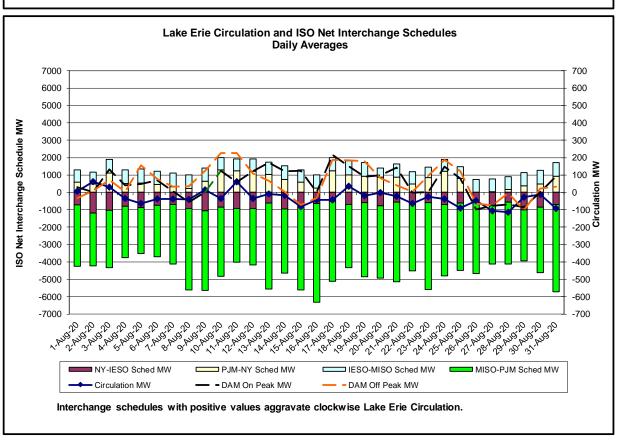






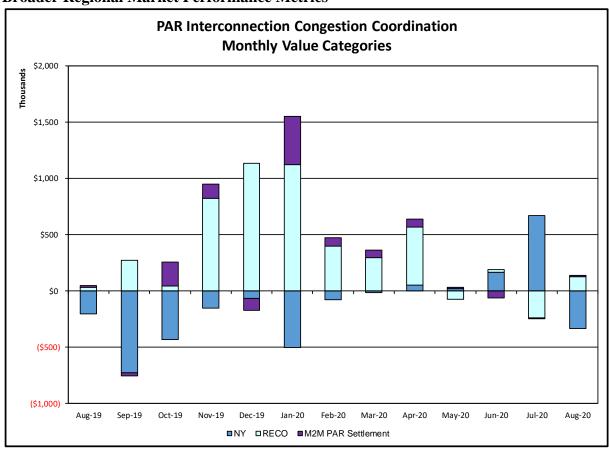


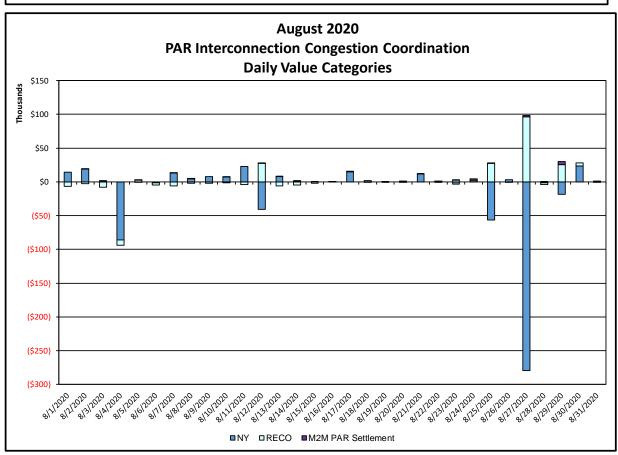






## **Broader Regional Market Performance Metrics**







#### PAR Interconnection Congestion Coordination

<u>Category</u> <u>Description</u>

NY Represents the value NY realizes from Market-to-Market PAR Coordination when

experiencing congestion. This is the estimated savings to NY for additional deliveries into NY

RECO Represents the value of PJM's obligation to deliver 80% of service to RECO load over

Ramapo 5018. This is the estimated reduction in NYCA congestion due to the PJM delivery

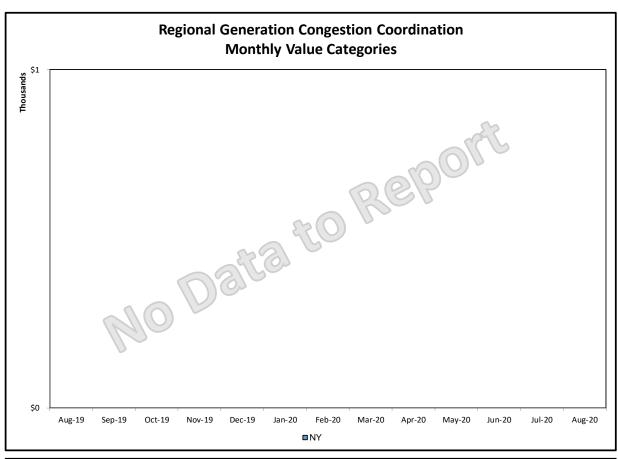
of RECO over Ramapo 5018.

M2M PAR Settlement Market-to-Market PAR Coordination settlement on coordinated flowgates. Through April 2017

this value was included in the NY and RECO categories. The positive sign convention

indicates settlement to NY while the negative indicates settlement to PJM.









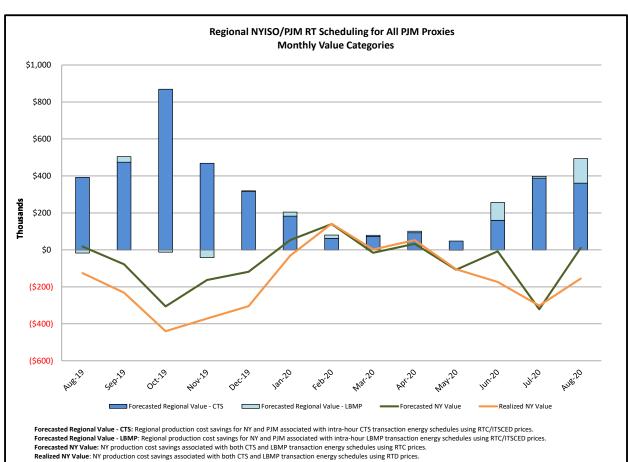
#### **Regional Generation Congestion Coordination**

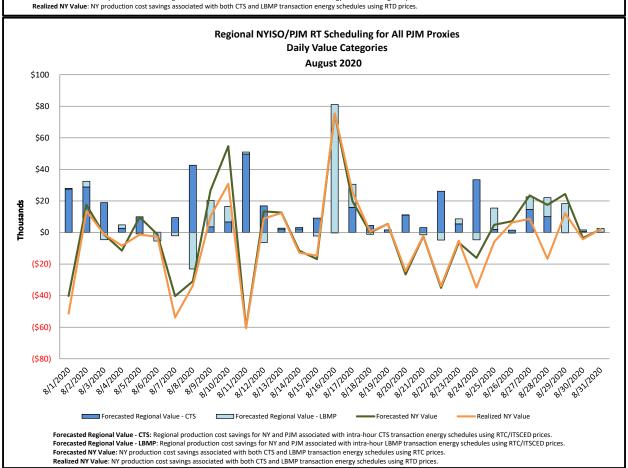
<u>Category</u> NY

#### <u>Description</u>

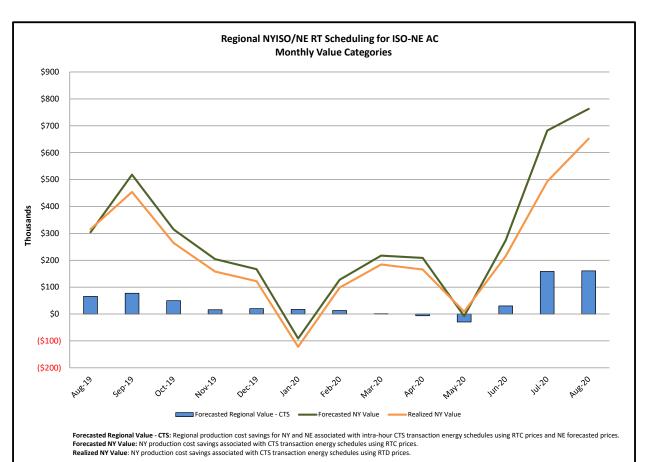
NYISO savings that result from PJM payments to NYISO when PJM's transmission use (PJM's market flow) is greater than PJM's entitlement of the NY transmission system and NYISO is incurring Western or Central NY congestion. Additionally, NYISO savings may result from the more efficient regional utilization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

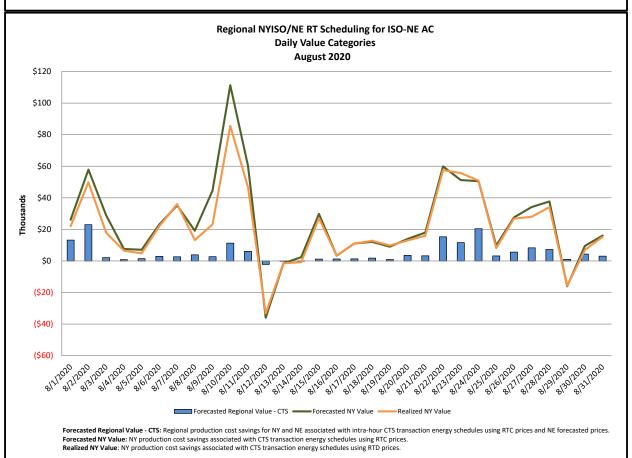






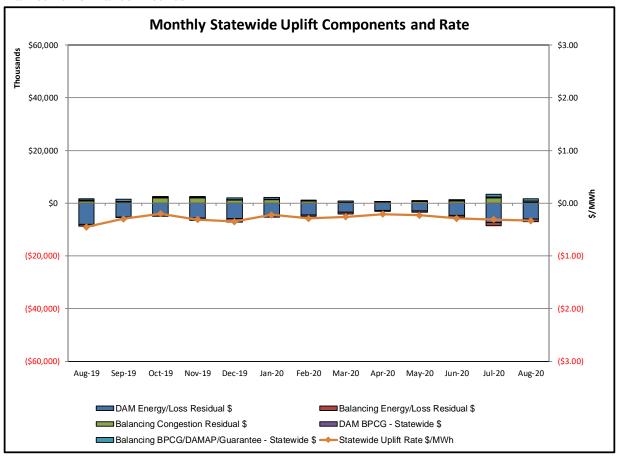




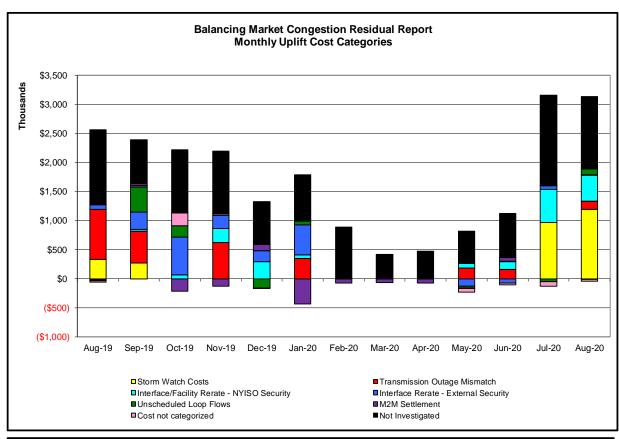


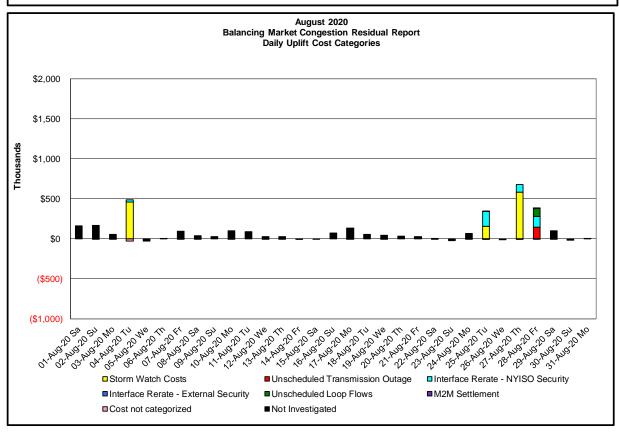


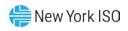
### Market Performance Metrics







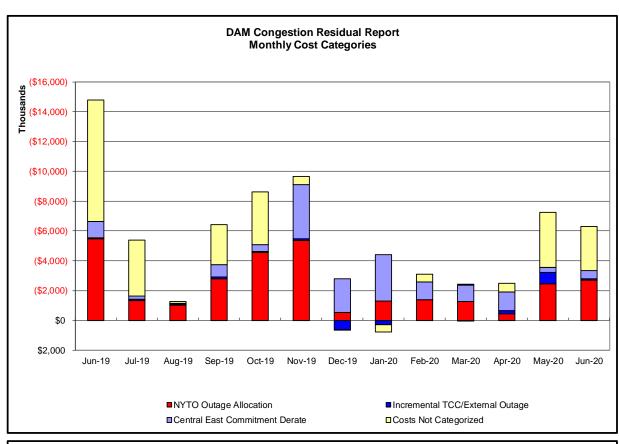


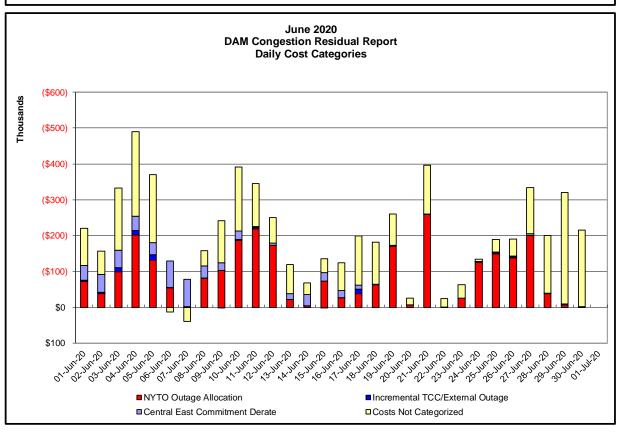


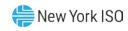
Day's investigated in August:4,25,27,28		5,27,28	
Event	ent Date (yyyymmdd) Hours		Description
	8/4/2020 12-14,16-18		Thunder Storm Alert, Chestror-Shoemaker 138kV (#27)
	8/4/2020 11-14		Thunder Storm Alert, Buchanan 345/138kV (#TA5)
	8/4/2020	14,16	Derate of Moses-Adirondack 230kV (#MA1) for I/o SIN:MSU1&7040& HQ GN&LD PROXY
	8/25/2020	17-19	Thunder Storm Alert, Chestror-Shoemaker 138kV (#27), Buchanan 345/138kV (#TA5)
	8/25/2020	12,14-16	Derate of Mott Haven-Dunwoodie 345kV (#71)
	8/25/2020	18,19	Derate of East Garden City-Valley Stream 138 kV (#262) for I/o BUS:BARRETT 292&459&G2&IC9-12
	8/25/2020	12,14-19	Derate of Moses-Adirondack 230kV (#MA1) for I/o SIN:MSU1&7040& HQ GN&LD PROXY
	8/25/2020	12,14-17	Derate of Happauge-Pilgrim 138kV (#871) for I/o TWR:HOLTSVLLE 881& 882& 880
	8/25/2020	16	PJM Active DNI ramp Limit
	8/25/2020	16	NE_AC Active DNI Ramp Limit
	8/27/2020 14-2		Thunder Storm Alert, Chestror-Shoemaker 138kV (#27)
8/27/2020 13		13	Thunder Storm Alert, Buchanan 345/138kV (#TA5)
		_	Thunder Storm Alert, Carls Place-East GardenCity 138kV (#361)
			Thunder Storm Alert, East GardenCity-Roslyn 138kV (#362)
			Thunder Storm Alert, Leeds-Pleasant Valley 345kV (#92)
	8/27/2020 13,15,17,18		Thunder Storm Alert, SprainBrook-East Garden City 345kV (#Y49)
	8/27/2020 13,15,17,18		Thunder Storm Alert, Tremont 138kV/138kV (#BK11)
8/27/2020 13-15			NYCA DNI Ramp Limit
	8/28/2020 11-20,23		Forced outage NineMile-Clay 345kV (#8)
	8/28/2020		Derate Hauppaug-Pilgrim 138kV(871) for I/o TWR:HOLTSVLLE 881& 882& 880
			Derate Mott Haven-Dunwoodie 345kV (#71)
8/28/2020 12			Derate Niagara-Packard 230kV (#61) for I/o TWR:PACKARD 62 & BP76
	8/28/2020		Derate Niagara-Packard 230kV (#62) for I/o TWR:NIAGARA 61 & 64
	8/28/2020	11,12,14-16	Lake Erie Circulation, DAM-RTM exceeds +/-125MW; West

<u>Category</u> Storm Watch	<u>Cost Assignment</u> Zone J	<u>Events Types</u> Thunderstorm Alert (TSA)	<u>Event Examples</u> TSA Activations
Transmission Outage Mismatch	Market-wide	Changes in DAM to RTM transfers related to transmission outage mismatch	Forced Line Outage, Unit AVR Outages Early Line Return from Outage
Interface/Facility Rerate - NYISO Security	Market-wide	Changes in DAM to RTM transfers not related to transmission outage	Interface/Facility Rerates due to RTM voltages
Interface Rerate - External Security	Market-wide	Changes in DAM to RTM transfers related to External Control Area Security Events	TLR Events, External Transaction Curtailments
Unscheduled Loop Flows	Market-wide	Changes in DAM to RTM unscheduled loop flows impacting NYISO Interface transmission constraints	DAM to RTM Lake Erie Loop Flows exceeding +/ 125 MW
M2M Settlement	Market-wide	Settlement result inclusive of coordinated redispatch and Ramapo flowgates	
Monthly Balancing Market Congestion Repo	ort Assumptions/No	otes	



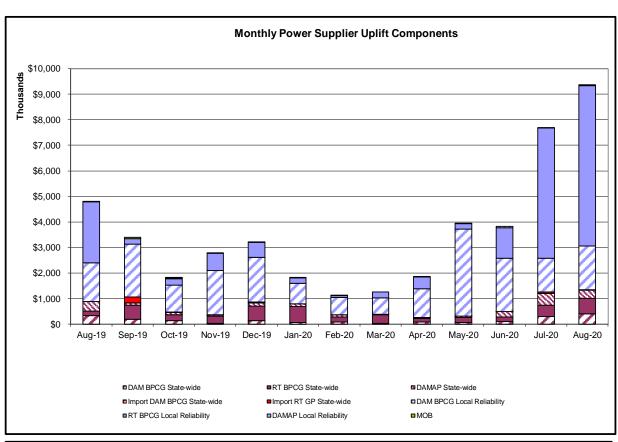


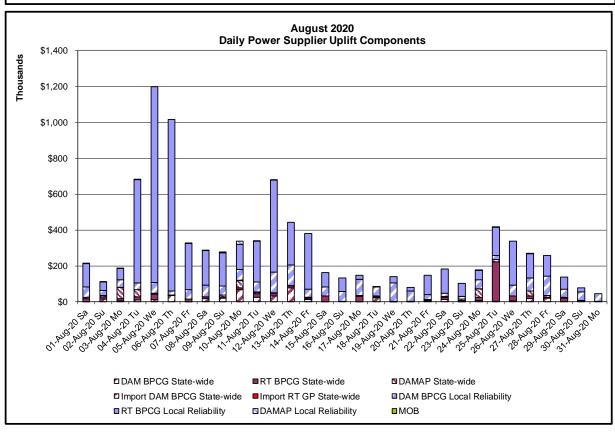




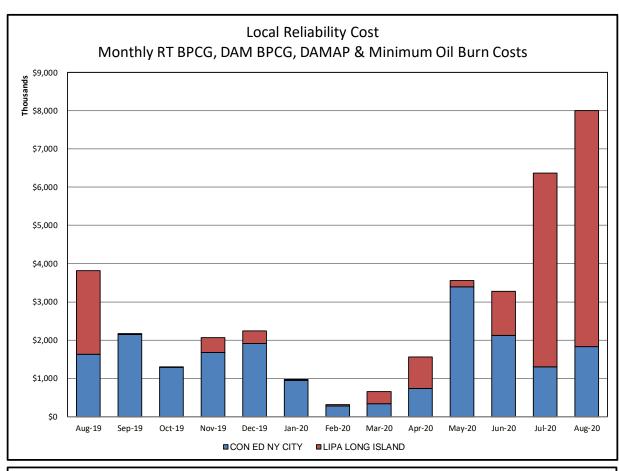
Day-Ahead Market Congestion Residual Categories			
<u>Category</u> NYTO Outage Allocation	<u>Cost Assignment</u> Responsible TO	Events Types Direct allocation to NYTO's responsible for transmission equipment status change.	Event Examples DAM scheduled outage for equipment modeled inservice for the TCC Auction.
Incremental TCC/External Outage Impacts	All TO by Monthly Allocation Factor	Allocation associated with transmission equipment status change caused by change in status of external equipment or change in status of equipment associated with Incremental TCC.	Tie line required out-of- service by TO of neighboring control area.
Central East Commitment Derate	All TO by Monthly Allocation Factor	Reductions in the DAM Central East_VC limit as compared to the TCC Auction limit, which are not associated with transmission line outages.	

