# Market Operations Report

### Rana Mukerji

SENIOR VICE PRESIDENT - MARKET STRUCTURES, NYISO

#### **Business Issues Committee Meeting**

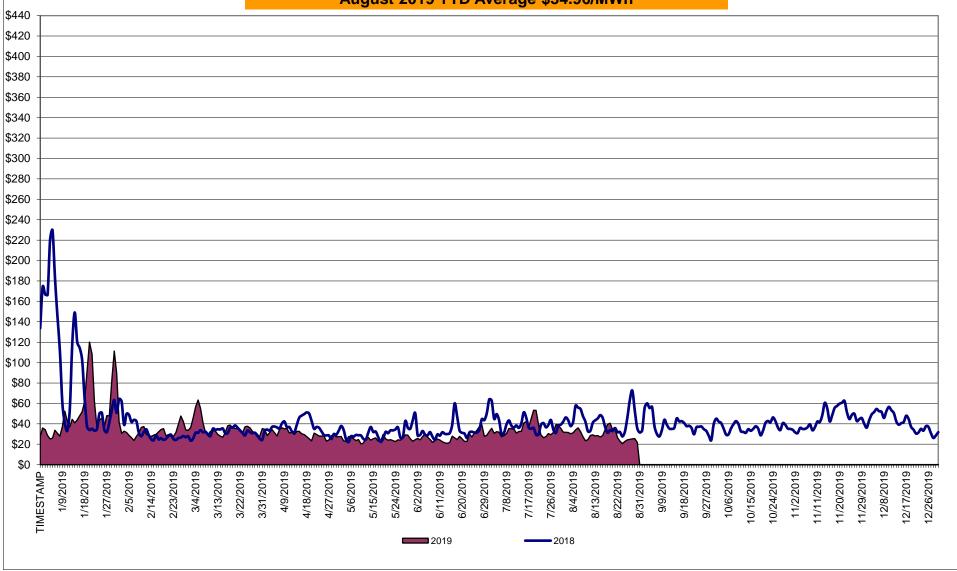
September 11, 2019 Rensselaer, NY



## Market Performance Highlights August 2019

- LBMP for August is \$27.83/MWh; lower than \$33.18/MWh in July 2019 and \$42.56/MWh in August 2018.
  - Day Ahead and Real Time Load Weighted LBMPs are lower compared to July.
- August 2019 average year-to-date monthly cost of \$34.96/MWh is a 25% decrease from \$46.37/MWh in August 2018.
- Average daily sendout is 487 GWh/day in August; lower than 539 GWh/day in July 2019 and 537 GWh/day in August 2018.
- Natural gas prices and distillate prices were lower compared to the previous month.
  - Natural Gas (Transco Z6 NY) was \$1.85/MMBtu, down from \$2.18/MMBtu in July.
  - Natural gas prices are down 38.3% year-over-year.
  - Jet Kerosene Gulf Coast was \$13.32/MMBtu, down from \$14.18/MMBtu in July.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$13.02/MMBtu, down from \$13.71/MMBtu in July.
  - Distillate prices are down 15.1% year-over-year.
- Uplift per MWh is lower compared to the previous month.
  - Uplift (not including NYISO cost of operations) is (\$0.20)/MWh; lower than (\$0.06)/MWh in July.
    - Local Reliability Share is \$0.25/MWh, lower than \$0.44/MWh in July.
    - Statewide Share is (\$0.45)/MWh, higher than (\$0.50)/MWh in July.
  - TSA \$ per NYC MWh is \$0.33/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are lower than July.

## Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\* 2018 Annual Average \$44.92/MWh August 2018 YTD Average \$46.37/MWh August 2019 YTD Average \$34.96/MWh