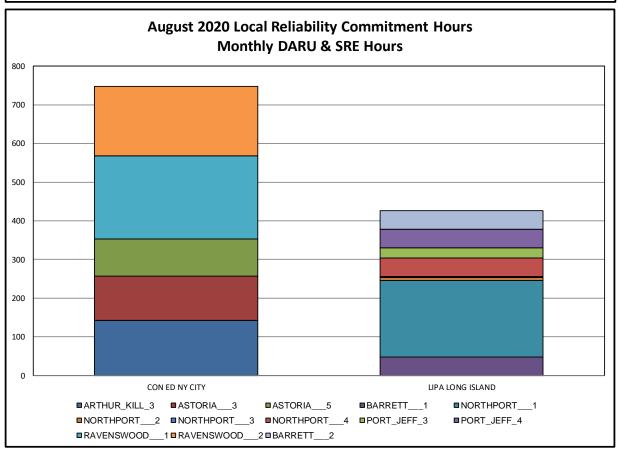




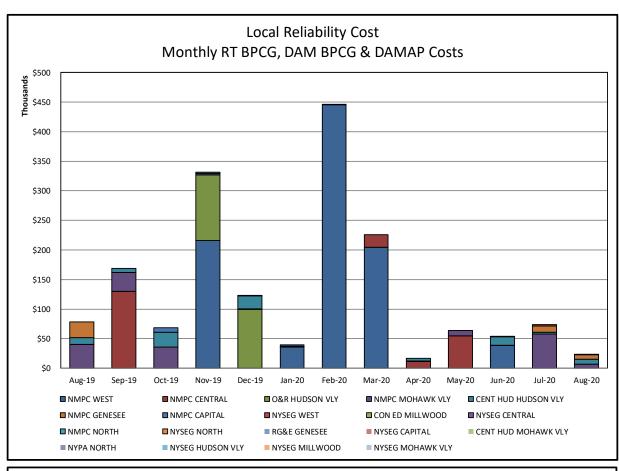


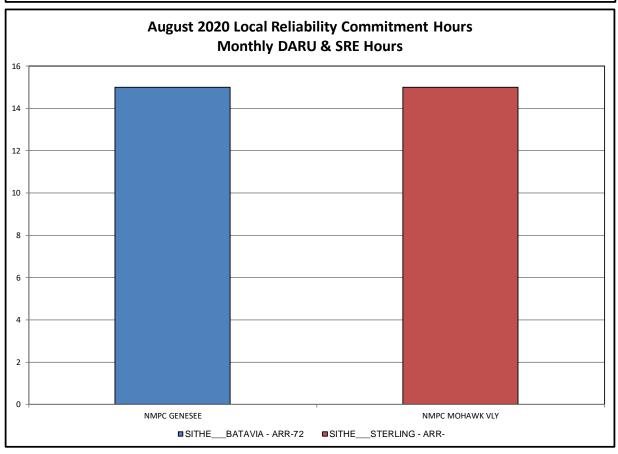




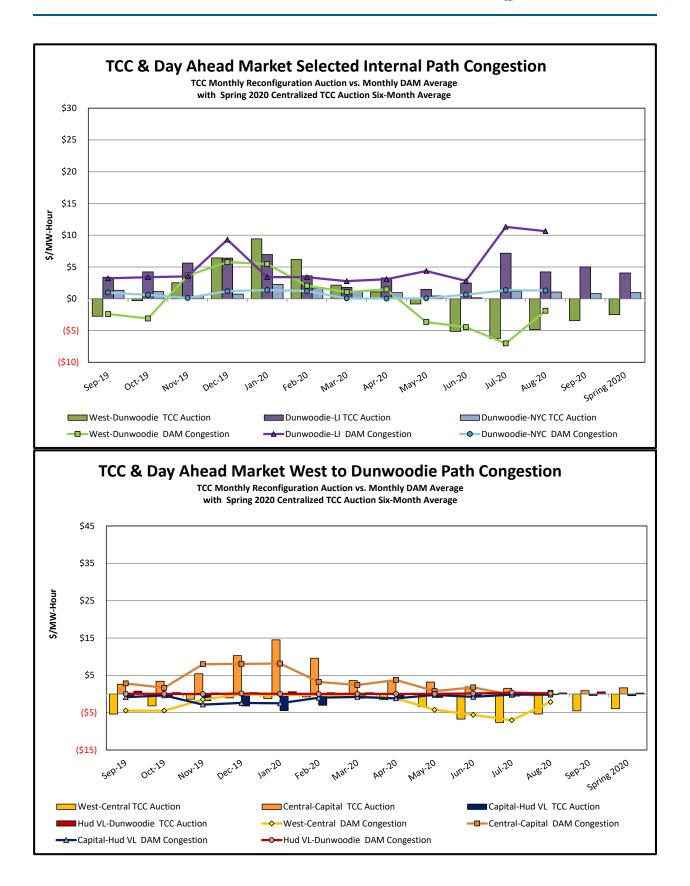




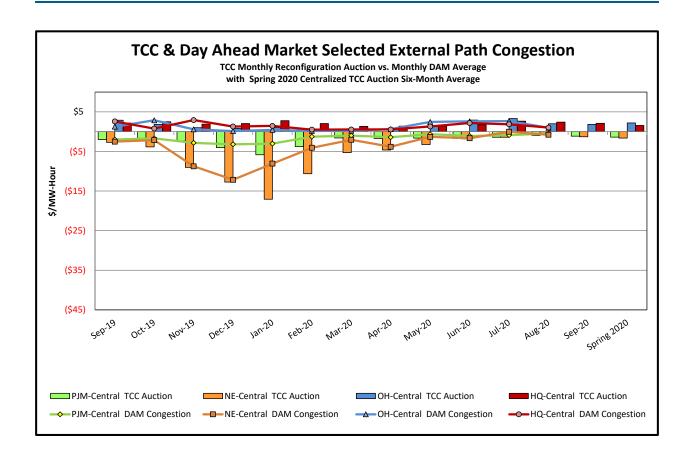




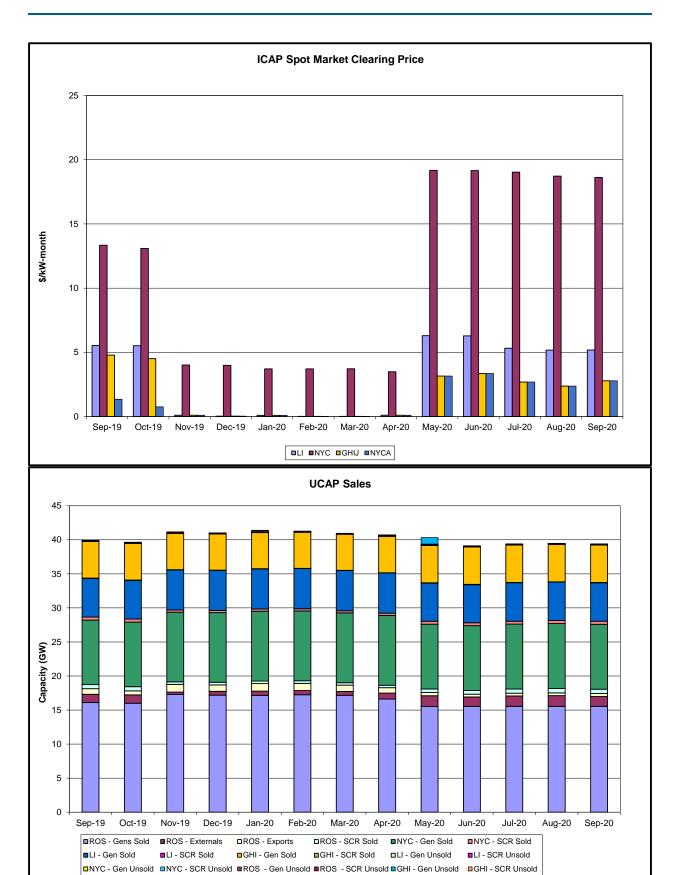








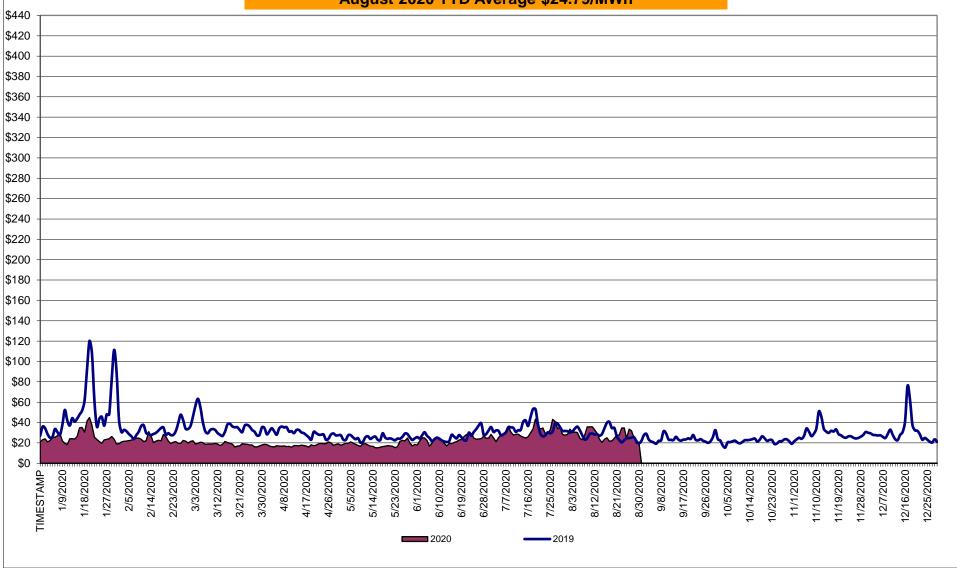




# Market Performance Highlights August 2020

- LBMP for August is \$26.13/MWh; lower than \$28.86/MWh in July 2020 and \$27.83/MWh in August 2019.
  - Day Ahead and Real Time Load Weighted LBMPs are lower compared to July.
- August 2020 average year-to-date monthly cost of \$24.88/MWh is a 29% decrease from \$34.96/MWh in August 2019.
- Average daily sendout is 489 GWh/day in August; lower than 530 GWh/day in July 2020 and higher than 487 GWh/day in August 2019.
- Natural gas prices are lower and distillate prices are mixed compared to the previous month.
  - Natural Gas (Transco Z6 NY) was \$1.47/MMBtu, down from \$1.69/MMBtu in July.
  - Natural gas prices are down 20.7% year-over-year.
  - Jet Kerosene Gulf Coast was \$8.20/MMBtu, up from \$8.00/MMBtu in July.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$8.73/MMBtu, down from \$8.85/MMBtu in July.
  - Distillate prices are down 35.7% year-over-year.
- Uplift per MWh is higher compared to the previous month.
  - Uplift (not including NYISO cost of operations) is \$0.17/MWh; higher than \$0.07/MWh in July.
    - Local Reliability Share is \$0.50/MWh, higher than \$0.38/MWh in July.
    - Statewide Share is (\$0.33)/MWh, lower than (\$0.31)/MWh in July.
  - TSA \$ per NYC MWh is \$0.54/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are higher than July.

# Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\* 2019 Annual Average \$32.59/MWh August 2019 YTD Average \$34.96/MWh August 2020 YTD Average \$24.79/MWh

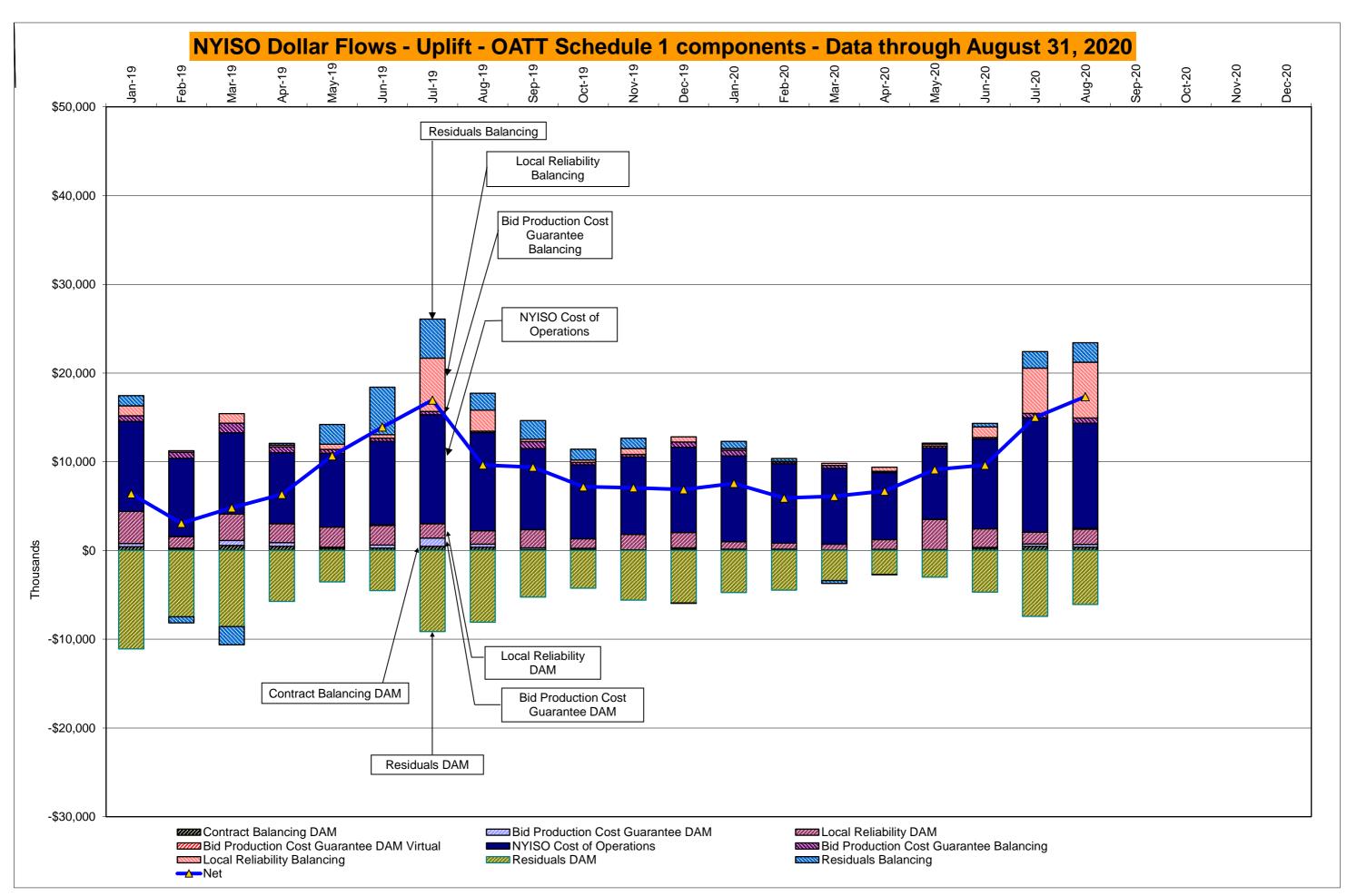


<sup>\*</sup> Excludes ICAP payments.

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

2020	<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	26.13				
NTAC	0.91	0.70	0.86	0.91	1.05	0.95	1.24	1.03				
Reserve	0.46	0.43	0.47	0.50	0.53	0.45	0.39	0.39				
Regulation	0.09	0.08	0.09	0.08	0.10	0.08	0.06	0.07				
NYISO Cost of Operations	0.68	0.69	0.68	0.66	0.71	0.74	0.76	0.75				
FERC Fee Recovery	0.08	0.09	0.09	0.10	0.11	0.09	0.06	0.07				
Uplift	(0.15)	(0.23)	(0.19)	(0.08)	0.09	(0.05)	0.07	0.17				
Uplift: Local Reliability Share	0.07	0.06	0.07	0.14	0.32	0.24	0.38	0.50				
Uplift: Statewide Share	(0.22)	(0.29)	(0.26)	(0.21)	(0.23)	(0.29)	(0.31)	(0.33)				
Voltage Support and Black Start	0.44	0.44	0.44	0.43	0.45	0.45	0.46	0.46				
Avg Monthly Cost	27.29	23.32	19.55	18.38	19.16	24.09	31.91	29.07				
Avg YTD Cost	27.29	25.40	23.48	22.38	21.82	22.21	24.11	24.88				
TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	0.00	0.04	0.18	0.54				
2019	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	September	<u>October</u>	<u>November</u>	<u>December</u>
<b>2019</b> LBMP	<u>January</u> 50.93	February 33.51	<u>March</u> 34.91	<u>April</u> 28.01	<u>May</u> 23.10	<u>June</u> 24.43	<u>July</u> 33.18	<u>August</u> 27.83	September 22.22	October 20.84	November 27.39	December 29.52
						·			· · · · · · · · · · · · · · · · · · ·			
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
LBMP NTAC	50.93 0.51	33.51 0.69	34.91 0.98	28.01 1.16	23.10 0.72	24.43 1.08	33.18 1.01	27.83 0.98	22.22 0.48	20.84 0.57	27.39 0.88	29.52 0.77
LBMP NTAC Reserve	50.93 0.51 0.54	33.51 0.69 0.51	34.91 0.98 0.55	28.01 1.16 0.63	23.10 0.72 0.63	24.43 1.08 0.50	33.18 1.01 0.44	27.83 0.98 0.49	22.22 0.48 0.50	20.84 0.57 0.62	27.39 0.88 0.50	29.52 0.77 0.44
LBMP NTAC Reserve Regulation	50.93 0.51 0.54 0.13	33.51 0.69 0.51 0.11	34.91 0.98 0.55 0.10	28.01 1.16 0.63 0.33	23.10 0.72 0.63 0.13	24.43 1.08 0.50 0.09	33.18 1.01 0.44 0.07	27.83 0.98 0.49 0.09	22.22 0.48 0.50 0.09	20.84 0.57 0.62 0.13	27.39 0.88 0.50 0.11	29.52 0.77 0.44 0.10
LBMP NTAC Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift	50.93 0.51 0.54 0.13 0.68	33.51 0.69 0.51 0.11 0.68	34.91 0.98 0.55 0.10 0.69	28.01 1.16 0.63 0.33 0.69	23.10 0.72 0.63 0.13 0.68	24.43 1.08 0.50 0.09 0.69	33.18 1.01 0.44 0.07 0.70	27.83 0.98 0.49 0.09 0.70	22.22 0.48 0.50 0.09 0.69	20.84 0.57 0.62 0.13 0.67	27.39 0.88 0.50 0.11 0.67	29.52 0.77 0.44 0.10 0.67
LBMP NTAC Reserve Regulation NYISO Cost of Operations FERC Fee Recovery	50.93 0.51 0.54 0.13 0.68 0.08	33.51 0.69 0.51 0.11 0.68 0.09	34.91 0.98 0.55 0.10 0.69 0.09	28.01 1.16 0.63 0.33 0.69 0.10	23.10 0.72 0.63 0.13 0.68 0.10	24.43 1.08 0.50 0.09 0.69 0.08	33.18 1.01 0.44 0.07 0.70 0.06	27.83 0.98 0.49 0.09 0.70 0.07	22.22 0.48 0.50 0.09 0.69 0.09	20.84 0.57 0.62 0.13 0.67 0.09	27.39 0.88 0.50 0.11 0.67 0.09	29.52 0.77 0.44 0.10 0.67 0.08
LBMP NTAC Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift Uplift: Local Reliability Share Uplift: Statewide Share	50.93 0.51 0.54 0.13 0.68 0.08 (0.25) 0.32 (0.57)	33.51 0.69 0.51 0.11 0.68 0.09 (0.44) 0.11 (0.55)	34.91 0.98 0.55 0.10 0.69 0.09 (0.33) 0.31 (0.64)	28.01 1.16 0.63 0.33 0.69 0.10 (0.15) 0.20 (0.35)	23.10 0.72 0.63 0.13 0.68 0.10 0.13 0.23 (0.11)	24.43 1.08 0.50 0.09 0.69 0.08 0.07 0.19 (0.12)	33.18 1.01 0.44 0.07 0.70 0.06 (0.06) 0.44 (0.50)	27.83 0.98 0.49 0.09 0.70 0.07 (0.20) 0.25 (0.45)	22.22 0.48 0.50 0.09 0.69 0.09 (0.13) 0.17 (0.30)	20.84 0.57 0.62 0.13 0.67 0.09 (0.09) 0.11 (0.20)	27.39 0.88 0.50 0.11 0.67 0.09 (0.13) 0.19 (0.31)	29.52 0.77 0.44 0.10 0.67 0.08 (0.19) 0.17 (0.35)
LBMP NTAC Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift Uplift: Local Reliability Share	50.93 0.51 0.54 0.13 0.68 0.08 (0.25) 0.32	33.51 0.69 0.51 0.11 0.68 0.09 (0.44) 0.11	34.91 0.98 0.55 0.10 0.69 0.09 (0.33) 0.31	28.01 1.16 0.63 0.33 0.69 0.10 (0.15) 0.20	23.10 0.72 0.63 0.13 0.68 0.10 0.13 0.23	24.43 1.08 0.50 0.09 0.69 0.08 0.07 0.19	33.18 1.01 0.44 0.07 0.70 0.06 (0.06) 0.44	27.83 0.98 0.49 0.09 0.70 0.07 (0.20) 0.25	22.22 0.48 0.50 0.09 0.69 0.09 (0.13) 0.17	20.84 0.57 0.62 0.13 0.67 0.09 (0.09) 0.11	27.39 0.88 0.50 0.11 0.67 0.09 (0.13) 0.19	29.52 0.77 0.44 0.10 0.67 0.08 (0.19) 0.17
LBMP NTAC Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift Uplift: Local Reliability Share Uplift: Statewide Share	50.93 0.51 0.54 0.13 0.68 0.08 (0.25) 0.32 (0.57)	33.51 0.69 0.51 0.11 0.68 0.09 (0.44) 0.11 (0.55)	34.91 0.98 0.55 0.10 0.69 0.09 (0.33) 0.31 (0.64)	28.01 1.16 0.63 0.33 0.69 0.10 (0.15) 0.20 (0.35)	23.10 0.72 0.63 0.13 0.68 0.10 0.13 0.23 (0.11)	24.43 1.08 0.50 0.09 0.69 0.08 0.07 0.19 (0.12)	33.18 1.01 0.44 0.07 0.70 0.06 (0.06) 0.44 (0.50)	27.83 0.98 0.49 0.09 0.70 0.07 (0.20) 0.25 (0.45)	22.22 0.48 0.50 0.09 0.69 0.09 (0.13) 0.17 (0.30)	20.84 0.57 0.62 0.13 0.67 0.09 (0.09) 0.11 (0.20)	27.39 0.88 0.50 0.11 0.67 0.09 (0.13) 0.19 (0.31)	29.52 0.77 0.44 0.10 0.67 0.08 (0.19) 0.17 (0.35)
LBMP NTAC Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift Uplift: Local Reliability Share Uplift: Statewide Share Voltage Support and Black Start	50.93 0.51 0.54 0.13 0.68 0.08 (0.25) 0.32 (0.57) 0.37	33.51 0.69 0.51 0.11 0.68 0.09 (0.44) 0.11 (0.55) 0.37	34.91 0.98 0.55 0.10 0.69 0.09 (0.33) 0.31 (0.64) 0.38	28.01 1.16 0.63 0.33 0.69 0.10 (0.15) 0.20 (0.35) 0.38	23.10 0.72 0.63 0.13 0.68 0.10 0.13 0.23 (0.11) 0.38	24.43 1.08 0.50 0.09 0.69 0.08 0.07 0.19 (0.12) 0.38	33.18 1.01 0.44 0.07 0.70 0.06 (0.06) 0.44 (0.50) 0.38	27.83 0.98 0.49 0.09 0.70 0.07 (0.20) 0.25 (0.45) 0.38	22.22 0.48 0.50 0.09 0.69 0.09 (0.13) 0.17 (0.30) 0.38	20.84 0.57 0.62 0.13 0.67 0.09 (0.09) 0.11 (0.20) 0.37	27.39 0.88 0.50 0.11 0.67 0.09 (0.13) 0.19 (0.31) 0.37	29.52 0.77 0.44 0.10 0.67 0.08 (0.19) 0.17 (0.35) 0.36

<sup>\*</sup> Excludes ICAP payments. Market Mitigation and Analysis Prepared: 9/10/2020 9:45 AM



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>	September	<u>October</u>	November	<u>December</u>
Day Ahead Market MWh	14,194,609	13,172,669	12,495,999	11,372,390	11,462,320	13,825,178	16,629,337	15,671,629				
DAM LSE Internal LBMP Energy Sales	56%	56%	59%	54%	55%	58%	65%	63%				
DAM External TC LBMP Energy Sales	6%	5%	5%	7%	4%	3%	2%	4%				
DAM Bilateral - Internal Bilaterals	30%	30%	27%	30%	31%	29%	26%	27%				
DAM Bilateral - Importl/Non-LBMP Market Bilaterals	5%	5%	6%	6%	6%	5%	3%	3%				
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	2%	2%	2%	2%	1%	2%				
DAM Bilateral - Wheel Through Bilaterals	1%	1%	1%	1%	1%	2%	2%	2%				
Balancing Energy Market MWh	-26,753	-142,168	144,076	22,599	-137,565	-180,149	403,914	212,307				
Balancing Energy LSE Internal LBMP Energy Sales	-1080%	-221%	-85%	-884%	-187%	-134%	85%	99%				
Balancing Energy External TC LBMP Energy Sales	1156%	181%	240%	1233%	137%	99%	35%	43%				
Balancing Energy Bilateral - Internal Bilaterals	62%	5%	12%	55%	12%	7%	2%	1%				
Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	0%	0%				
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	127%	16%	18%	92%	12%	5%	2%	4%				
Balancing Energy Bilateral - Wheel Through Bilaterals	-365%	-81%	-85%	-396%	-74%	-77%	-24%	-46%				
Transactions Summary												
LBMP	62%	62%	65%	61%	59%	62%	68%	67%				
Internal Bilaterals	31%	31%	27%	30%	32%	30%	26%	27%				
Import Bilaterals	5%	5%	6%	6%	6%	5%	3%	3%				
Export Bilaterals	2%	2%	2%	2%	2%	2%	1%	2%				
Wheels Through	0%	1%	0%	0%	0%	1%	1%	1%				
Market Share of Total Load												
Day Ahead Market	100.2%	101.1%	98.9%	99.8%	101.2%	101.3%	97.6%	98.7%				
Balancing Energy +	-0.2%	-1.1%	1.1%	0.2%	-1.2%	-1.3%	2.4%	1.3%				
Total MWH	14,167,856	13,030,501	12,640,075	11,394,989	11,324,755	13,645,029	17,033,251	15,883,935				
Average Daily Energy Sendout/Month GWh	423	417	375	344	345	430	530	489				
2019	lanuary	February	March	Anril	May	lune	luky	Διιαμετ	Sentember	October	November	December
2019 Day Ahaad Market MWh	January	February	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	August	September	October	November	December
Day Ahead Market MWh	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
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales	15,299,458 57%	13,391,383 57%	13,527,834 59%	11,811,029 59%	12,521,583 57%	13,723,372 58%	17,416,589 64%	16,379,968 63%	13,588,715 58%	12,567,821 57%	13,036,152 54%	14,345,711 56%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales	15,299,458 57% 6%	13,391,383 57% 5%	13,527,834 59% 3%	11,811,029 59% 1%	12,521,583 57% 3%	13,723,372 58% 3%	17,416,589 64% 3%	16,379,968 63% 3%	13,588,715 58% 3%	12,567,821 57% 4%	13,036,152 54% 6%	14,345,711 56% 6%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals	15,299,458 57% 6% 29%	13,391,383 57% 5% 30%	13,527,834 59% 3% 30%	11,811,029 59% 1% 31%	12,521,583 57% 3% 32%	13,723,372 58% 3% 29%	17,416,589 64% 3% 26%	16,379,968 63% 3% 26%	13,588,715 58% 3% 30%	12,567,821 57% 4% 32%	13,036,152 54% 6% 32%	14,345,711 56% 6% 30%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals	15,299,458 57% 6% 29% 5%	13,391,383 57% 5% 30% 5%	13,527,834 59% 3% 30% 5%	11,811,029 59% 1% 31% 5%	12,521,583 57% 3% 32% 6%	13,723,372 58% 3% 29% 5%	17,416,589 64% 3% 26% 4%	16,379,968 63% 3% 26% 4%	13,588,715 58% 3% 30% 5%	12,567,821 57% 4% 32% 5%	13,036,152 54% 6% 32% 5%	14,345,711 56% 6% 30% 5%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals	15,299,458 57% 6% 29% 5% 1%	13,391,383 57% 5% 30% 5% 1%	13,527,834 59% 3% 30% 5% 2%	11,811,029 59% 1% 31% 5% 2%	12,521,583 57% 3% 32% 6% 2%	13,723,372 58% 3% 29% 5% 2%	17,416,589 64% 3% 26% 4% 1%	16,379,968 63% 3% 26% 4% 1%	13,588,715 58% 3% 30% 5% 2%	12,567,821 57% 4% 32% 5% 2%	13,036,152 54% 6% 32% 5% 2%	14,345,711 56% 6% 30% 5% 2%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals	15,299,458 57% 6% 29% 5% 1% 2%	13,391,383 57% 5% 30% 5% 1% 2%	13,527,834 59% 3% 30% 5% 2% 2%	11,811,029 59% 1% 31% 5% 2% 2%	12,521,583 57% 3% 32% 6% 2% 1%	13,723,372 58% 3% 29% 5% 2% 2%	17,416,589 64% 3% 26% 4% 1% 2%	16,379,968 63% 3% 26% 4% 1% 2%	13,588,715 58% 3% 30% 5% 2% 2%	12,567,821 57% 4% 32% 5% 2% 1%	13,036,152 54% 6% 32% 5% 2% 1%	14,345,711 56% 6% 30% 5% 2% 1%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh	15,299,458 57% 6% 29% 5% 1% 2%	13,391,383 57% 5% 30% 5% 1% 2% -323,188	13,527,834 59% 3% 30% 5% 2% 2% -261,217	11,811,029 59% 1% 31% 5% 2% 2% -218,482	12,521,583 57% 3% 32% 6% 2% 1% -392,699	13,723,372 58% 3% 29% 5% 2% 2% -102,044	17,416,589 64% 3% 26% 4% 1% 2%	16,379,968 63% 3% 26% 4% 1% 2%	13,588,715 58% 3% 30% 5% 2% 2% -247,267	12,567,821 57% 4% 32% 5% 2% 1% -112,057	13,036,152 54% 6% 32% 5% 2% 1% -17,421	14,345,711 56% 6% 30% 5% 2% 1% 46,828
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1%	13,723,372 58% 3% 29% 5% 2% -102,044 -264% 233% 0%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 0% 1%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47% 62% 30%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59% 33%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61% 32%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45% 63% 29% 5%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47% 62% 30% 5%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47% 61% 30% 6%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44% 60% 31% 6%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59% 33% 6%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77% 62% 30% 5%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23% 65% 27% 5%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31% 61% 30% 5%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61% 32% 5%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals  Export Bilaterals	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45% 63% 29% 5% 1%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47% 62% 30% 5% 2%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47% 61% 30% 6% 2%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44% 60% 31% 6% 2%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59% 33% 6% 2%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77% 62% 30% 5% 2%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125% 68% 25% 4% 1%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23% 65% 27% 5% 1%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31% 61% 30% 5% 2%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61% 32% 5% 2% 5% 2%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476% 60% 32% 5% 2%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229% 63% 30% 5% 2%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals  Export Bilaterals  Wheels Through	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45% 63% 29% 5%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47% 62% 30% 5%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47% 61% 30% 6%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44% 60% 31% 6%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59% 33% 6%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77% 62% 30% 5%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23% 65% 27% 5%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31% 61% 30% 5%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61% 32% 5%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals  Export Bilaterals  Export Bilaterals  Wheels Through  Market Share of Total Load	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45% 63% 29% 5% 1% 1%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47% 62% 30% 5% 2% 1%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47% 61% 30% 6% 2% 1%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44% 60% 31% 6% 2% 1%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59% 33% 6% 2% 0%	13,723,372 58% 3% 29% 5% 2% -102,044 -264% 233% 0% 0% 8% -77% 62% 30% 5% 2% 1%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125% 68% 25% 4% 1%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23% 65% 27% 5% 1% 1%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31% 61% 30% 5% 2% 2%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61% 32% 5% 2% 0%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476% 60% 32% 5% 2% 0%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229% 63% 30% 5% 2% 0%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals  Export Bilaterals  Export Bilaterals  Wheels Through  Market Share of Total Load  Day Ahead Market	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45% 63% 29% 5% 1% 1%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47% 62% 30% 5% 2% 1%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47% 61% 30% 6% 2% 1%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44% 60% 31% 6% 2% 1%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59% 33% 6% 2% 0%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77% 62% 30% 5% 2% 1%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125% 68% 25% 4% 1%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23% 65% 27% 5% 1% 1%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31% 61% 30% 5% 2% 2% 2%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61% 32% 5% 2% 0% 2% 0%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476% 60% 32% 5% 2% 0%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229% 63% 30% 5% 2% 0% 99.7%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals  Export Bilaterals  Export Bilaterals  Wheels Through  Market Share of Total Load  Day Ahead Market  Balancing Energy +	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45% 63% 29% 5% 1% 1% 102.2% -2.2%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47% 62% 30% 5% 2% 1% 102.5% -2.5%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47% 61% 30% 6% 2% 1% 102.0% -2.0%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44% 60% 31% 6% 2% 1% 101.9% -1.9%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59% 33% 6% 2% 0% 103.2% -3.2%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77% 62% 30% 5% 2% 1% 100.7% -0.7%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125% 68% 25% 4% 1% 1%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23% 65% 27% 5% 1% 1%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31% 61% 30% 5% 2% 2% 2%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61% 32% 5% 2% 0% 100.9% -0.9%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476% 60% 32% 5% 2% 0%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229% 63% 30% 5% 2% 0% 99.7% 0.3%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Importl/Non-LBMP Market Bilaterals  DAM Bilateral - Export/Non-LBMP Market Bilaterals  DAM Bilateral - Wheel Through Bilaterals  Balancing Energy Market MWh  Balancing Energy LSE Internal LBMP Energy Sales  Balancing Energy External TC LBMP Energy Sales  Balancing Energy Bilateral - Internal Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals  Export Bilaterals  Export Bilaterals  Wheels Through  Market Share of Total Load  Day Ahead Market	15,299,458 57% 6% 29% 5% 1% 2% -322,442 -120% 65% -4% 0% 3% -45% 63% 29% 5% 1% 1%	13,391,383 57% 5% 30% 5% 1% 2% -323,188 -126% 67% -1% 0% 7% -47% 62% 30% 5% 2% 1%	13,527,834 59% 3% 30% 5% 2% 2% -261,217 -138% 82% -3% 0% 6% -47% 61% 30% 6% 2% 1%	11,811,029 59% 1% 31% 5% 2% 2% -218,482 -178% 113% 2% 0% 7% -44% 60% 31% 6% 2% 1%	12,521,583 57% 3% 32% 6% 2% 1% -392,699 -150% 68% 1% 0% 2% -21% 59% 33% 6% 2% 0%	13,723,372 58% 3% 29% 5% 2% 2% -102,044 -264% 233% 0% 0% 8% -77% 62% 30% 5% 2% 1%	17,416,589 64% 3% 26% 4% 1% 2% 103,628 -2% 199% 5% 15% 8% -125% 68% 25% 4% 1%	16,379,968 63% 3% 26% 4% 1% 2% -514,102 -119% 41% 0% 0% 1% -23% 65% 27% 5% 1% 1%	13,588,715 58% 3% 30% 5% 2% 2% -247,267 -163% 93% -4% 0% 6% -31% 61% 30% 5% 2% 2% 2%	12,567,821 57% 4% 32% 5% 2% 1% -112,057 -346% 266% 6% 0% 25% -52% 61% 32% 5% 2% 0% 2% 0%	13,036,152 54% 6% 32% 5% 2% 1% -17,421 -1332% 1435% 103% 0% 170% -476% 60% 32% 5% 2% 0%	14,345,711 56% 6% 30% 5% 2% 1% 46,828 -480% 699% 39% 0% 70% -229% 63% 30% 5% 2% 0%

<sup>+</sup> Balancing Energy: Load(MW) purchased at Real Time LBMP.

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

Virtual Transactions are not reflected in this chart.

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

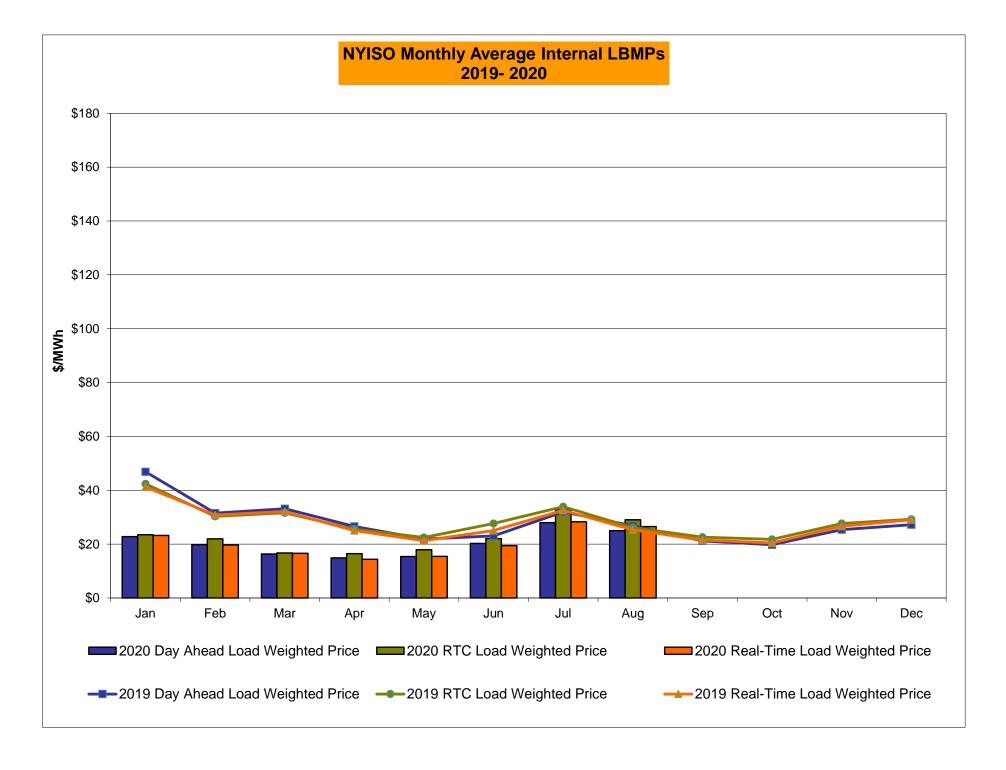
#### **NYISO Markets 2020 Energy Statistics**

	<u>January</u>	<u>February</u>	March	<u>April</u>	May	<u>June</u>	<u>July</u>	August September	October November December
DAY AHEAD LBMP									
Price *	\$22.11	\$19.48	\$16.07	\$14.67	\$14.97	\$19.15	\$26.30	\$23.61	
Standard Deviation	\$7.43	\$4.45	\$3.21	\$2.71	\$3.55	\$6.40	\$10.45	\$8.56	
Load Weighted Price **	\$22.77	\$19.84	\$16.36	\$14.86	\$15.37	\$20.28	\$27.94	\$25.01	
RTC LBMP									
Price *	\$22.86	\$21.48	\$16.48	\$16.23	\$17.46	\$20.84	\$30.70	\$26.86	
Standard Deviation	\$9.33	\$53.30	\$4.84	\$5.17	\$8.61	\$11.26	\$17.92	\$17.17	
Load Weighted Price **	\$23.50	\$21.94	\$16.74	\$16.44	\$17.89	\$22.01	\$32.92	\$29.01	
REAL TIME LBMP									
Price *	\$22.53	\$19.29	\$16.24	\$14.14	\$14.90	\$18.35	\$26.56	\$24.68	
Standard Deviation	\$11.90	\$8.68	\$7.48	\$6.98	\$8.35	\$9.33	\$16.45	\$13.95	
Load Weighted Price **	\$23.20	\$19.68	\$16.58	\$14.35	\$15.42	\$19.46	\$28.27	\$26.53	
Average Daily Energy Sendout/Month GWh	423	417	375	344	345	430	530	489	

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

	January	February	<u>March</u>	<u>April</u>	May	<u>June</u>	<u>July</u>	August	<u>September</u>	October	November [	<u>December</u>
DAY AHEAD LBMP				<u> </u>								_
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
RTC LBMP												
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
REAL TIME LBMP												
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

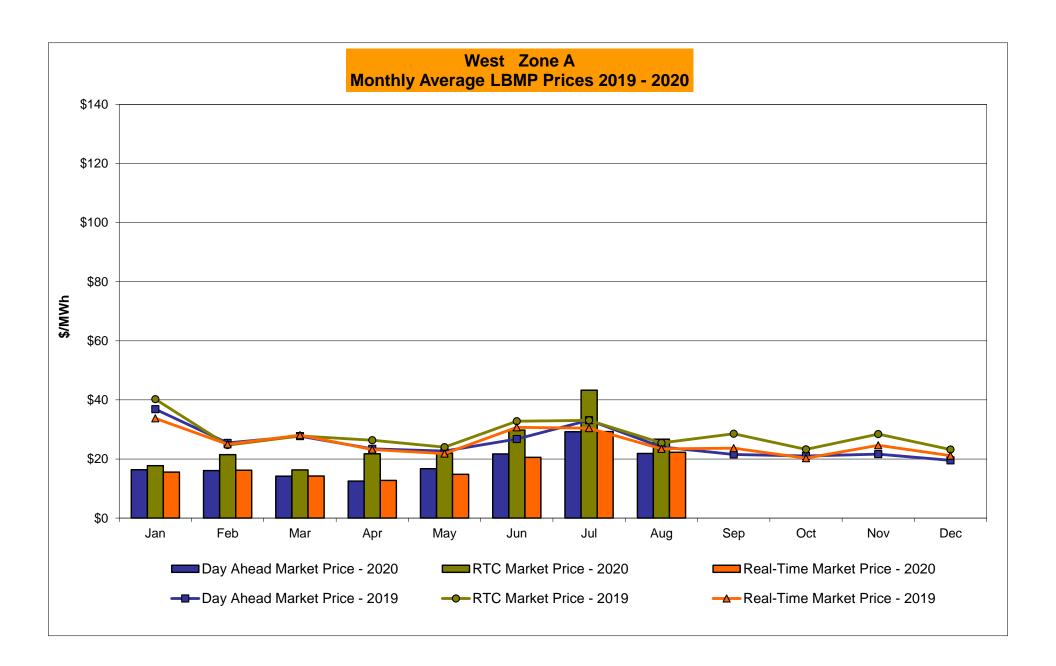
<sup>\*</sup> Average zonal load weighted prices.
\*\* Average zonal load weighted prices, load weighted in each hour.

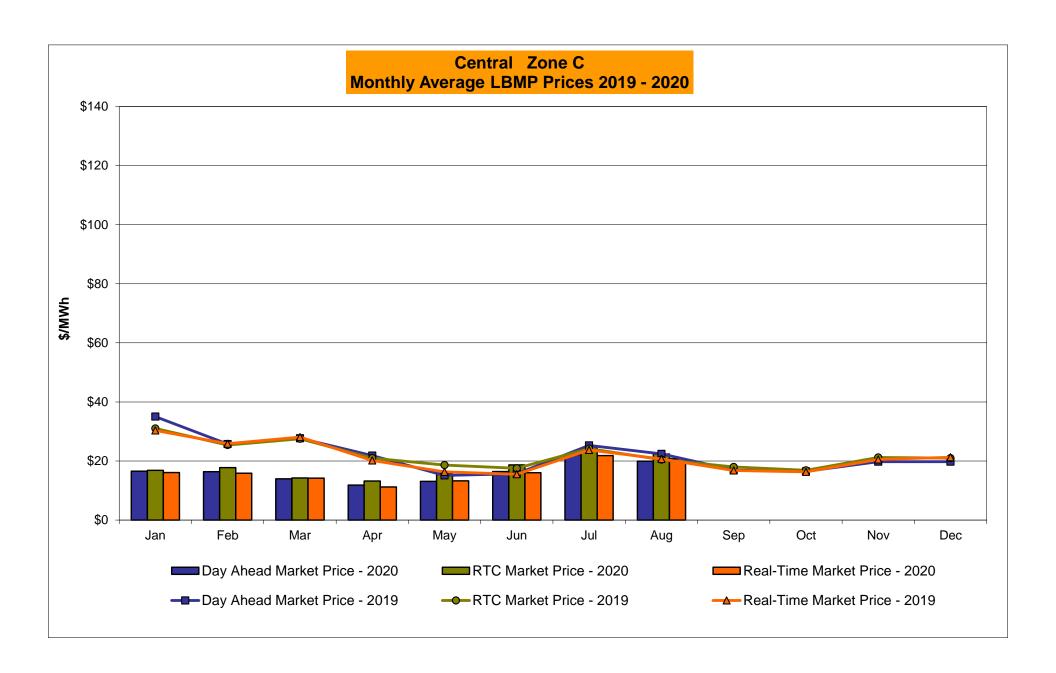


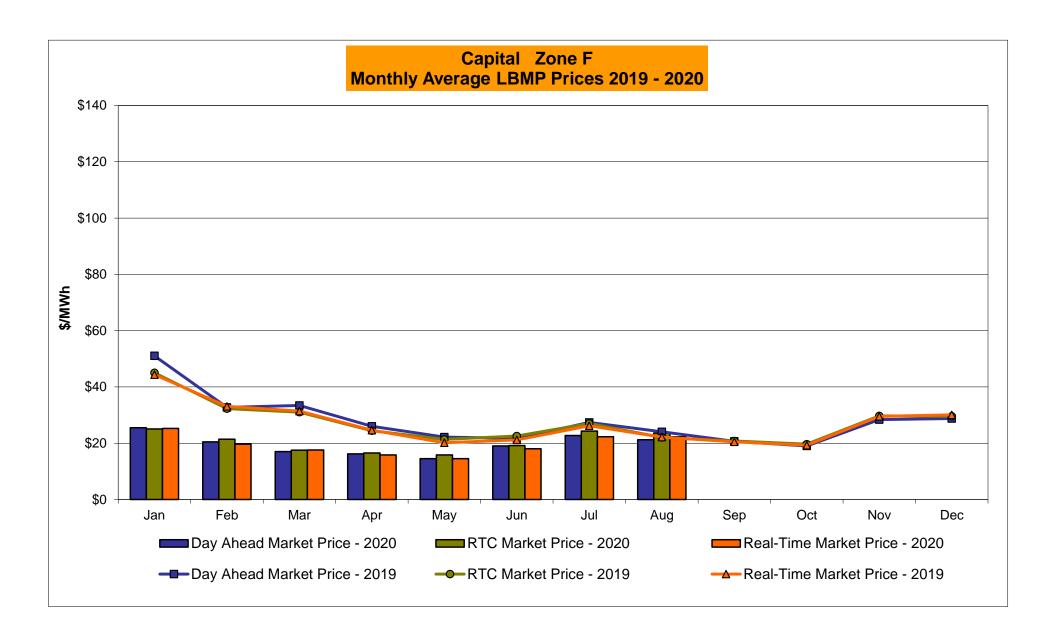
#### August 2020 Zonal LBMP Statistics for NYISO (\$/MWh)

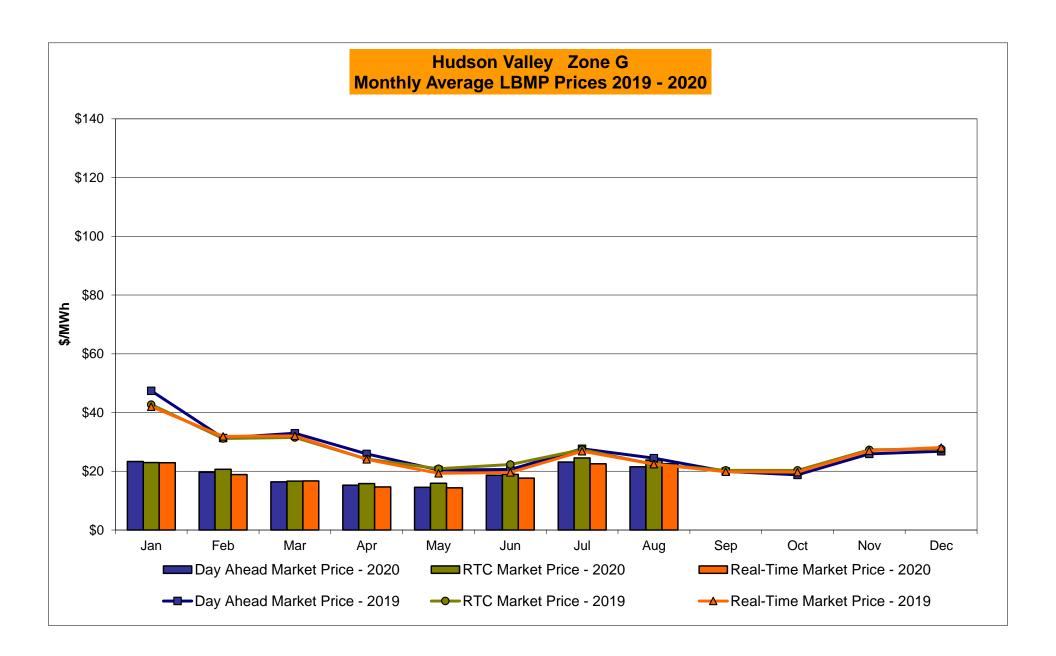
					MOHAWK		HUDSON			NEW YORK	LONG
	WEST	GENESEE	NORTH	CENTRAL	VALLEY	CAPITAL	VALLEY		DUNWOODIE	CITY	ISLAND
DAY ALIEAD LOMB	Zone A	Zone B	Zone D	Zone C	Zone E	Zone F	Zone G	Zone H	Zone I	Zone J	Zone K
DAY AHEAD LBMP Unweighted Price *	21.89	19.53	14.99	19.94	19.78	21.24	21.50	21.97	24.00	22.45	33.24
Standard Deviation	21.89 9.36	6.27	5.40	6.38	6.08	6.44	6.53	7.12	21.99 6.93	23.45 7.74	33.2 <del>4</del> 17.20
Standard Deviation	9.30	0.27	5.40	0.30	0.00	0.44	0.55	7.12	0.93	7.74	17.20
RTC LBMP											
Unweighted Price *	26.69	21.45	17.31	22.34	22.14	23.59	23.84	25.21	24.82	26.32	38.67
Standard Deviation	24.57	13.27	18.46	14.11	13.60	13.48	14.01	16.83	15.22	16.30	39.60
REAL TIME LBMP											
Unweighted Price *	22.30	20.15	16.00	20.73	20.70	22.33	22.59	23.92	23.55	25.52	32.73
Standard Deviation	19.21	11.20	17.50	11.40	11.56	11.78	12.31	15.84	13.38	14.96	26.90
		111/22	113/222			07.000					
	ONTARIO	HYDRO	HYDRO		NIT'M/	CROSS	NODTUDORT				
	ONTARIO	QUEBEC	QUEBEC	D IM	NEW	SOUND	NORTHPORT-	NEDTLINE	I INDEN VET	HIIDSON	Donnison
	ONTARIO IESO	QUEBEC		PJM	NEW ENGLAND	SOUND CABLE	NORWALK	NEPTUNE Controllable	LINDEN VFT	HUDSON	Dennison Controllable
	IESO	QUEBEC (Wheel)	QUEBEC (Import/Export)		ENGLAND	SOUND CABLE Controllable	NORWALK Controllable	Controllable	Controllable	<b>Controllable</b>	Controllable
DAY AHEAD LBMP		QUEBEC	QUEBEC	PJM Zone P		SOUND CABLE	NORWALK				
<b>DAY AHEAD LBMP</b> Unweighted Price *	IESO	QUEBEC (Wheel)	QUEBEC (Import/Export)		ENGLAND	SOUND CABLE Controllable	NORWALK Controllable	Controllable	Controllable	<b>Controllable</b>	Controllable
	IESO Zone O	QUEBEC (Wheel) Zone M	QUEBEC (Import/Export) Zone M	Zone P	ENGLAND  Zone N	SOUND CABLE Controllable Line	NORWALK Controllable Line	Controllable Line	Controllable Line	Controllable Line	Controllable Line
Unweighted Price *	<b>Zone O</b> 18.09	QUEBEC (Wheel)  Zone M  17.98	QUEBEC (Import/Export)  Zone M  17.98	<b>Zone P</b> 18.09	ENGLAND  Zone N  21.81	SOUND CABLE Controllable Line 20.96	NORWALK Controllable Line 45.70	Controllable Line 24.29	Controllable Line 14.89	Controllable Line 22.44	Controllable Line 24.81
Unweighted Price *	<b>Zone O</b> 18.09	QUEBEC (Wheel)  Zone M  17.98	QUEBEC (Import/Export)  Zone M  17.98	<b>Zone P</b> 18.09	ENGLAND  Zone N  21.81	SOUND CABLE Controllable Line 20.96	NORWALK Controllable Line 45.70	Controllable Line 24.29	Controllable Line 14.89	Controllable Line 22.44	Controllable Line 24.81
Unweighted Price * Standard Deviation  RTC LBMP Unweighted Price *	IESO  Zone O  18.09 5.38	QUEBEC (Wheel)  Zone M  17.98 5.16	QUEBEC (Import/Export)  Zone M  17.98 5.16	Zone P  18.09 5.38	<b>ENGLAND Zone N</b> 21.81 7.01	SOUND CABLE Controllable Line 20.96 6.75	NORWALK Controllable Line 45.70 38.81	Controllable Line 24.29 6.50	Controllable Line 14.89 5.09	Controllable Line 22.44 6.64 24.06	24.81 7.23
Unweighted Price * Standard Deviation  RTC LBMP	Zone O  18.09 5.38	QUEBEC (Wheel) Zone M 17.98 5.16	QUEBEC (Import/Export)  Zone M  17.98 5.16	<b>Zone P</b> 18.09 5.38	<b>Zone N</b> 21.81 7.01	SOUND CABLE Controllable Line 20.96 6.75	NORWALK Controllable Line 45.70 38.81	Controllable Line 24.29 6.50	Controllable Line 14.89 5.09	Controllable Line 22.44 6.64	Controllable Line 24.81 7.23
Unweighted Price * Standard Deviation  RTC LBMP  Unweighted Price * Standard Deviation	IESO  Zone O  18.09 5.38	QUEBEC (Wheel)  Zone M  17.98 5.16	QUEBEC (Import/Export)  Zone M  17.98 5.16	Zone P  18.09 5.38	<b>ENGLAND Zone N</b> 21.81 7.01	SOUND CABLE Controllable Line 20.96 6.75	NORWALK Controllable Line 45.70 38.81	Controllable Line 24.29 6.50	Controllable Line 14.89 5.09	Controllable Line 22.44 6.64 24.06	24.81 7.23
Unweighted Price * Standard Deviation  RTC LBMP Unweighted Price * Standard Deviation  REAL TIME LBMP	18.09 5.38 18.38 12.36	QUEBEC (Wheel)  Zone M  17.98 5.16  19.56 12.37	QUEBEC (Import/Export)  Zone M  17.98 5.16  19.56 12.37	Zone P  18.09 5.38  18.38 12.36	<b>Zone N</b> 21.81 7.01 25.46 30.70	SOUND CABLE Controllable Line 20.96 6.75 23.77 15.14	NORWALK <u>Controllable</u> <u>Line</u> 45.70 38.81 51.20 65.92	24.29 6.50 27.84 28.79	Controllable Line  14.89 5.09  17.93 20.75	22.44 6.64 24.06 11.85	24.81 7.23 28.13 28.27
Unweighted Price * Standard Deviation  RTC LBMP  Unweighted Price * Standard Deviation	IESO  Zone O  18.09 5.38	QUEBEC (Wheel)  Zone M  17.98 5.16	QUEBEC (Import/Export)  Zone M  17.98 5.16	Zone P  18.09 5.38	<b>ENGLAND Zone N</b> 21.81 7.01	SOUND CABLE Controllable Line 20.96 6.75	NORWALK Controllable Line 45.70 38.81	Controllable Line 24.29 6.50	Controllable Line 14.89 5.09	Controllable Line 22.44 6.64 24.06	24.81 7.23

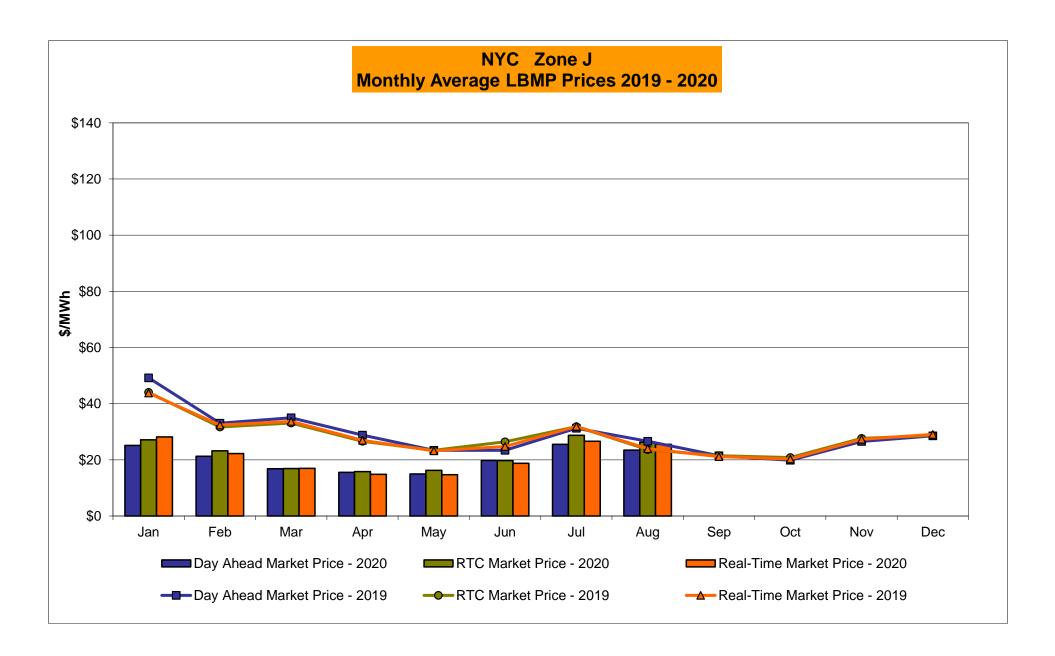
<sup>\*</sup> Straight LBMP averages

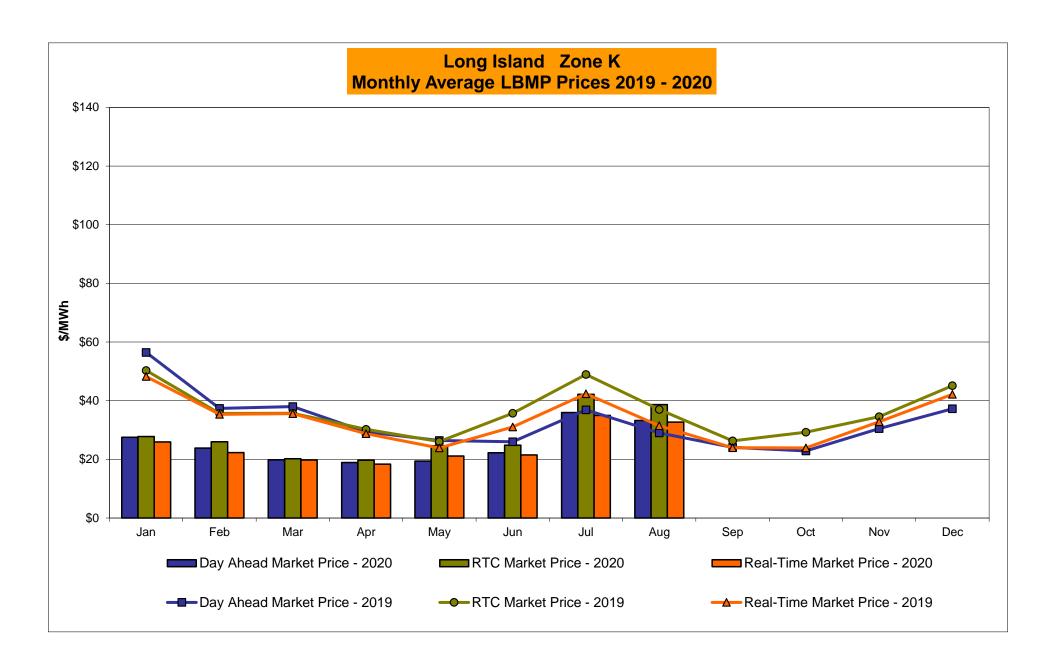


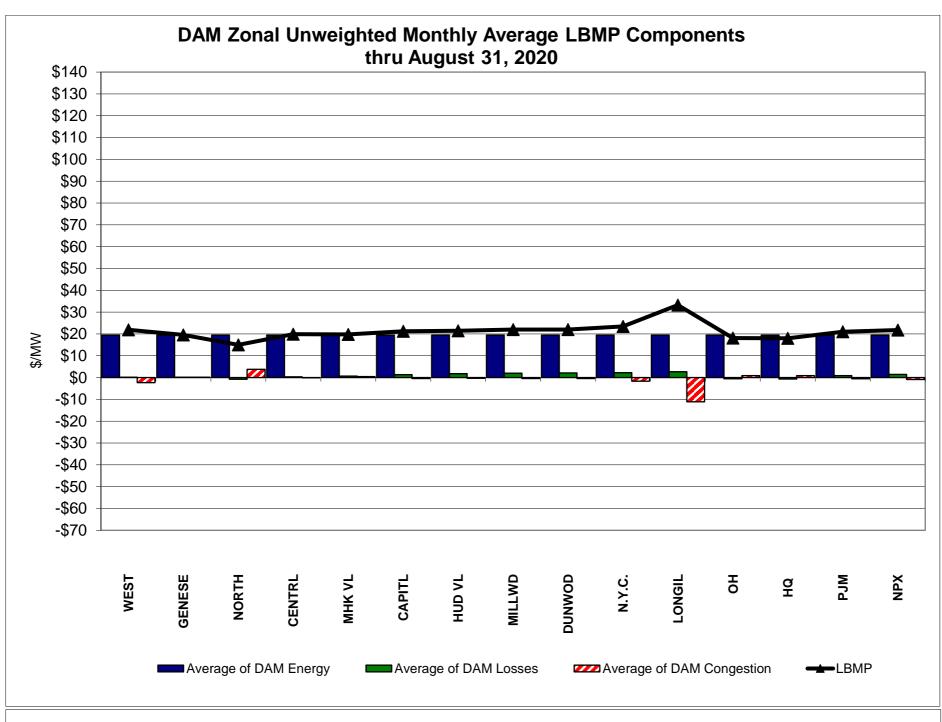


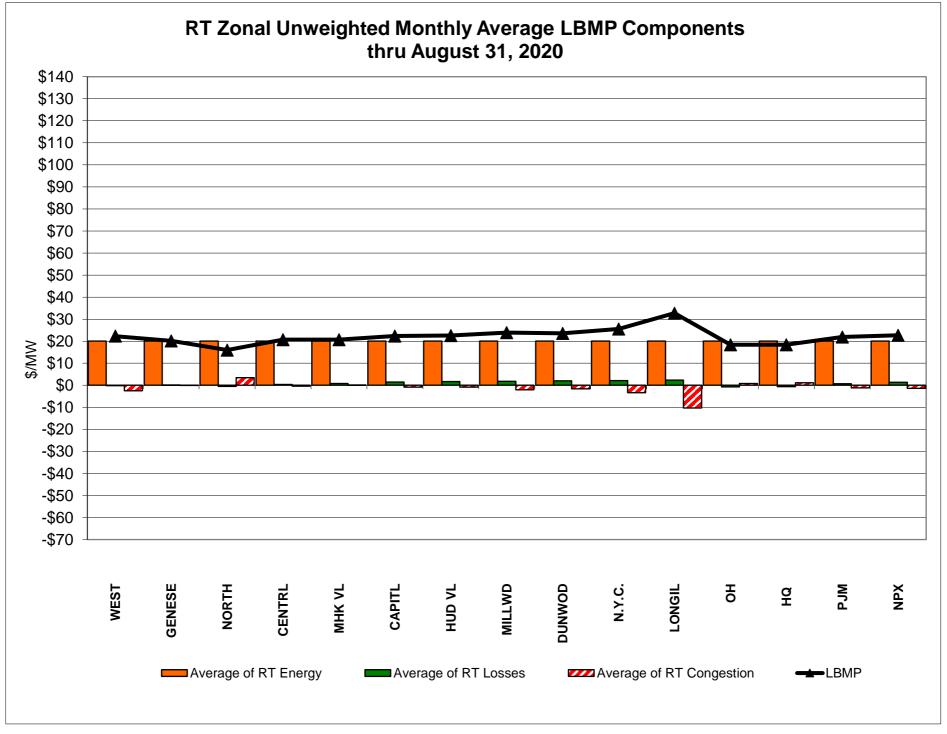




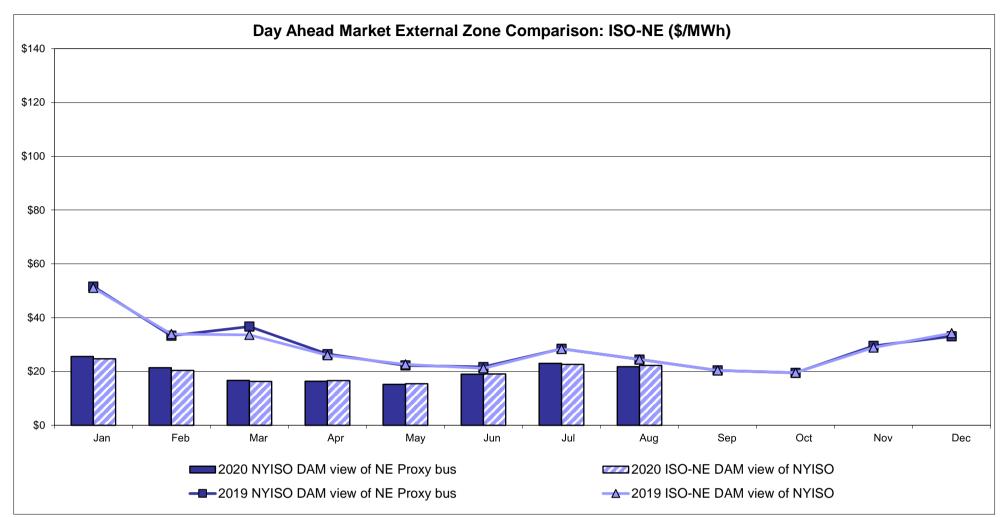


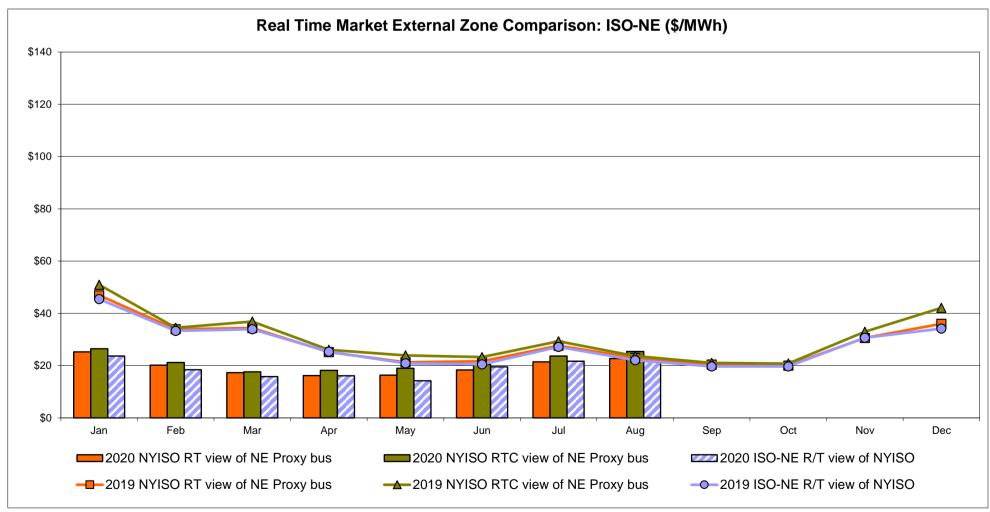




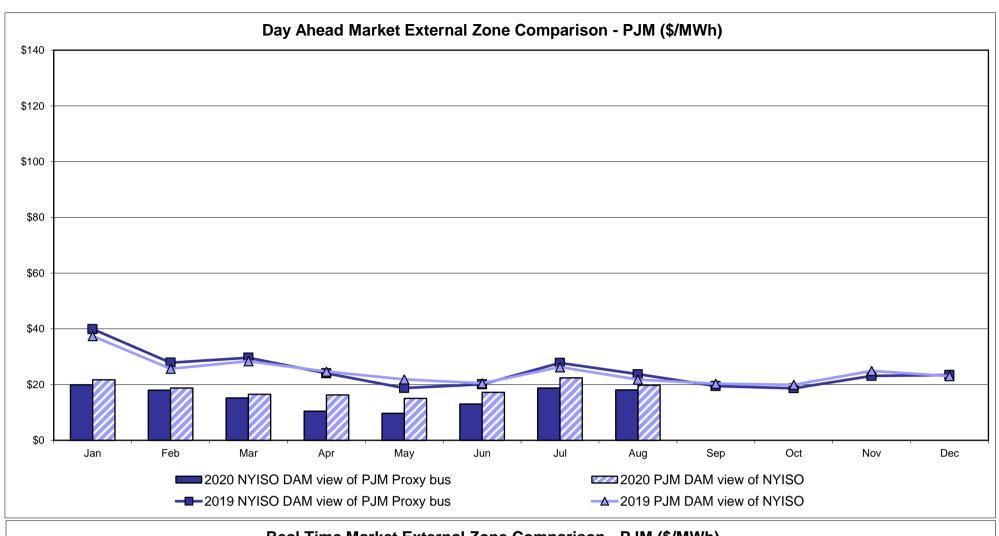


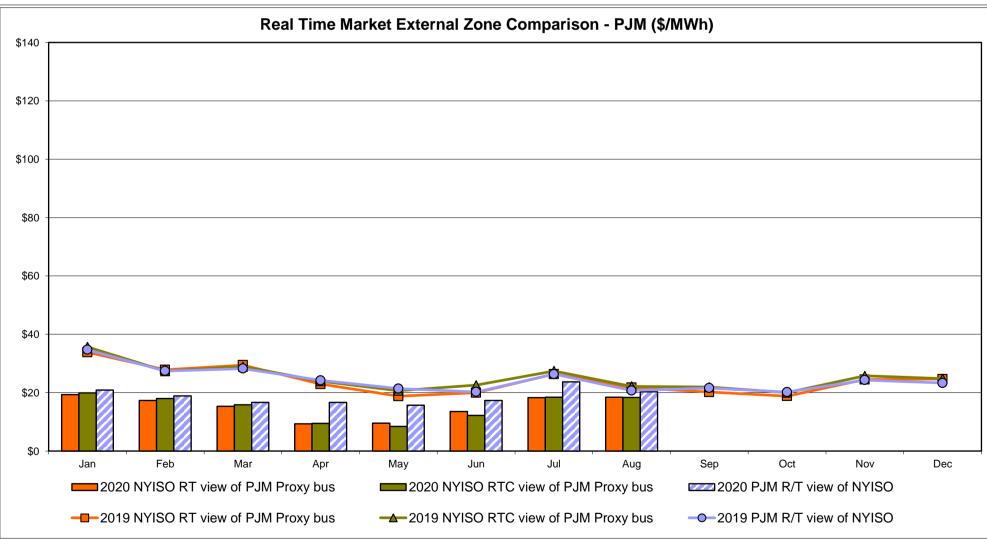
#### **External Comparison ISO-New England**



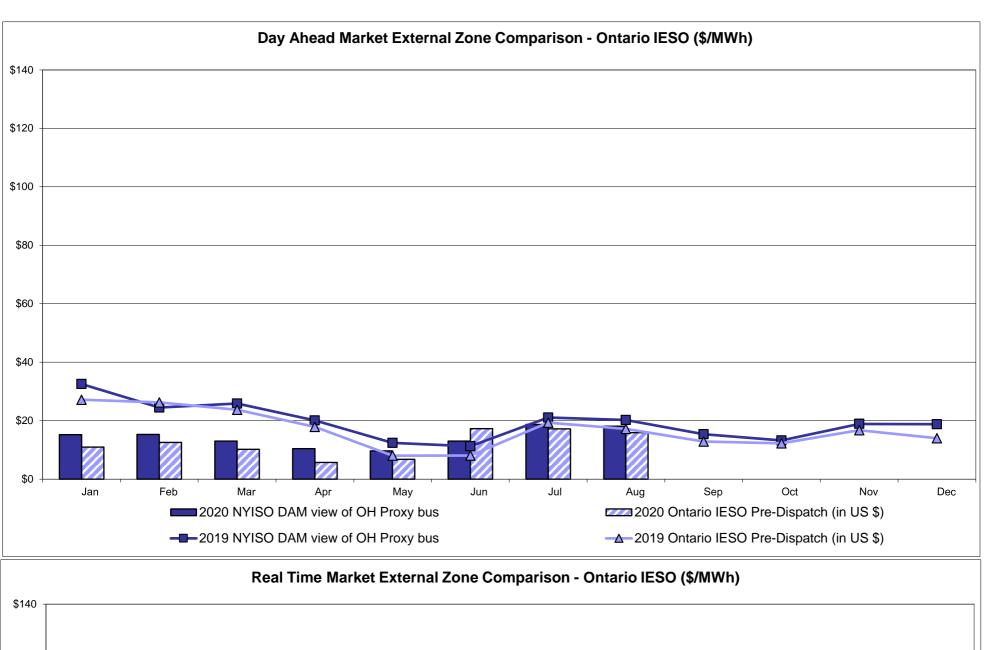


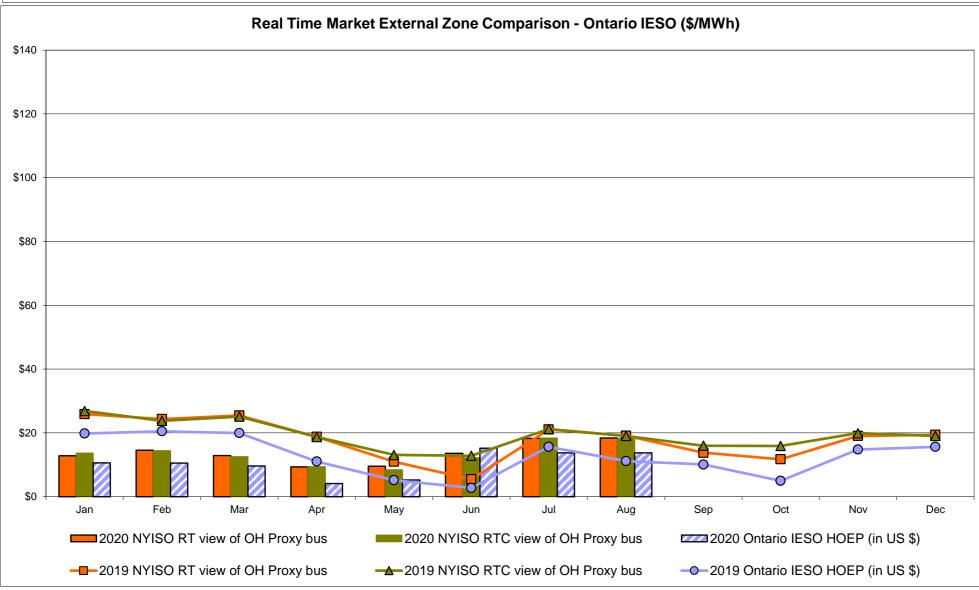
### **External Comparison PJM**





#### **External Comparison Ontario IESO**

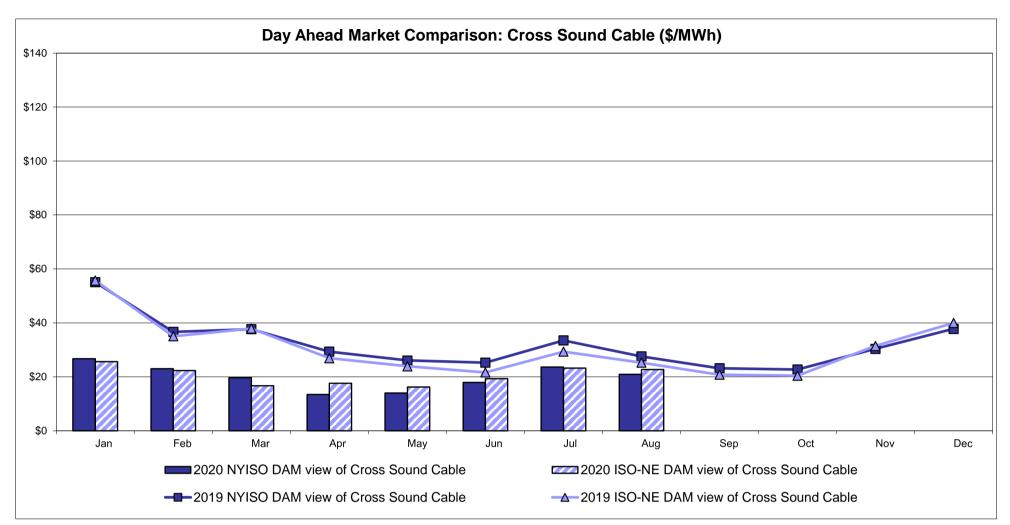


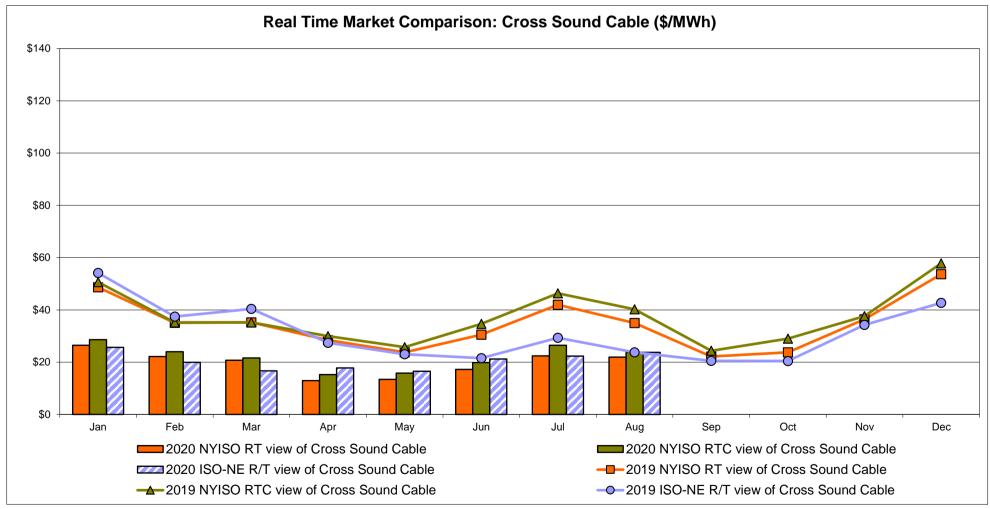


Notes: Exchange factor used for August 2020 was 0.755572346052135 to US

HOEP: Hourly Ontario Energy Price Pre-Dispatch: Projected Energy Price

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





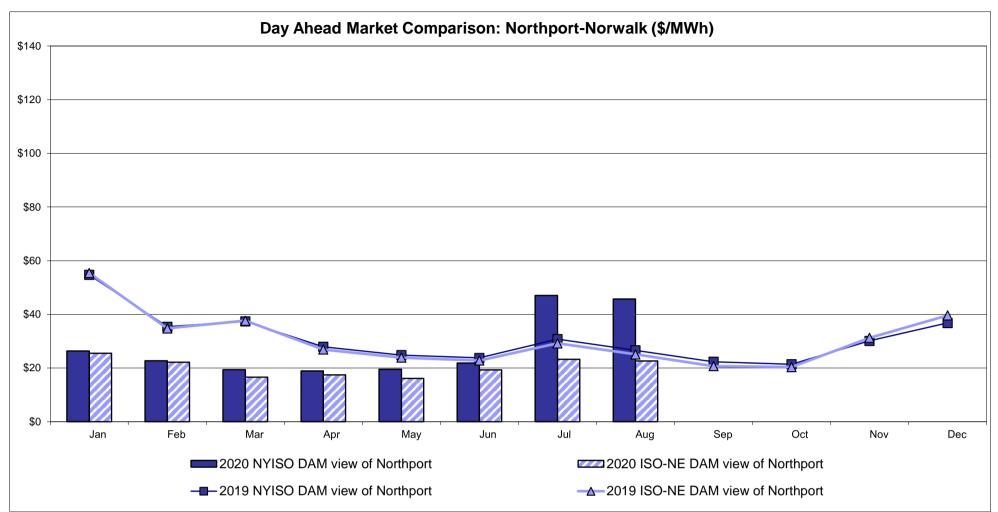
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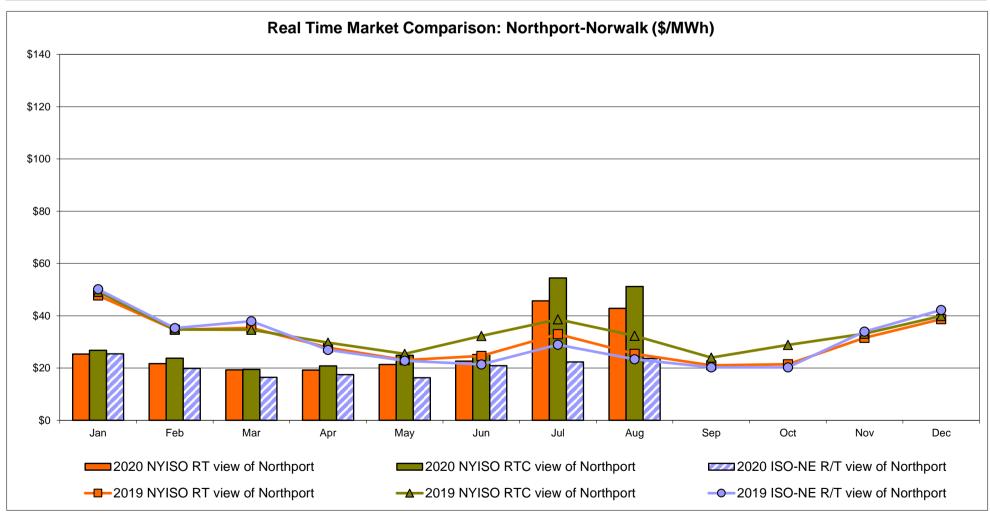
ISO-NE Forecast is an advisory posting @ 18:00 day before.

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)**





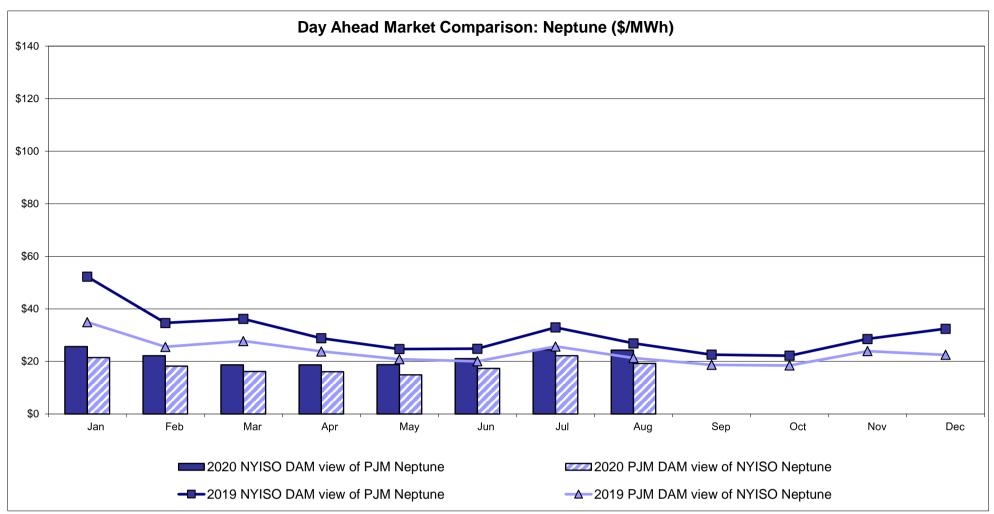
#### Note:

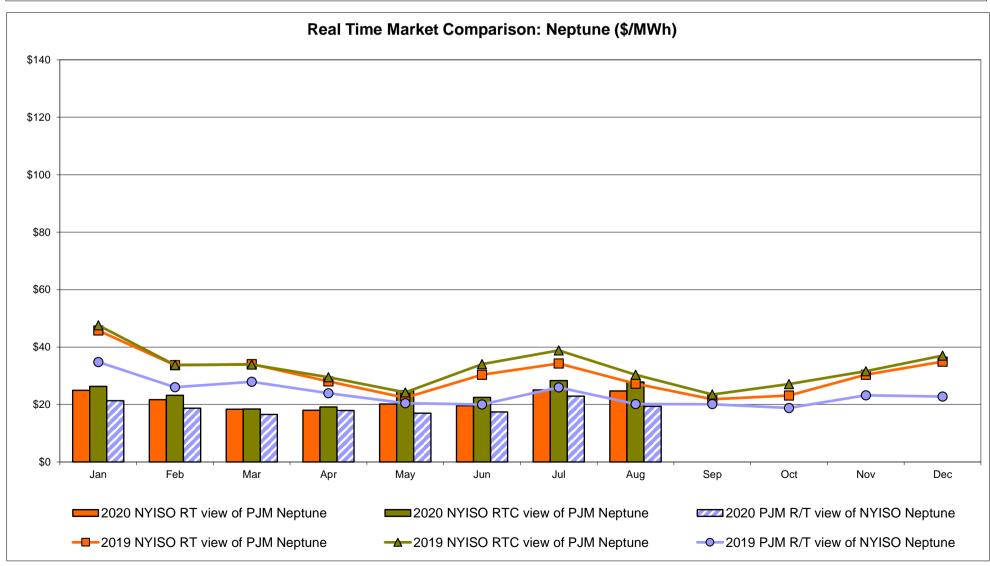
ISO-NE Forecast is an advisory posting @ 18:00 day before.

The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.

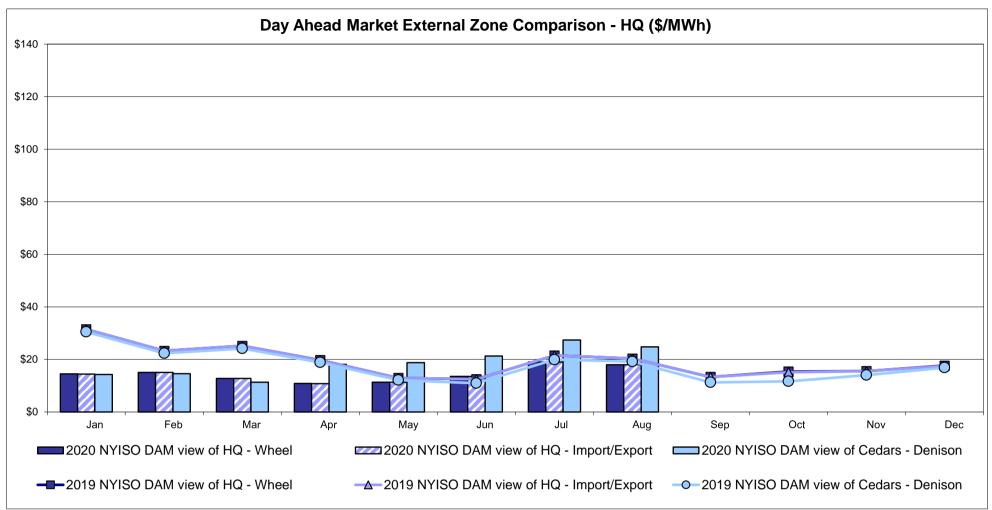
The DAM and R/T prices at the 1385 interface are used for NYISO.

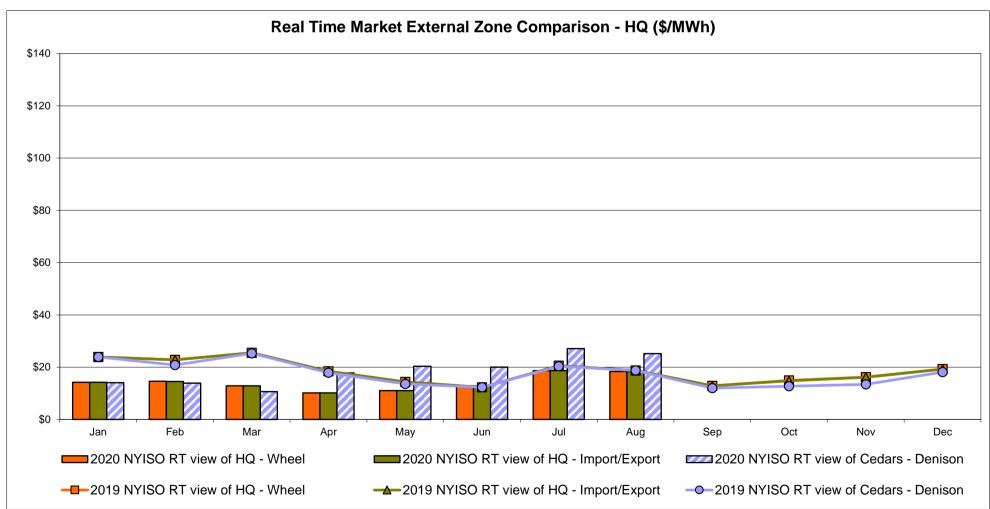
#### **External Controllable Line: Neptune (PJM)**





#### **External Comparison Hydro-Quebec**

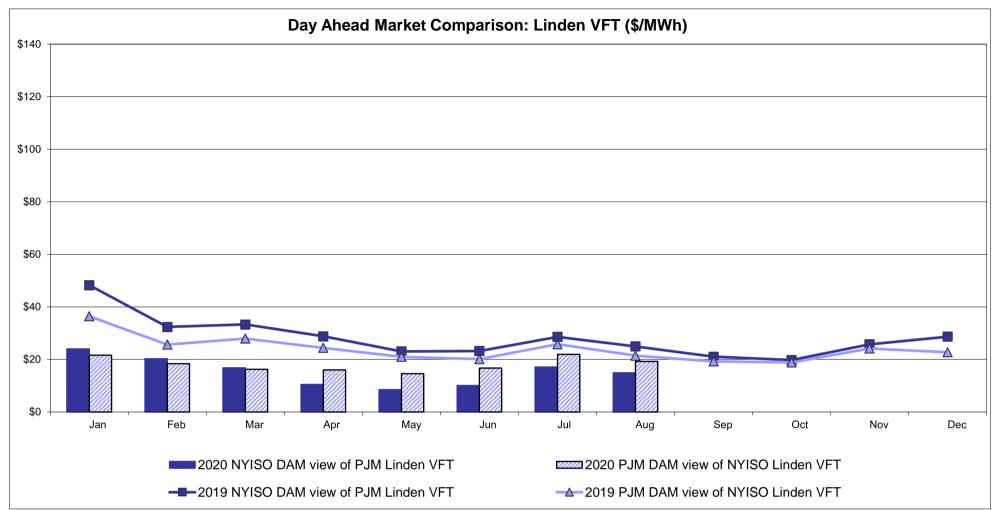


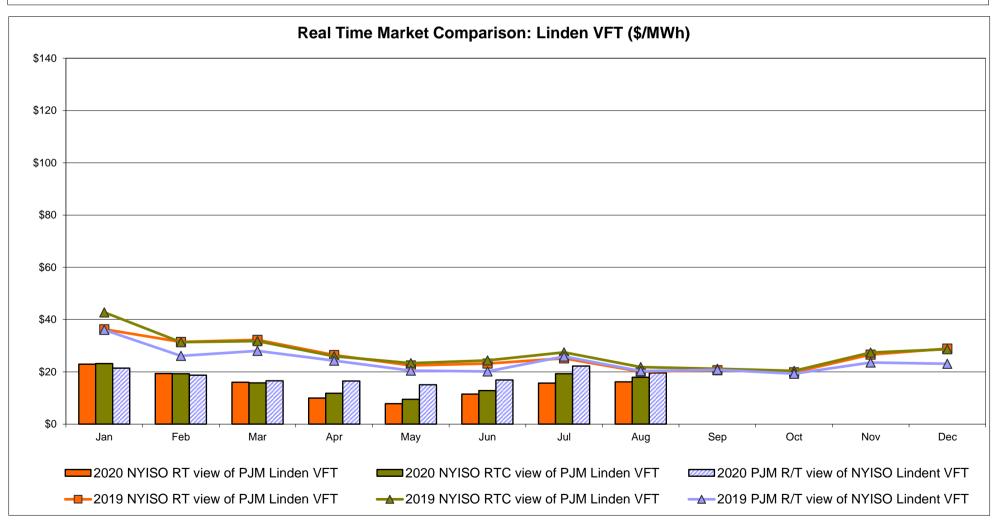


Note:

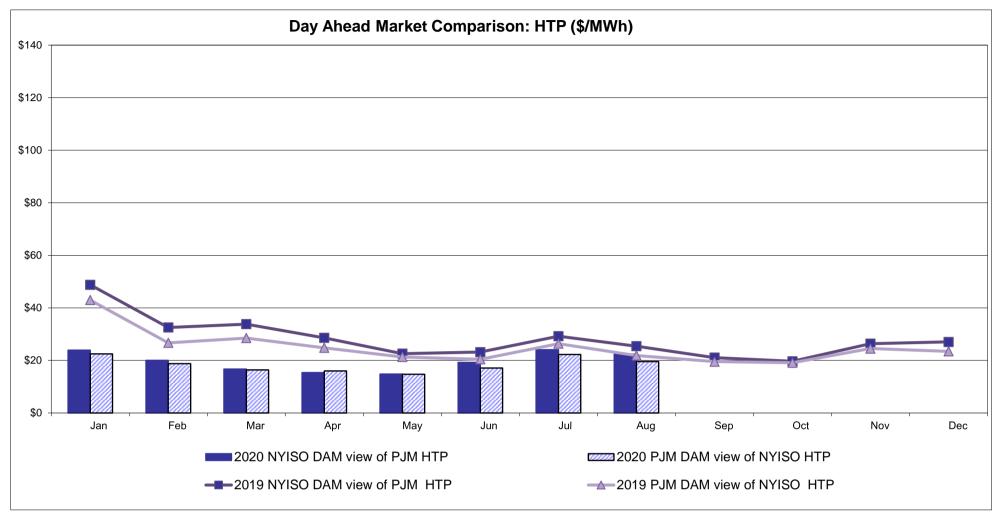
Hydro-Quebec Prices are unavailable.

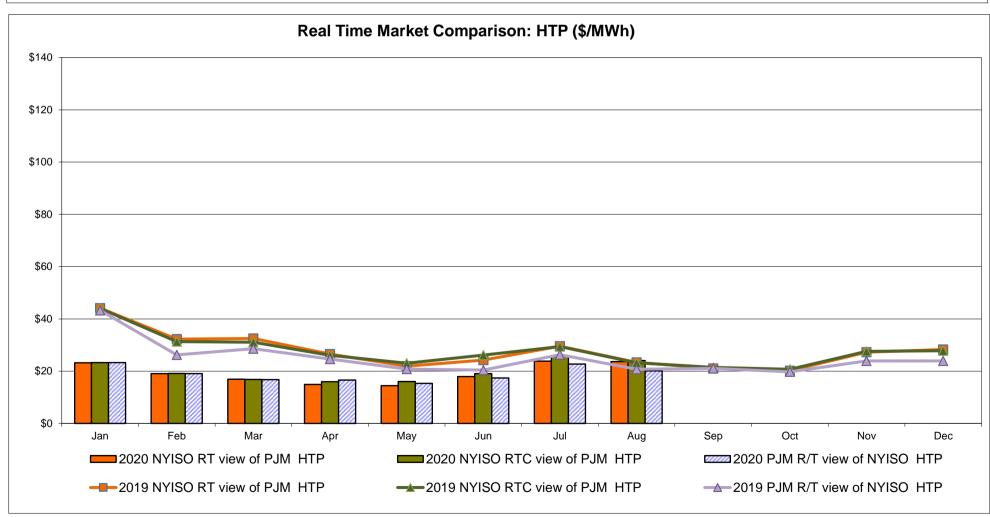
#### External Controllable Line: Linden VFT (PJM)





#### **External Controllable Line: Hudson (PJM)**

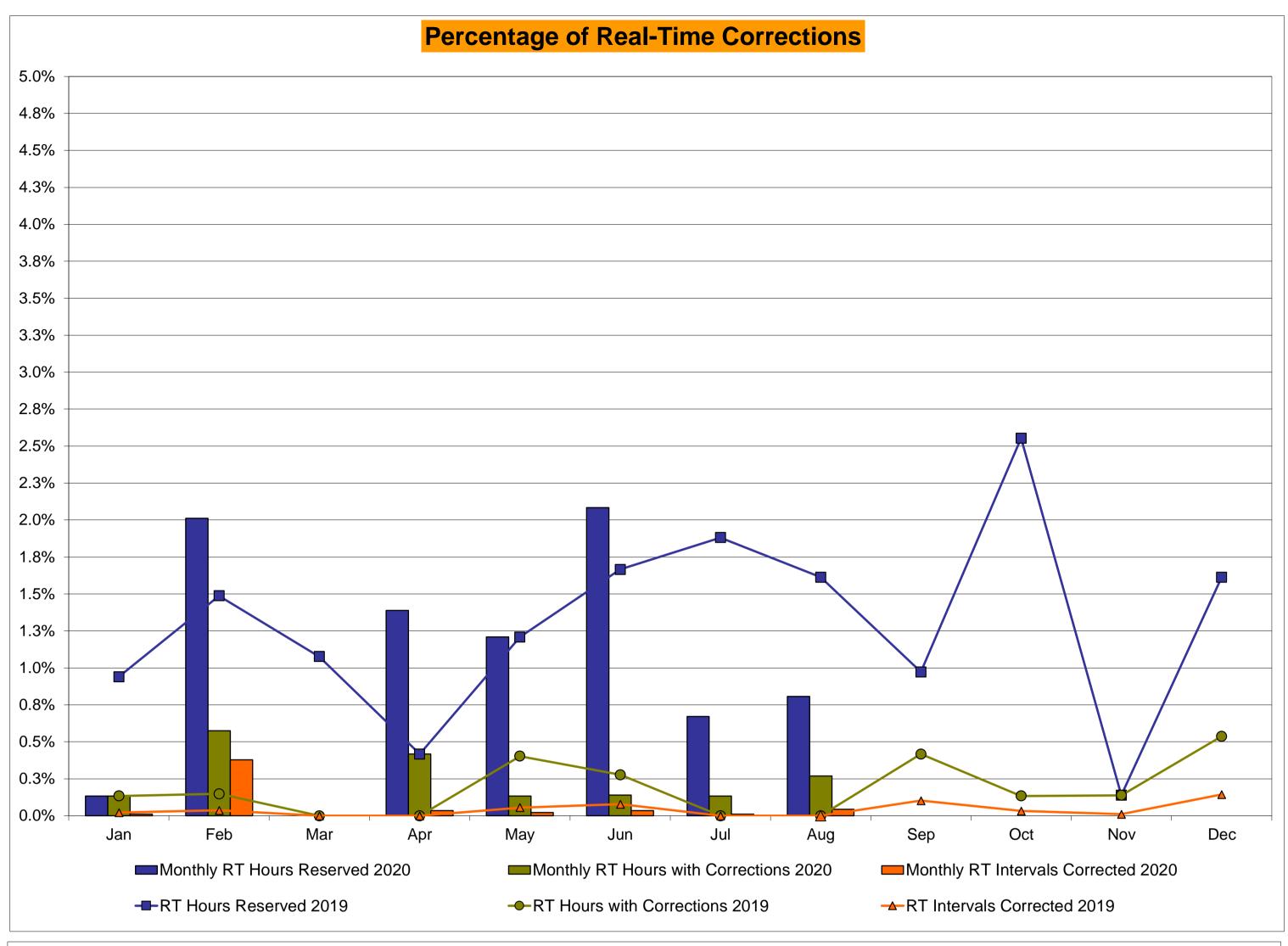


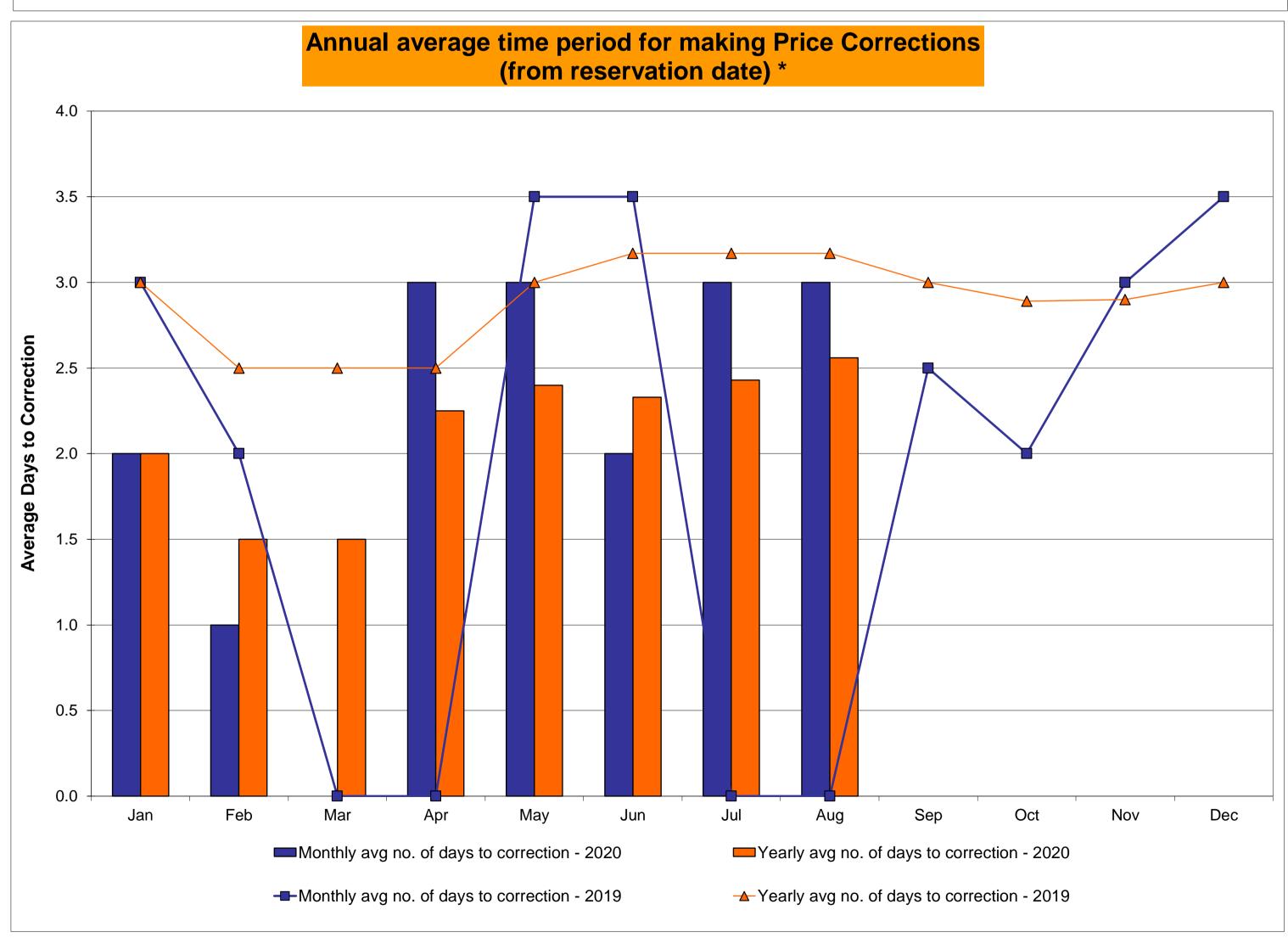


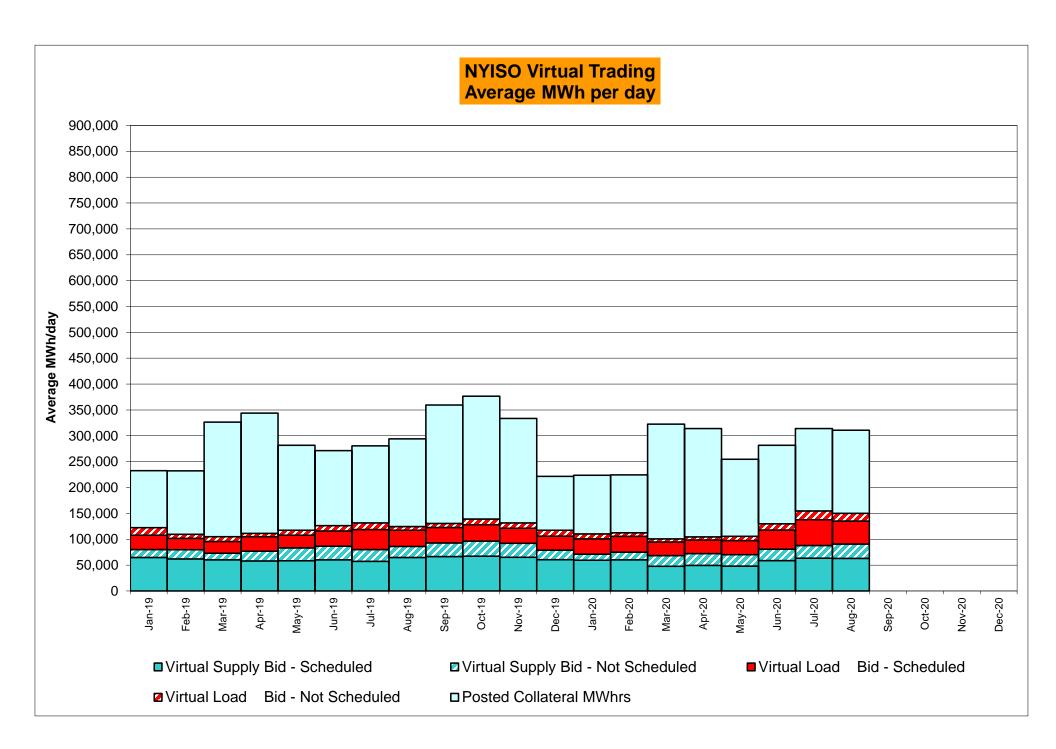
#### **NYISO Real Time Price Correction Statistics**

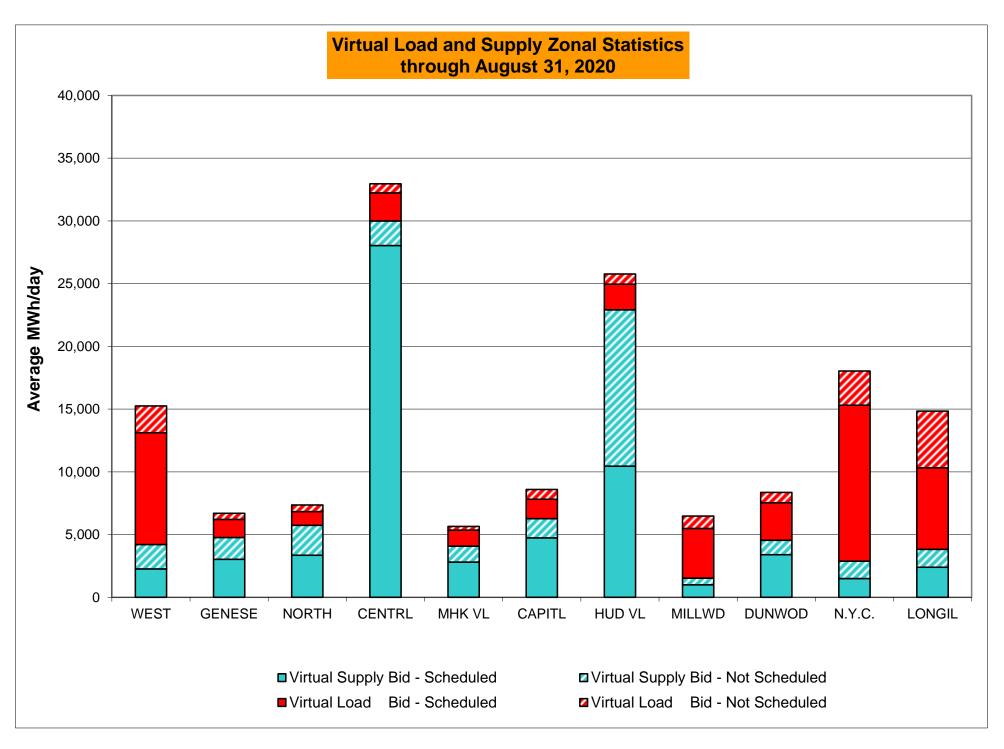
2020		<u>January</u>	<u>February</u>	March	<u>April</u>	May	<u>June</u>	July	August	September	<u>October</u>	November	<u>December</u>
Hour Corrections													
Number of hours with corrections	in the month	1	4	0	3	1	1	1	2				
Number of hours	in the month	744	696	743	720	744	720	744	744				
% of hours with corrections	in the month	0.13%	0.57%	0.00%	0.42%	0.13%	0.14%	0.13%	0.27%				
% of hours with corrections	year-to-date	0.13%	0.35%	0.23%	0.28%	0.25%	0.23%	0.22%	0.22%				
Interval Corrections	in the meanth	4	00	0	0	0	0	4	4				
Number of intervals corrected	in the month	0.000	32	0	3	2	3	1	4				
Number of intervals	in the month	9,088	8,460	9,011	8,776	9,030	8,826	9,128	9,156				
% of intervals corrected	in the month	0.01%	0.38%	0.00%	0.03%	0.02%	0.03%	0.01%	0.04%				
% of intervals corrected	year-to-date	0.01%	0.19%	0.12%	0.10%	0.09%	0.08%	0.07%	0.06%				
Hours Reserved													
Number of hours reserved	in the month	1	14	0	10	9	15	5	6				
Number of hours	in the month	744	696	743	720	744	720	744	744				
% of hours reserved	in the month	0.13%	2.01%	0.00%	1.39%	1.21%	2.08%	0.67%	0.81%				
% of hours reserved	year-to-date	0.13%	1.04%	0.69%	0.86%	0.93%	1.12%	1.06%	1.02%				
Days to Correction *													
Avg. number of days to correction	in the month	2.00	1.00	0.00	3.00	3.00	2.00	3.00	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	2.56				
Days Without Corrections													
Days without corrections	in the month	30	28	31	28	30	29	30	29				
Days without corrections	year-to-date	30	58	89	117	147	176	206	235				
<u>2019</u>		<u>January</u>	<u>February</u>	March	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	August	September	<u>October</u>	November	<u>December</u>
2019 Hour Corrections		<u>January</u>	<u>February</u>	March	<u>April</u>	May	<u>June</u>	<u>July</u>	<u>August</u>	September	October	November	<u>December</u>
	in the month	<u>January</u> 1	<u>February</u>	March 0	<u>April</u> 0	<u>May</u> 3	June 2	<u>July</u> 0	August 0	September 3	October 1	November 1	<u>December</u>
Hour Corrections	in the month in the month	<u>January</u> 1 744	February 1 672								October 1 744	November 1 721	December 4 744
Hour Corrections  Number of hours with corrections		1	1	0	0	3	2	0	0	3	1	1	4
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections	in the month	 1 744	1 672	0 743	0 720	3 744	2 720	0 744	0 744	3 720	1 744	1 721	4 744
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections Interval Corrections	in the month in the month	1 744 0.13% 0.13%	1 672 0.15% 0.14%	0 743 0.00%	0 720 0.00%	3 744 0.40%	2 720 0.28%	0 744 0.00%	0 744 0.00%	3 720 0.42% 0.15%	1 744 0.13%	1 721 0.14%	4 744 0.54% 0.18%
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections Interval Corrections Number of intervals corrected	in the month in the month	1 744 0.13% 0.13%	1 672 0.15% 0.14%	0 743 0.00% 0.09%	0 720 0.00% 0.07%	3 744 0.40% 0.14%	2 720 0.28% 0.16%	0 744 0.00% 0.14%	0 744 0.00% 0.12%	3 720 0.42% 0.15%	1 744 0.13% 0.15%	1 721 0.14% 0.15%	4 744 0.54% 0.18%
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections Interval Corrections	in the month in the month year-to-date	1 744 0.13% 0.13% 2 9,071	1 672 0.15% 0.14% 3 8,131	0 743 0.00% 0.09% 0 9,008	0 720 0.00% 0.07% 0 8,750	3 744 0.40% 0.14%	2 720 0.28% 0.16% 7 8,863	0 744 0.00% 0.14% 0 9,243	0 744 0.00% 0.12% 0 9,048	3 720 0.42% 0.15% 9 8,820	1 744 0.13% 0.15% 3 9,087	1 721 0.14% 0.15% 1 8,788	4 744 0.54% 0.18% 13 9,021
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections Interval Corrections Number of intervals corrected	in the month in the month year-to-date in the month	1 744 0.13% 0.13%	1 672 0.15% 0.14%	0 743 0.00% 0.09%	0 720 0.00% 0.07%	3 744 0.40% 0.14%	2 720 0.28% 0.16%	0 744 0.00% 0.14%	0 744 0.00% 0.12%	3 720 0.42% 0.15%	1 744 0.13% 0.15%	1 721 0.14% 0.15%	4 744 0.54% 0.18%
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections  Interval Corrections  Number of intervals corrected Number of intervals % of intervals corrected % of intervals corrected	in the month in the month year-to-date in the month in the month	1 744 0.13% 0.13% 2 9,071	1 672 0.15% 0.14% 3 8,131	0 743 0.00% 0.09% 0 9,008	0 720 0.00% 0.07% 0 8,750	3 744 0.40% 0.14% 5 9,033	2 720 0.28% 0.16% 7 8,863	0 744 0.00% 0.14% 0 9,243	0 744 0.00% 0.12% 0 9,048	3 720 0.42% 0.15% 9 8,820	1 744 0.13% 0.15% 3 9,087	1 721 0.14% 0.15% 1 8,788	4 744 0.54% 0.18% 13 9,021
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Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections  Interval Corrections  Number of intervals corrected Number of intervals % of intervals corrected % of intervals corrected  Hours Reserved Number of hours reserved Number of hours % of hours reserved % of hours reserved % of hours reserved  Days to Correction *	in the month in the month year-to-date  in the month in the month in the month year-to-date  in the month year-to-date	1 744 0.13% 0.13% 2 9,071 0.02% 0.02% 7 744 0.94% 0.94%	1 672 0.15% 0.14% 3 8,131 0.04% 0.03% 10 672 1.49% 1.20%	0 743 0.00% 0.09% 0 9,008 0.00% 0.02% 8 743 1.08% 1.16%	0 720 0.00% 0.07% 0 8,750 0.00% 0.01% 3 720 0.42% 0.97%	3 744 0.40% 0.14% 5 9,033 0.06% 0.02% 9 744 1.21% 1.02%	2 720 0.28% 0.16% 7 8,863 0.08% 0.03% 12 720 1.67% 1.13%	0 744 0.00% 0.14% 0 9,243 0.00% 0.03% 14 744 1.88% 1.24%	0 744 0.00% 0.12% 0 9,048 0.00% 0.02% 12 744 1.61% 1.29%	3 720 0.42% 0.15% 9 8,820 0.10% 0.03% 7 720 0.97% 1.25%	1 744 0.13% 0.15% 3 9,087 0.03% 0.03% 19 744 2.55% 1.38%	1 721 0.14% 0.15% 1 8,788 0.01% 0.03% 1 721 0.14% 1.27%	4 744 0.54% 0.18% 13 9,021 0.14% 0.04% 12 744 1.61% 1.30%
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections  Interval Corrections  Number of intervals corrected Number of intervals % of intervals corrected % of intervals corrected  Hours Reserved Number of hours reserved Number of hours % of hours reserved % of hours reserved % of hours reserved Days to Correction * Avg. number of days to correction	in the month in the month year-to-date  in the month in the month in the month year-to-date  in the month year-to-date	1 744 0.13% 0.13% 2 9,071 0.02% 0.02% 7 744 0.94% 0.94% 3.00	1 672 0.15% 0.14% 3 8,131 0.04% 0.03% 10 672 1.49% 1.20%	0 743 0.00% 0.09% 0 9,008 0.00% 0.02% 8 743 1.08% 1.16%	0 720 0.00% 0.07% 0 8,750 0.00% 0.01% 3 720 0.42% 0.97%	3 744 0.40% 0.14% 5 9,033 0.06% 0.02% 9 744 1.21% 1.02%	2 720 0.28% 0.16% 7 8,863 0.08% 0.03% 12 720 1.67% 1.13%	0 744 0.00% 0.14% 0 9,243 0.00% 0.03% 14 744 1.88% 1.24%	0 744 0.00% 0.12% 0 9,048 0.00% 0.02% 12 744 1.61% 1.29%	3 720 0.42% 0.15% 9 8,820 0.10% 0.03% 7 720 0.97% 1.25%	1 744 0.13% 0.15% 3 9,087 0.03% 0.03% 19 744 2.55% 1.38%	1 721 0.14% 0.15%  1 8,788 0.01% 0.03%  1 721 0.14% 1.27% 3.00	4 744 0.54% 0.18% 13 9,021 0.14% 0.04% 12 744 1.61% 1.30%
Hour Corrections  Number of hours with corrections  Number of hours  % of hours with corrections  % of hours with corrections  Interval Corrections  Number of intervals corrected  Number of intervals  % of intervals corrected  % of intervals corrected  Hours Reserved  Number of hours reserved  Number of hours  % of hours reserved  % of hours reserved  Days to Correction  Avg. number of days to correction  Avg. number of days to correction	in the month in the month year-to-date  in the month in the month in the month year-to-date  in the month year-to-date	1 744 0.13% 0.13% 2 9,071 0.02% 0.02% 7 744 0.94% 0.94% 3.00	1 672 0.15% 0.14% 3 8,131 0.04% 0.03% 10 672 1.49% 1.20%	0 743 0.00% 0.09% 0 9,008 0.00% 0.02% 8 743 1.08% 1.16%	0 720 0.00% 0.07% 0 8,750 0.00% 0.01% 3 720 0.42% 0.97%	3 744 0.40% 0.14% 5 9,033 0.06% 0.02% 9 744 1.21% 1.02%	2 720 0.28% 0.16% 7 8,863 0.08% 0.03% 12 720 1.67% 1.13%	0 744 0.00% 0.14% 0 9,243 0.00% 0.03% 14 744 1.88% 1.24%	0 744 0.00% 0.12% 0 9,048 0.00% 0.02% 12 744 1.61% 1.29%	3 720 0.42% 0.15% 9 8,820 0.10% 0.03% 7 720 0.97% 1.25%	1 744 0.13% 0.15% 3 9,087 0.03% 0.03% 19 744 2.55% 1.38%	1 721 0.14% 0.15%  1 8,788 0.01% 0.03%  1 721 0.14% 1.27% 3.00	4 744 0.54% 0.18% 13 9,021 0.14% 0.04% 12 744 1.61% 1.30%

<sup>\*</sup>Calendar days from reservation date; for June 2018 forward, business days from market date



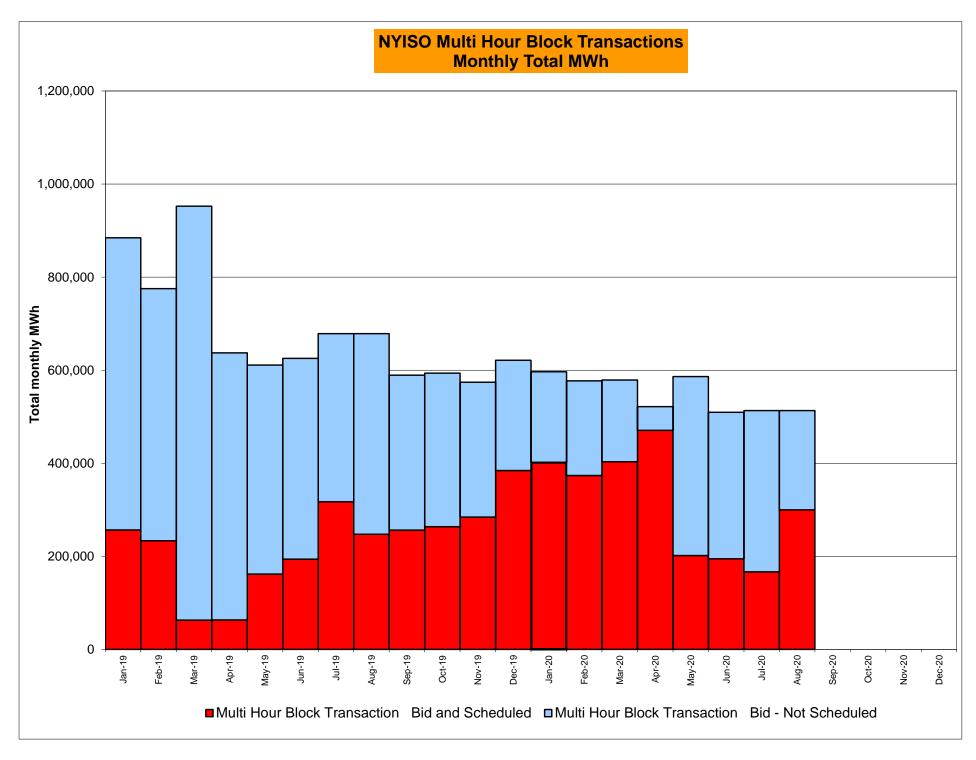


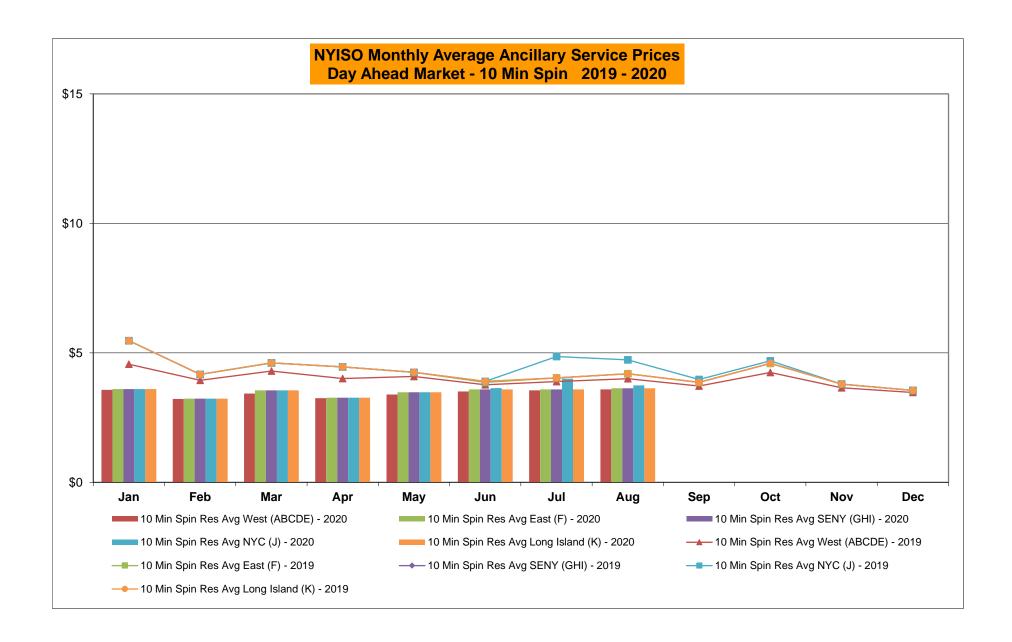


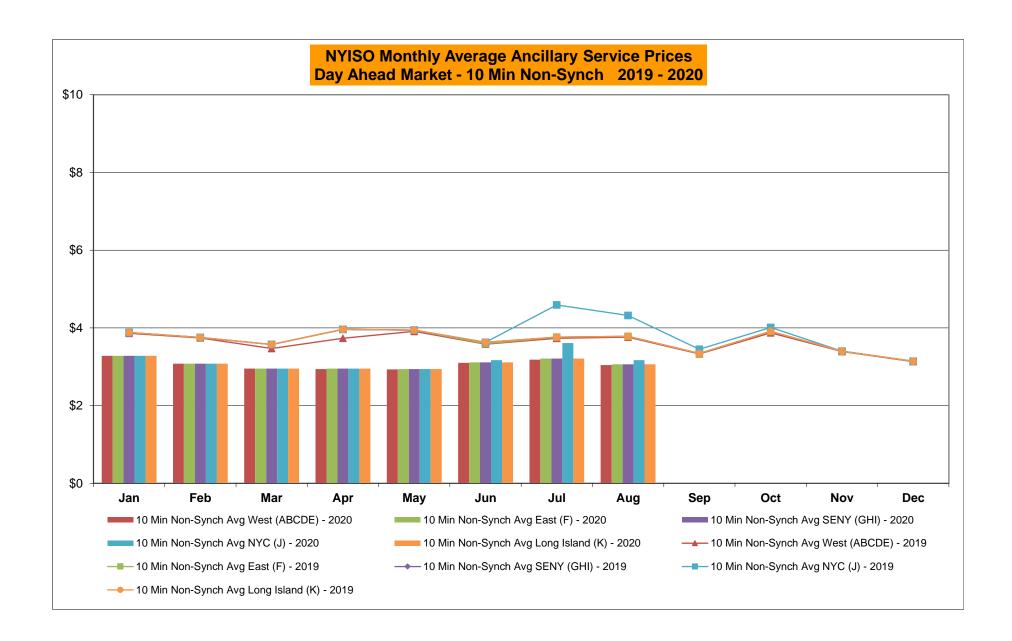


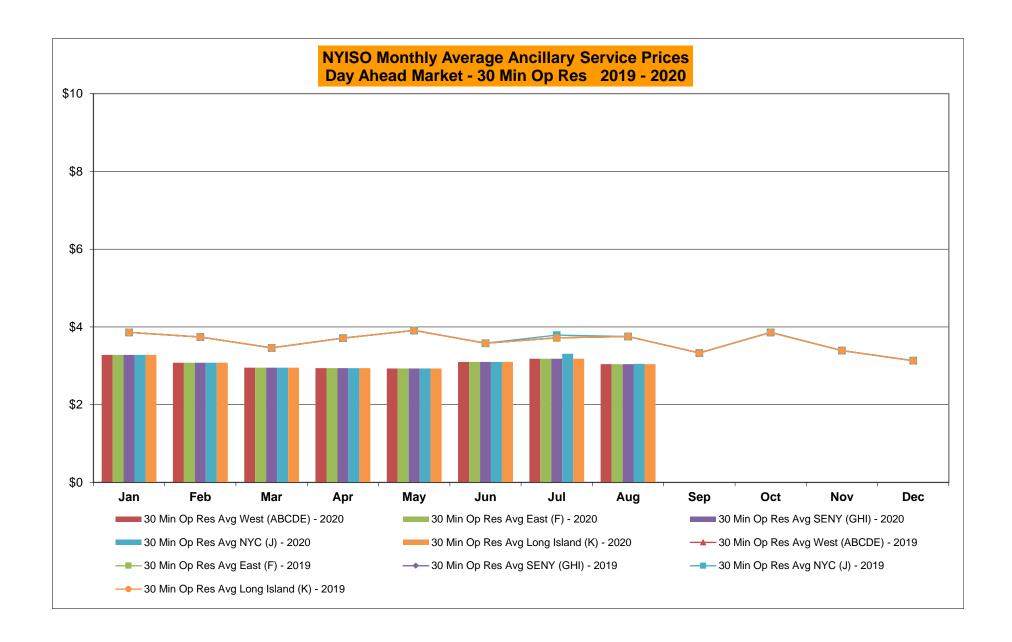
#### Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2020

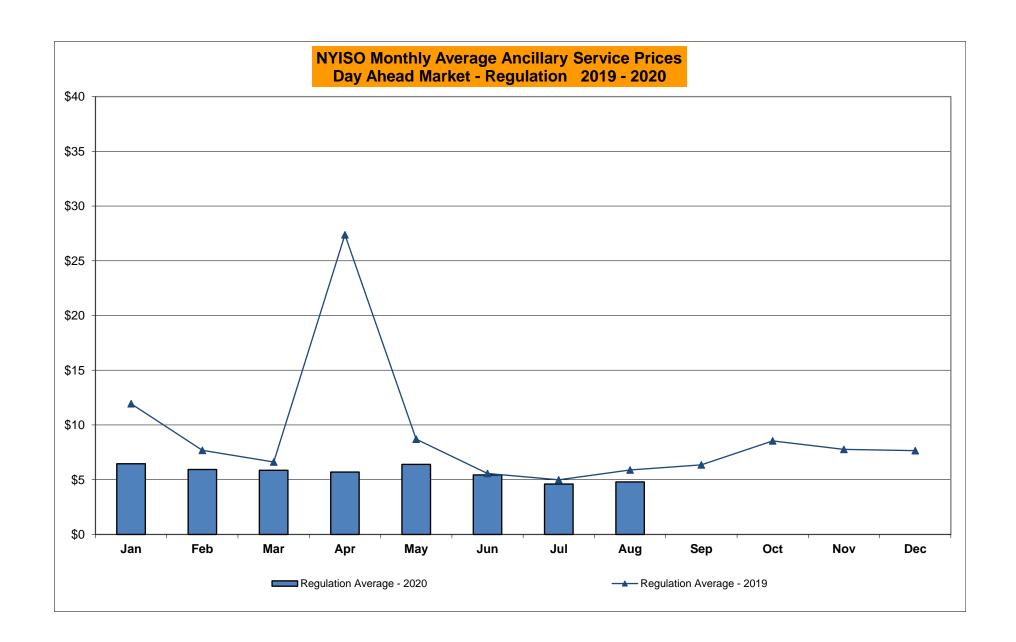
		Virtual L	and Did	Virtual Cu	ınnlı Did			Virtual L	and Pid	Virtual Cu	ınnlı Did			Virtual I	and Did	Virtual Co	upply Did
		VIIIuai L	Not	Virtual S	Supply Bid			VIIIuai L		Virtual Su			1	Virtual Load Bid		Virtual Su	
Zono	Date	Scheduled	Scheduled	Scheduled	Not Scheduled	Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled	Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled
Zone WEST						MHK VL			77			DUNWOD	Jan-20				
WESI	Jan-20 Feb-20	,	1,328 1,248	1,765 2,597	984 947	MILK AF	Jan-20 Feb-20		88	2,155 2,339		DOMWOD	Feb-20	· · · · · · · · · · · · · · · · · · ·		3,191 3,782	
	Mar-20		1,240		1,236		Mar-20		97	2,339			Mar-20				
	Apr-20	10,056	2,032	1,542	1,018		Apr-20		86				Apr-20				
	May-20	7,943	3,322	2,105	3,397	_	May-20		70				May-20				
	Jun-20	8,014	3,448		1,706	_	Jun-20		100	2,597	770		Jun-20				
	Jul-20	8,616	4,286	-	1,469	_	Jul-20		250	3,965	951		Jul-20	· · · · · · · · · · · · · · · · · · ·	1		
	Aug-20	8,911	2,132	2,362	1,956		Aug-20		296	2,801	1,273		Aug-20		· · · · · · · · · · · · · · · · · · ·	3,403	
	Sep-20	· · · · · · · · · · · · · · · · · · ·	2,102	2,200	1,550	<del> </del>	Sep-20		230	2,001	1,270		Sep-20		007	3,403	1,172
	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		539	3,324	1,235	N.Y.C.	Jan-20	· · · · · · · · · · · · · · · · · · ·			
	Feb-20	534	79	,	640		Feb-20	· ·	418	3,149	673		Feb-20	· · · · · ·	1	1,316	
	Mar-20	397	46	·	550		Mar-20		443	3,181	837		Mar-20	· · · · · · · · · · · · · · · · · · ·		1,676	
	Apr-20	422	42	,	622		Apr-20		825	3,335			Apr-20				
	May-20	356	47	2,051	618		May-20		151	2,597	541		May-20				
	Jun-20	949	163	2,238	939		Jun-20		328	2,994	472		Jun-20			1,273	
	Jul-20	1,633	590		1,123		Jul-20		392		· .		Jul-20	· · · · · · · · · · · · · · · · · · ·	1		
	Aug-20	1,435	486	3,028	1,745		Aug-20		783	4,741	1,525		Aug-20		2,728	1,492	1,387
	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	2,246	1,109
	Feb-20	402	276		2,014		Feb-20		722	8,517			Feb-20				
	Mar-20	335	293	5,075	2,315		Mar-20	944	634	6,811	10,029		Mar-20	5,402	1,429	1,602	
	Apr-20	321	210		2,057		Apr-20	1,001	813	5,955	12,414		Apr-20			1,620	
	May-20	2,305	381	3,547	1,757		May-20	1,088	806	5,998	12,839		May-20	5,948	2,125	1,844	
	Jun-20		696	3,692	2,128		Jun-20		745		12,284		Jun-20	8,361	2,434	1,568	
	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	1,853	840
	Aug-20	1,084	532	3,349	2,392		Aug-20	2,047	805	10,449	12,462		Aug-20	6,498	4,527	2,398	1,423
	Sep-20						Sep-20						Sep-20				
	Oct-20						Oct-20						Oct-20				
	Nov-20						Nov-20						Nov-20				
	Dec-20						Dec-20						Dec-20				
051:55:							,					1000	,				
CENTRL	Jan-20		214	28,503	541	MILLWD			68	1,646		NYISO	Jan-20		9,580		
	Feb-20		118	27,919	487		Feb-20		68	1,811	229		Feb-20				
	Mar-20	,	113		481	_	Mar-20		19	· · · · · · · · · · · · · · · · · · ·			Mar-20				
	Apr-20		131	20,490	491		Apr-20		55		90		Apr-20	· ·	1	-	
	May-20 Jun-20		296 770		903	_	May-20 Jun-20		198 558	1,442 1,789			May-20 Jun-20				
	Jul-20		620		1,455	_	Jul-20	· ·	800	1,769			Jul-20				
	Aug-20		727	28,085	1,455		Aug-20		992				Aug-20	· ·			
	Sep-20		121	20,040	1,348	$\dashv$	Sep-20		992	909	331	—	Sep-20		14,040	02,931	21,190
	Oct-20					_	Oct-20					—	Oct-20				
	Nov-20					$\overline{}$	Nov-20					—	Nov-20		1		
Ī	Dec-20						Dec-20						Dec-20				

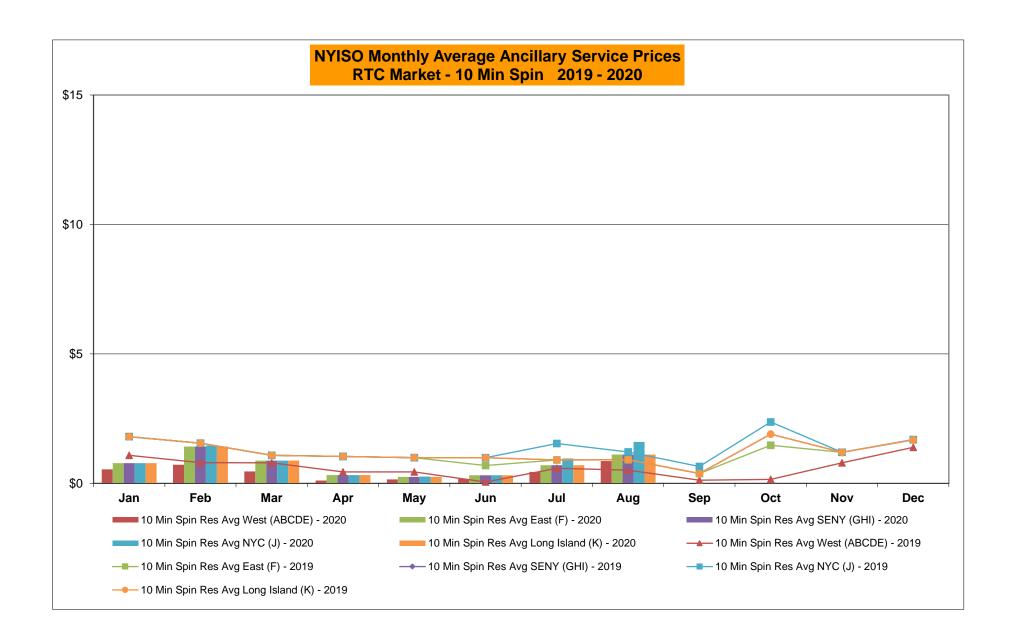


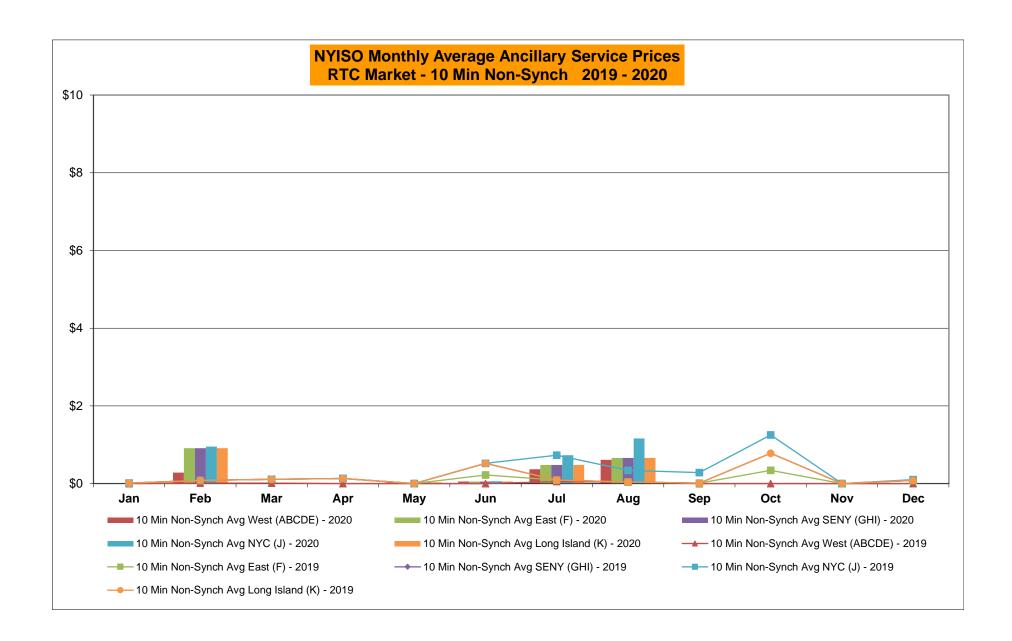


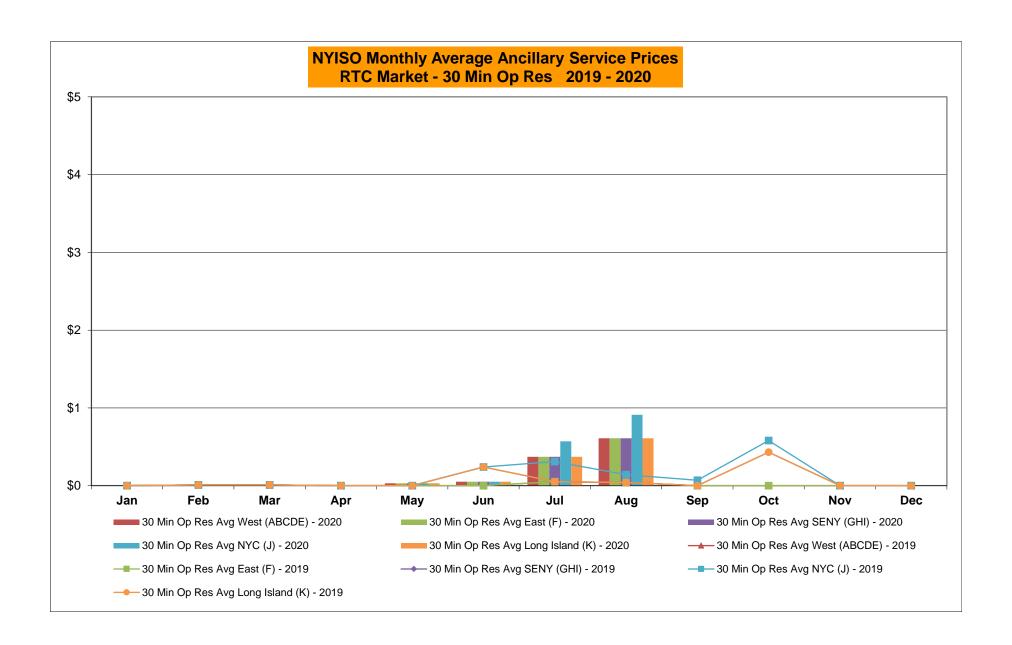


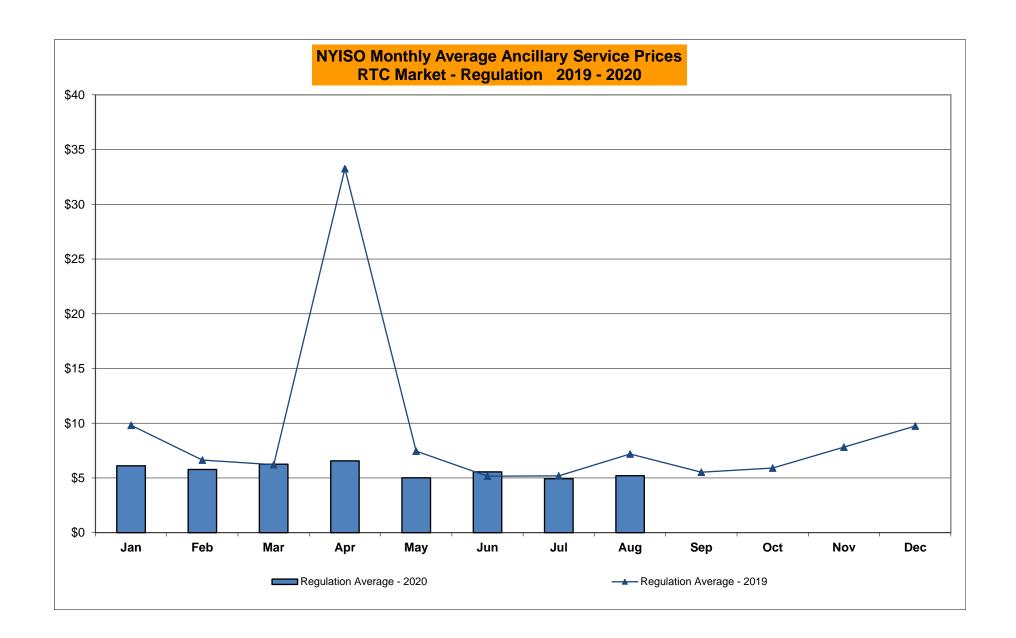


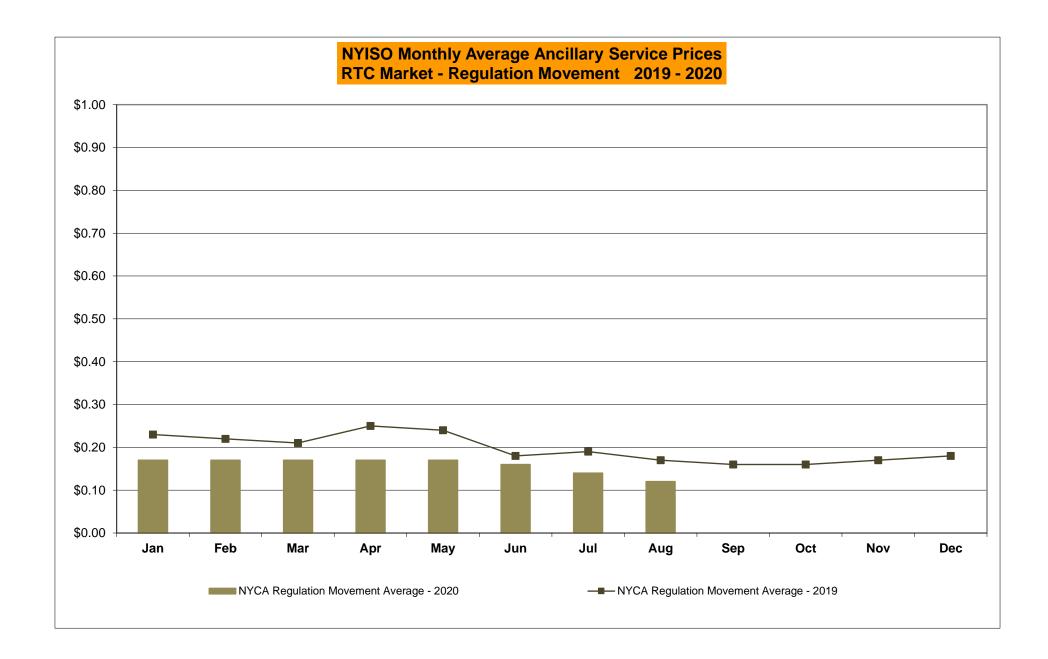


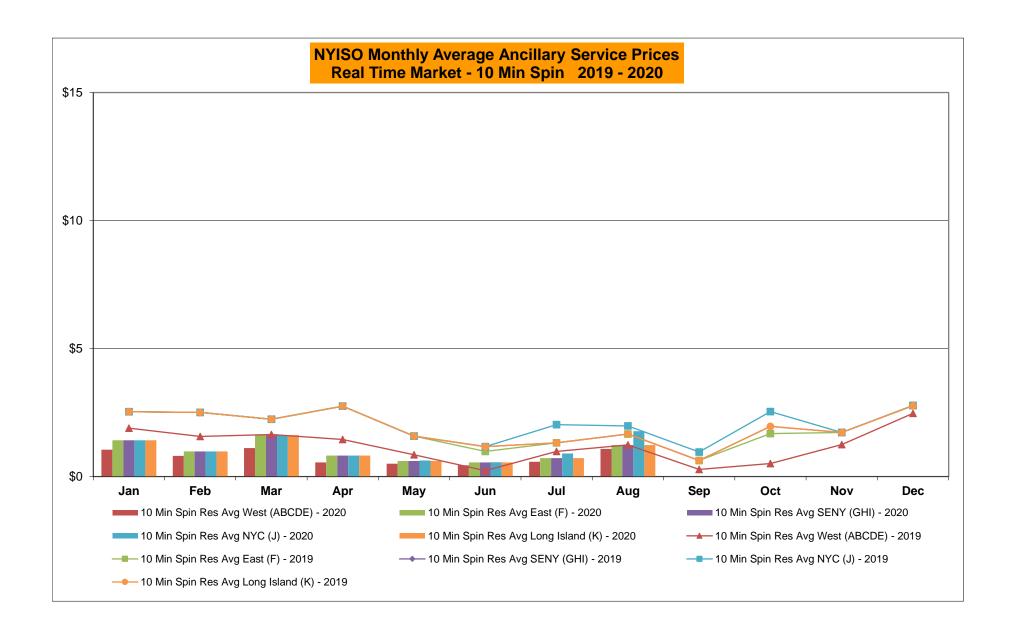


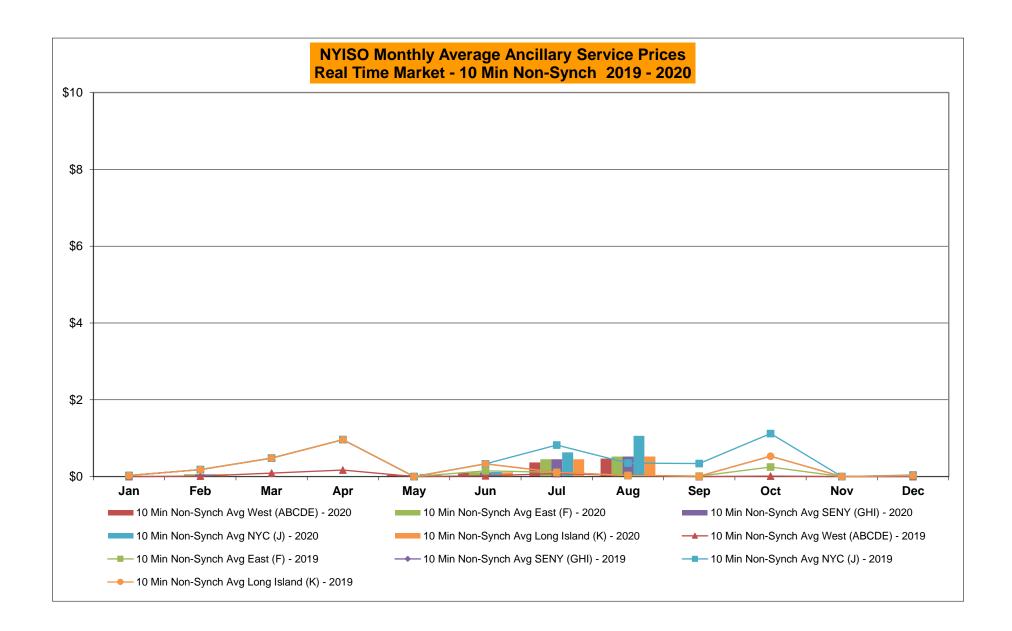


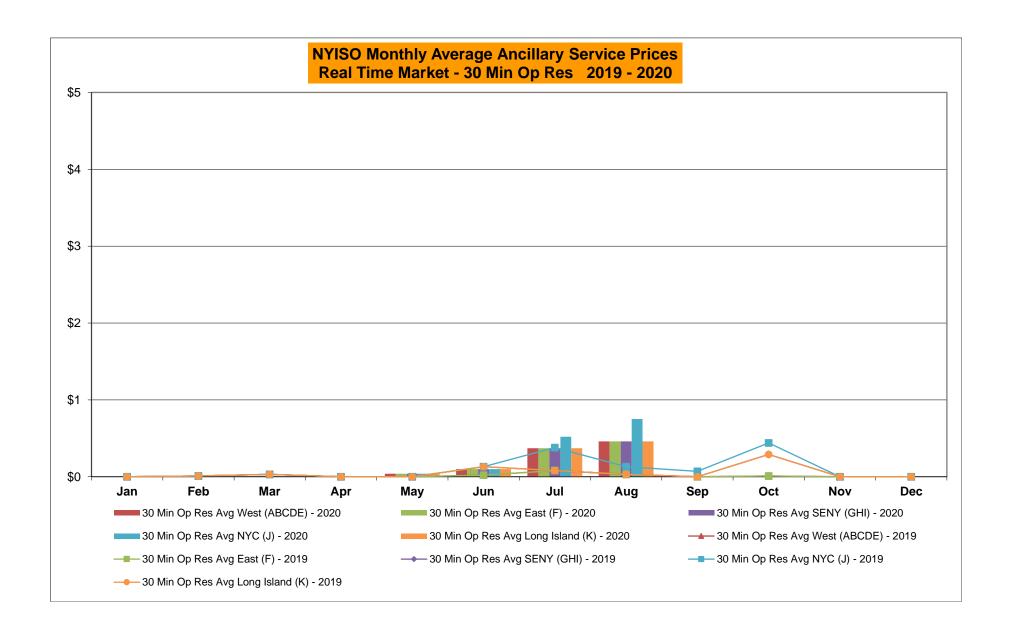


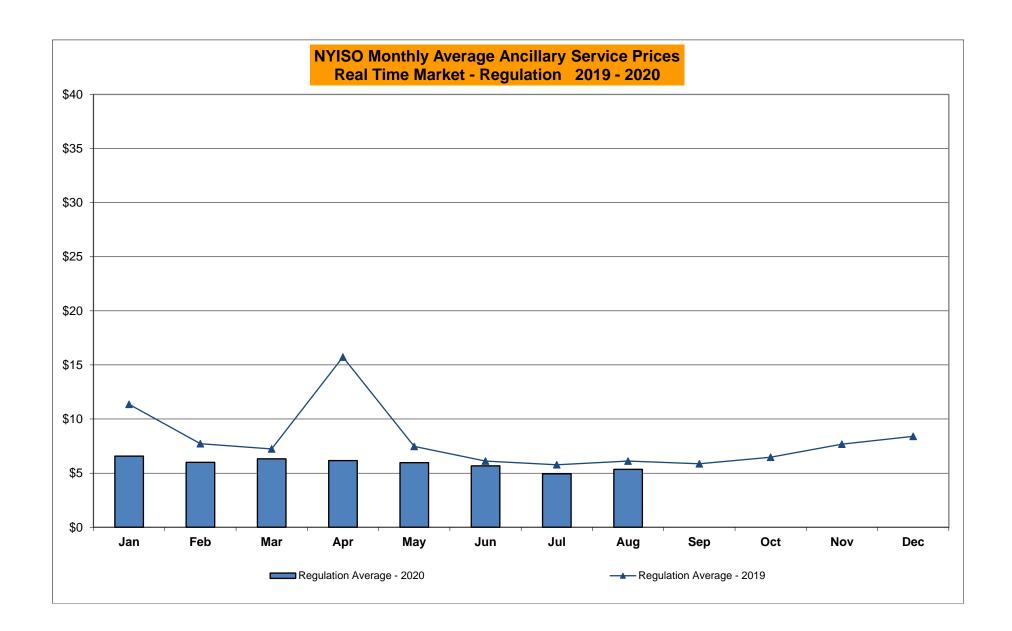


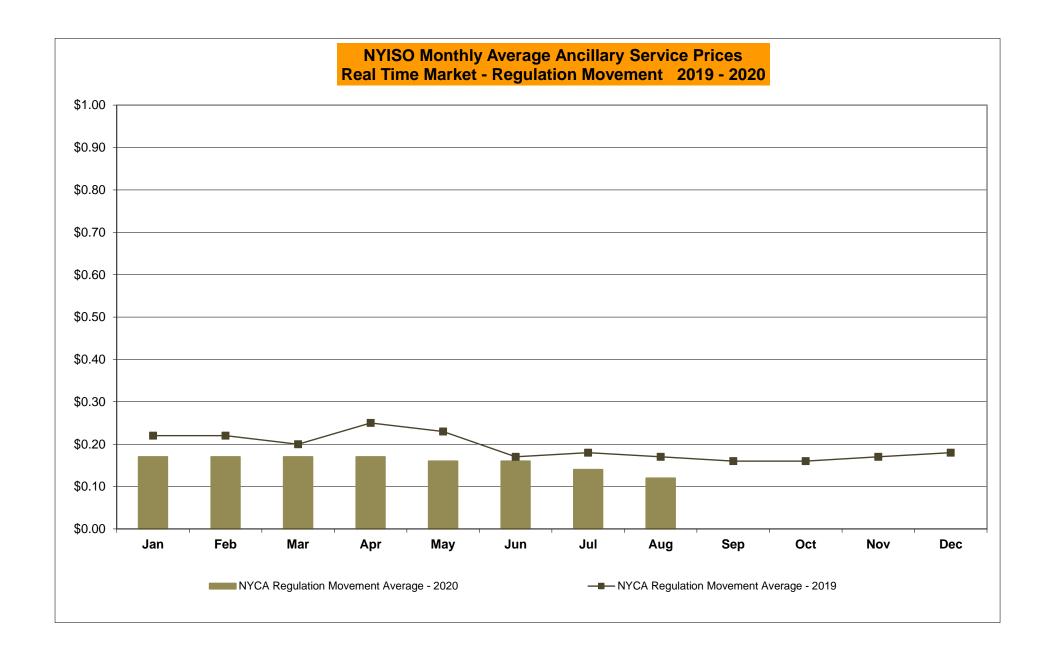












## NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - DAM

2020	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	September	<u>October</u>	<u>November</u>	<u>December</u>
Day Ahead Market												
10 Min Spin Long Island (K)	3.60	3.23	3.55	3.27	3.48	3.59	3.59	3.63				
10 Min Spin NYC (J)	3.60	3.23	3.55	3.27	3.48	3.64	4.00	3.74				
10 Min Spin SENY (GHI)	3.60	3.23	3.55	3.27	3.48	3.59	3.59	3.63				
10 Min Spin East (F)	3.60	3.23	3.55	3.27	3.48	3.59	3.59	3.63				
10 Min Spin West (ABCDE)	3.57	3.22	3.43	3.25	3.39	3.51	3.55	3.59				
10 Min Non Synch Long Island (K)	3.28	3.08	2.95	2.95	2.94	3.11	3.21	3.06				
10 Min Non Synch NYC (J)	3.28	3.08	2.95	2.95	2.94	3.17	3.61	3.17				
10 Min Non Synch SENY (GHI)	3.28	3.08	2.95	2.95	2.94	3.11	3.21	3.06				
10 Min Non Synch East (F)	3.28	3.08	2.95	2.95	2.94	3.11	3.21	3.06				
10 Min Non Synch West (ABCDE)	3.28	3.08	2.95	2.94	2.93	3.10	3.18	3.04				
30 Min Long Island (K)	3.28	3.08	2.95	2.94	2.93	3.10	3.18	3.04				
30 Min NYC (J)	3.28	3.08	2.95	2.94	2.93	3.10	3.31	3.05				
30 Min SENY (GHI)	3.28	3.08	2.95	2.94	2.93	3.10	3.18	3.04				
30 Min East (F)	3.28	3.08	2.95	2.94	2.93	3.10	3.18	3.04				
30 Min West (ABCDE)	3.28	3.08	2.95	2.94	2.93	3.10	3.18	3.04				
Regulation	6.46	5.94	5.86	5.70	6.40	5.44	4.61	4.79				
2019	January	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	September	October	November	December
Day Ahead Market	<del></del>	<del></del>		<del></del>	<del></del> -		<del></del>		<del></del>			
10 Min Spin Long Island (K)	5.47	5.47	4.61	4.46	4.25	4.25	4.25	4.25	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	4.25	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	3.94	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	3.94	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	3.91	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	3.91	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

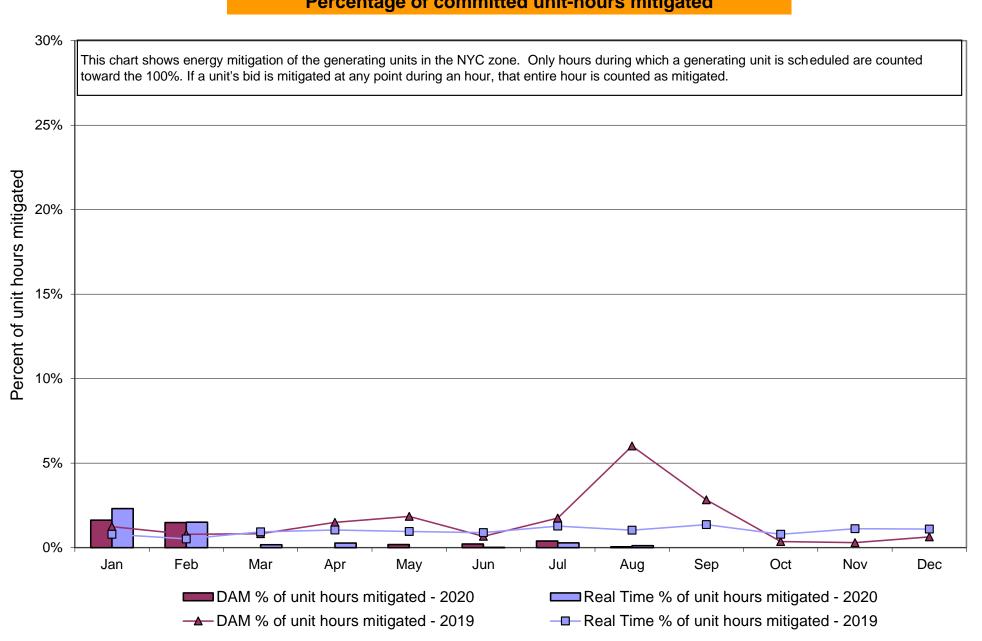
## NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - RTC

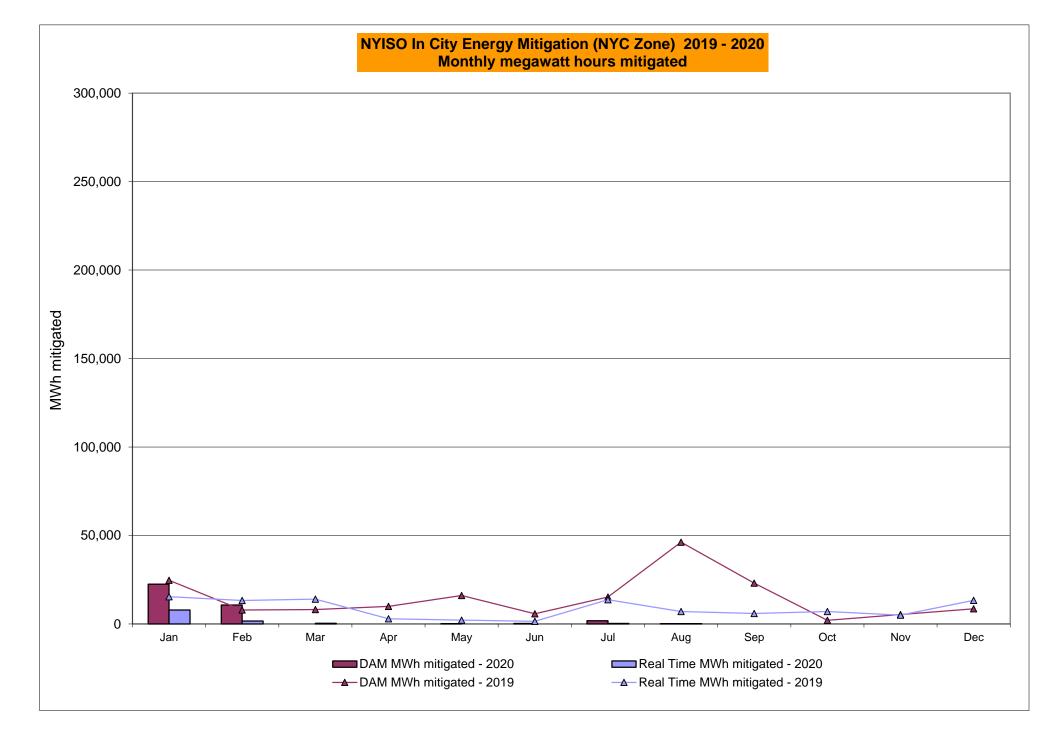
2020 RTC Market	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	October	November	December
10 Min Spin Long Island (K)	0.78	1.42	0.88	0.32	0.25	0.31	0.70	1.11				
10 Min Spin NYC (J)	0.78	1.46	0.88	0.32	0.26	0.31	0.96	1.60				
10 Min Spin SENY (GHI)	0.78	1.42	0.88	0.32	0.25	0.31	0.70	1.11				
10 Min Spin East (F)	0.78	1.42	0.88	0.32	0.25	0.31	0.70	1.11				
10 Min Spin West (ABCDE)	0.54	0.72	0.46	0.11	0.15	0.17	0.44	0.86				
10 Min Non Synch Long Island (K)	0.00	0.72	0.00	0.00	0.03	0.05	0.48	0.66				
10 Min Non Synch NYC (J)	0.00	0.95	0.00	0.00	0.03	0.06	0.73	1.16				
10 Min Non Synch SENY (GHI)	0.00	0.93	0.00	0.00	0.04	0.05	0.48	0.66				
10 Min Non Synch East (F)	0.00	0.91	0.00	0.00	0.03	0.05	0.48	0.66				
10 Min Non Synch West (ABCDE)	0.00	0.28	0.00	0.00	0.03	0.05	0.43	0.61				
30 Min Long Island (K)	0.00	0.28	0.00	0.00	0.03	0.05	0.37	0.61				
30 Min NYC (J)				0.00	0.03	0.05	0.57	0.61				
30 Min SENY (GHI)	0.00	0.01	0.00									
, ,	0.00	0.01	0.00	0.00	0.03	0.05	0.37	0.61				
30 Min East (F)	0.00	0.01	0.00	0.00	0.03	0.05	0.37	0.61				
30 Min West (ABCDE)	0.00	0.01	0.00	0.00	0.03	0.05	0.37	0.61				
Regulation	6.11	5.77	6.25	6.56	5.02	5.56	4.92	5.20				
NYCA Regulation Movement	0.17	0.17	0.17	0.17	0.17	0.16	0.14	0.12				
<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>	September	<u>October</u>	November	December
RTC Market												
10 Min Spin Long Island (K)	1.80	1.80	1.08	1.04	0.99	0.99	0.99	0.99	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	0.99	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	0.00	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	0.00	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	0.00	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	0.00	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

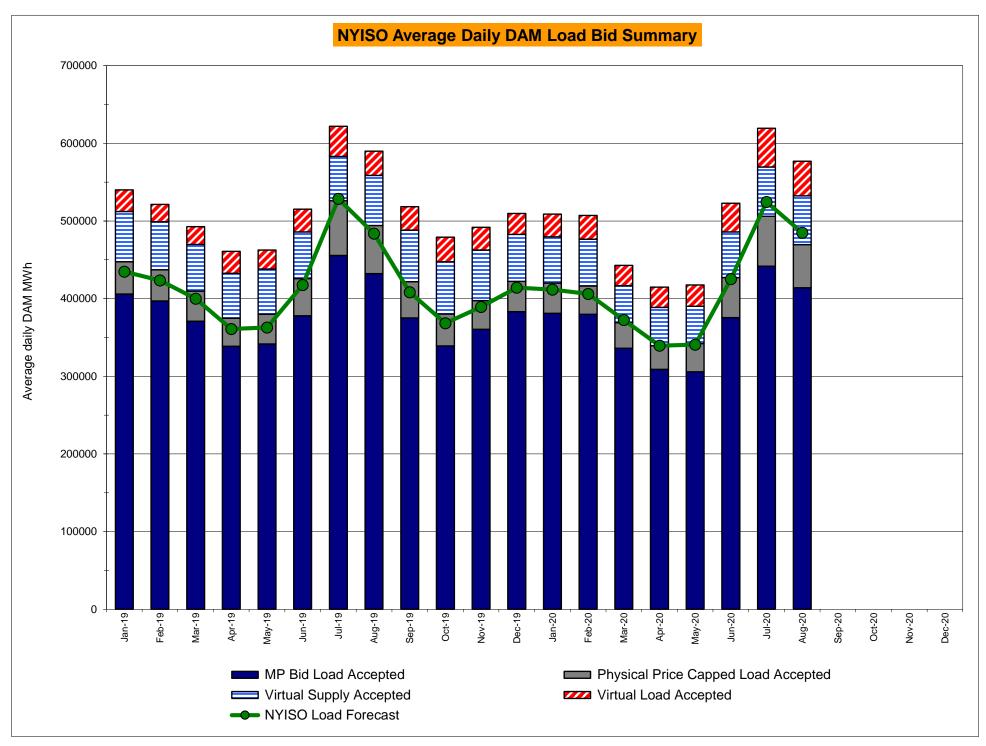
## NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - RT

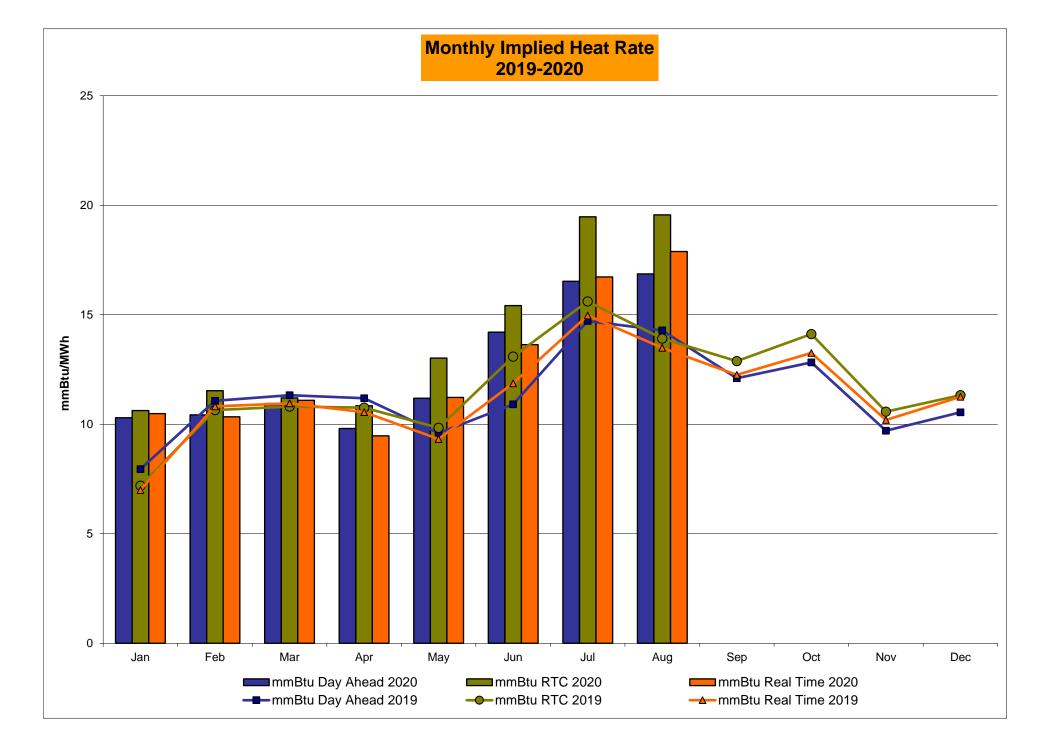
2020	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	August	September	<u>October</u>	November	<u>December</u>
Real Time Market												
10 Min Spin Long Island (K)	1.42	0.98	1.62	0.82	0.61	0.55	0.72	1.23				
10 Min Spin NYC (J)	1.42	0.98	1.62	0.82	0.63	0.56	0.90	1.77				
10 Min Spin SENY (GHI)	1.42	0.98	1.62	0.82	0.61	0.55	0.72	1.23				
10 Min Spin East (F)	1.42	0.98	1.62	0.82	0.61	0.55	0.72	1.23				
10 Min Spin West (ABCDE)	1.05	0.81	1.11	0.55	0.50	0.44	0.58	1.08				
10 Min Non Synch Long Island (K)	0.00	0.06	0.00	0.00	0.04	0.11	0.45	0.52				
10 Min Non Synch NYC (J)	0.00	0.06	0.00	0.00	0.07	0.12	0.63	1.06				
10 Min Non Synch SENY (GHI)	0.00	0.06	0.00	0.00	0.04	0.11	0.45	0.52				
10 Min Non Synch East (F)	0.00	0.06	0.00	0.00	0.04	0.11	0.45	0.52				
10 Min Non Synch West (ABCDE)	0.00	0.00	0.00	0.00	0.04	0.10	0.37	0.47				
30 Min Long Island (K)	0.00	0.00	0.00	0.00	0.04	0.10	0.37	0.46				
30 Min NYC (J)	0.00	0.00	0.00	0.00	0.04	0.10	0.52	0.75				
30 Min SENY (GHI)	0.00	0.00	0.00	0.00	0.04	0.10	0.37	0.46				
30 Min East (F)	0.00	0.00	0.00	0.00	0.04	0.10	0.37	0.46				
30 Min West (ABCDE)	0.00	0.00	0.00	0.00	0.04	0.10	0.37	0.46				
Regulation	6.57	6.00	6.32	6.16	5.96	5.67	4.94	5.34				
NYCA Regulation Movement	0.17	0.17	0.17	0.17	0.16	0.16	0.14	0.12				
<u>2019</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	August	September	<u>October</u>	November	December
Real Time Market												
10 Min Spin Long Island (K)	2.53	2.53	2.24	2.75	1.58	1.58	1.58	1.58	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	1.58	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	0.00	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	0.00	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	0.00	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	0.00	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

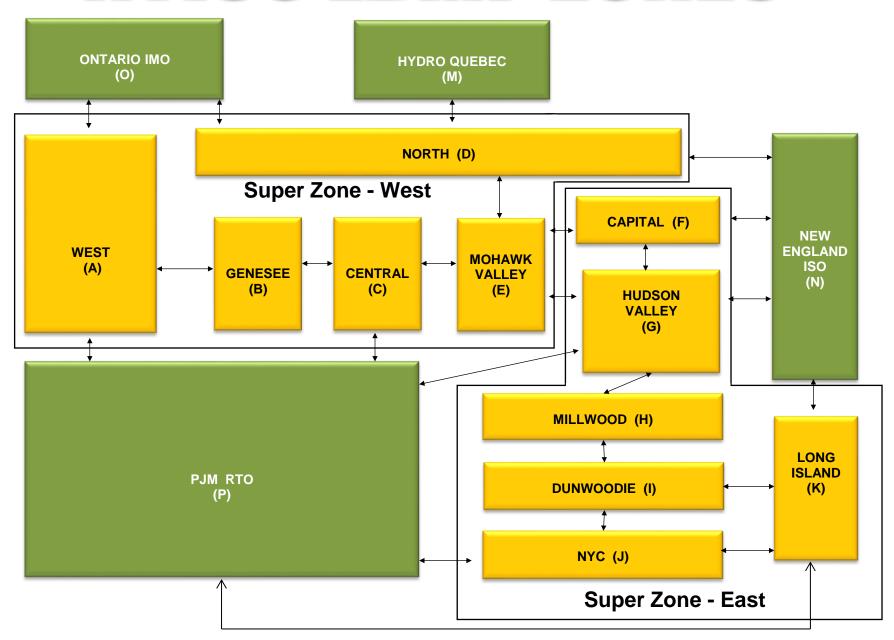








# NYISO LBMP ZONES

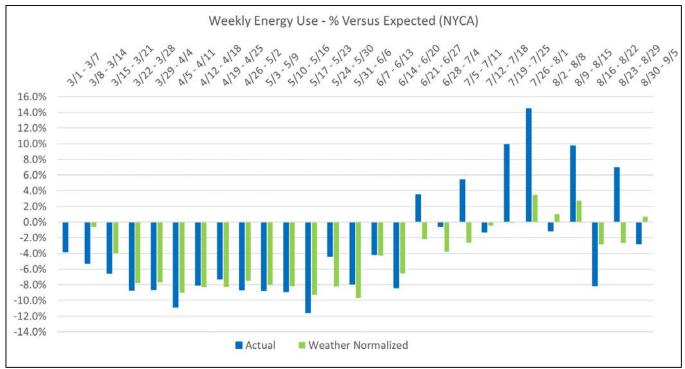


#### **Billing Codes for Chart C**

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

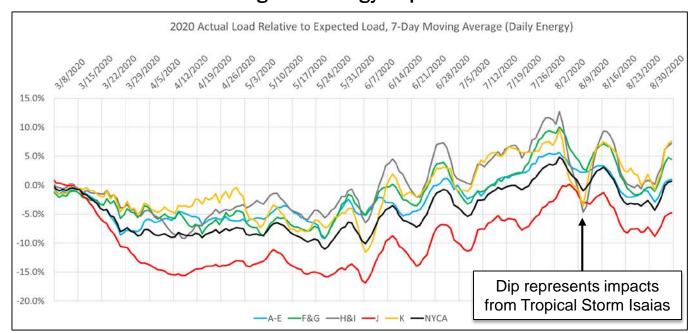
#### **COVID-19: Estimated Load Impacts**

#### NYCA Weekly Energy Impacts versus Expected\*



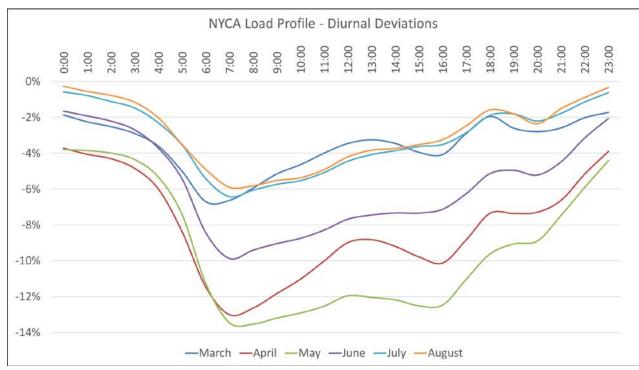
\* Green bars indicate COVID-19 impact

#### **Regional Energy Impacts**



### **COVID-19: Estimated Load Impacts**

#### **NYCA Hourly Impacts versus Expected\***

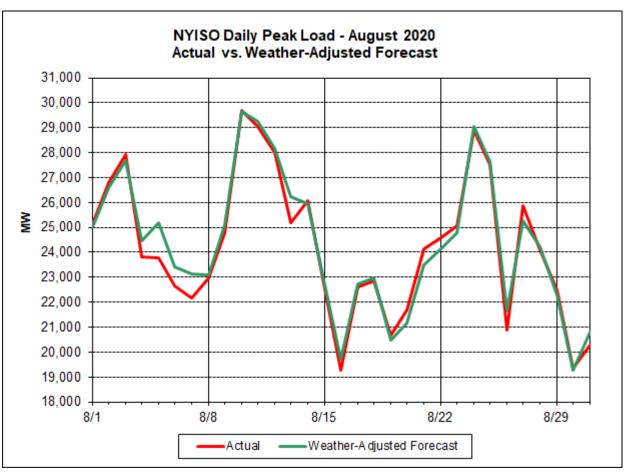


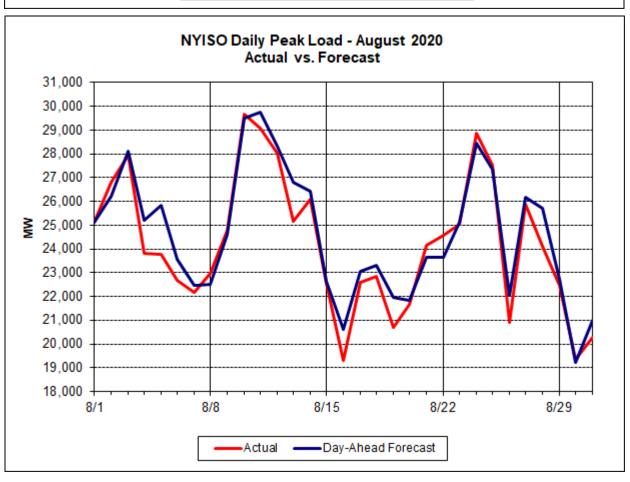
#### \* Includes Weekdays and Weekends

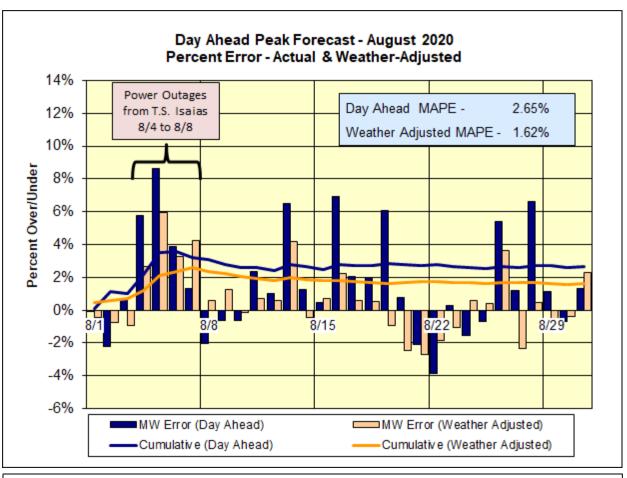
#### **Percent Deviations**

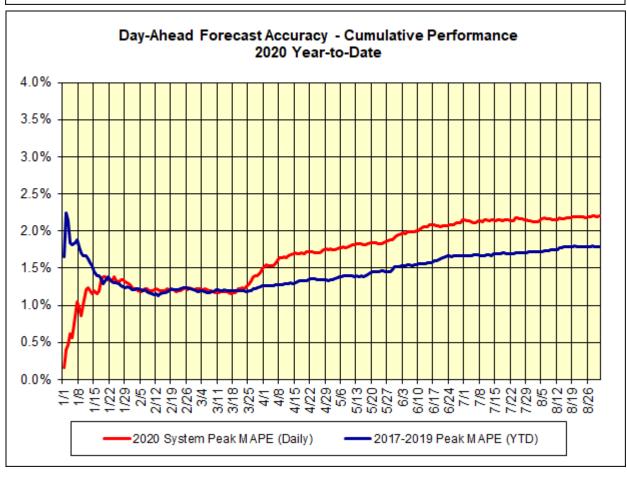
Hour	March	April	May	June	July	August
0:00	-2%	-4%	-4%	-2%	-1%	0%
1:00	-2%	-4%	-4%	-2%	-1%	-1%
2:00	-3%	-4%	-4%	-2%	-1%	-1%
3:00	-3%	-5%	-4%	-3%	-1%	-1%
4:00	-4%	-6%	-5%	-4%	-2%	-2%
5:00	-5%	-8%	-7%	-5%	-4%	-4%
6:00	-7%	-11%	-11%	-8%	-5%	-5%
7:00	-7%	-13%	-13%	-10%	-6%	-6%
8:00	-6%	-13%	-14%	-9%	-6%	-6%
9:00	-5%	-12%	-13%	-9%	-6%	-6%
10:00	-5%	-11%	-13%	-9%	-6%	-5%
11:00	-4%	-10%	-13%	-8%	-5%	-5%
12:00	-3%	-9%	-12%	-8%	-4%	-4%
13:00	-3%	-9%	-12%	-7%	-4%	-4%
14:00	-3%	-9%	-12%	-7%	-4%	-4%
15:00	-4%	-10%	-13%	-7%	-4%	-4%
16:00	-4%	-10%	-12%	-7%	-4%	-3%
17:00	-3%	-9%	-11%	-6%	-3%	-2%
18:00	-2%	-7%	-10%	-5%	-2%	-2%
19:00	-3%	-7%	-9%	-5%	-2%	-2%
20:00	-3%	-7%	-9%	-5%	-2%	-2%
21:00	-3%	-7%	-7%	-4%	-2%	-2%
22:00	-2%	-5%	-6%	-3%	-1%	-1%
23:00	-2%	-4%	-4%	-2%	-1%	0%

Peak Hour









## Summary Description of Regulatory Filings, Investigations, Rulemakings and Related Orders in NYISO Matters – August 2020

Filing Date	Filing Summary	Docket	Order Date	Order Summary
06/18/2020	NYISO joint Section 205 filing of an executed Large Generator Interconnection Agreement (Service Agreement No. 2535) among NYISO, Con Edison, and NRG Berrians East Development	ER20-2090-000	08/14/2020	Order accepted LGIA, effective June 4, 2020 as requested
06/19/2020	NYISO Section 205 filing of proposed tariff revisions to address sustainability of operating reserves and energy storage resource schedules during reserve pickups	ER20-2113-000	08/06/2020	Order accepted revisions subject to a compliance filing to establish an effective date
07/07/2020	NYISO Section 205 filing of tariff revisions to implement Tailored Availability Metric rules	ER20-2337-000	09/03/2020	Order accepted revisions, effective 3/1/2021 as requested
08/12/2020	NYISO compliance filing to provide an expected effective date of August 26, 2020, for tariff amendments related to its Energy Storage Resource participation model	ER20-1696-000		
08/12/2020	NYISO compliance filing to provide an expected effective date of August 26, 2020, for tariff amendments related to its Energy Storage Resource participation model	ER19-467-005		
08/12/2020	NYISO compliance filing to provide an expected effective date of August 26, 2020, for tariff amendments related to its Energy Storage Resource participation model	ER20-2113-001		
08/13/2020	NYISO compliance filing re: MMU Involvement under NYISO's Buyer Side Mitigation (BSM) renewable exemption	ER16-1404-003		
08/14/2020	NYISO joint Section 205 filing of an executed Large Generator Interconnection Agreement (Service Agreement No. 2452) among the NYISO, NYSEG, and Eight Point Wind	ER20-2673-000		
08/14/2020	NYISO filing of an answer to a protest filed by TDI-USA Holdings Corp. re: NYISO tariff revisions on Part A enhancements to the BSM rules	ER20-1718-000		
08/18/2020	NYISO filing of a petition requesting a declaratory order to confirm that transmission owners in New York possess a federal right of first refusal to build, own, and recover the	EL20-65-000		

Filing Date	Filing Summary	Docket	Order Date	Order Summary
	costs of upgrades to their transmission facilities under Order			
	No. 1000 provisions			
08/24/2020	NYISO joint filing, with the IRC, of comments in response to	RM20-12-000		
	the FERC Notice of Inquiry re: enhancements to Critical			
	Infrastructure Protection Reliability Standards filed by ERCOT			
08/25/2020	NYISO filing of compliance tariff revisions to address ESRs'	ER19-467-006		
	payment of TSC and NTAC			
08/26/2020	NYISO joint Section 205 filing of an executed Small Generator	ER20-2749-000		
	Interconnection Agreement (Service Agreement No. 2549)			
	among the NYISO, Niagara Mohawk Power Corporation and			
	Duke Energy Renewables Solar			
08/28/2020	NYISO joint Section 205 filing of an executed Small Generator	ER20-2767-000		
	Interconnection Agreement (Service Agreement No. 2545)			
	among the NYISO, NYSEG, and Puckett Solar			
08/31/2020	NYISO filing of its quarterly financial compliance reporting	FERC Form 3Q		No order will be issued, reporting purposes
	requirement: FERC form-1 and form 3Q quarterly report			only