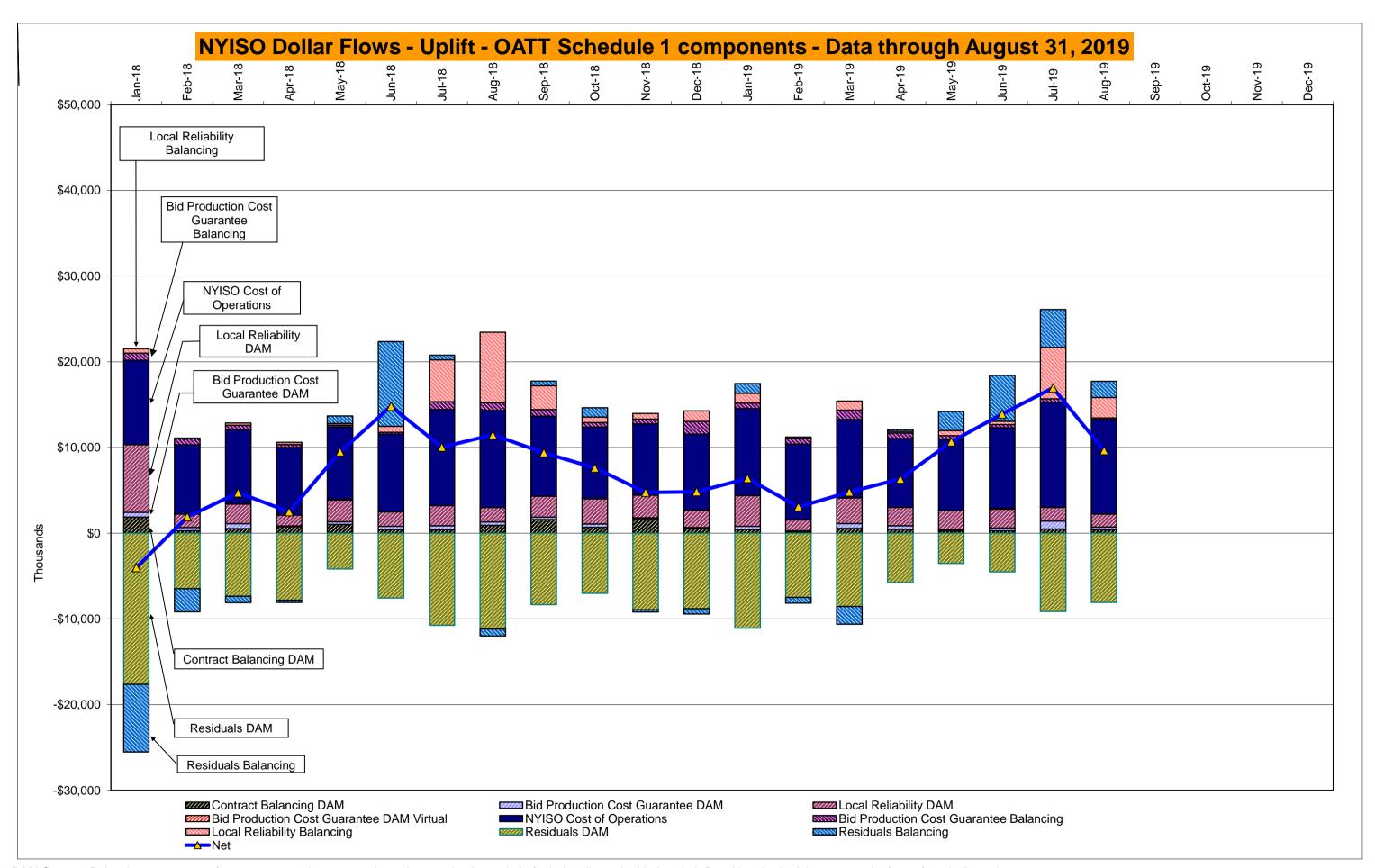


<sup>\*</sup> Excludes ICAP payments.

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

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>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
LBMP	50.93	33.51	34.91	28.01	23.10	24.43	33.18	27.83				
NTAC	0.51	0.69	0.98	1.16	0.72	1.08	1.01	0.98				
Reserve	0.54	0.51	0.55	0.63	0.63	0.50	0.44	0.49				
Regulation	0.13	0.11	0.10	0.33	0.13	0.09	0.07	0.09				
NYISO Cost of Operations	0.68	0.68	0.69	0.69	0.68	0.69	0.70	0.70				
FERC Fee Recovery	0.08	0.09	0.09	0.10	0.10	0.08	0.06	0.07				
Uplift	(0.25)	(0.44)	(0.33)	(0.15)	0.13	0.07	(0.06)	(0.20)				
Uplift: Local Reliability Share	0.32	0.11	0.31	0.20	0.23	0.19	0.44	0.25				
Uplift: Statewide Share	(0.57)	(0.55)	(0.64)	(0.35)	(0.11)	(0.12)	(0.50)	(0.45)				
Voltage Support and Black Start _	0.37	0.37	0.38	0.38	0.38	0.38	0.38	0.38				
Avg Monthly Cost	52.99	35.51	37.38	31.16	25.88	27.32	35.78	30.33				
Avg YTD Cost	52.99	44.93	42.54	40.12	37.57	35.76	35.75	34.96				
TSA \$ per NYC MWh	0.00	0.00	0.01	0.01	0.19	0.77	1.00	0.33				
2018	January	<u>February</u>	March	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	September	October	<u>November</u>	December
LBMP	99.55	33.83	29.91	35.00	28.78	32.53	39.58	42.56	38.70	35.85	43.15	40.31
NTAC												
	0.71	0.58	0.88	1.09	0.88	1.00	0.93	0.72	0.40	0.36	1.18	0.93
Reserve	0.71 0.92	0.58 0.65	0.88 0.64	1.09 0.81	0.88 0.68	1.00 0.57	0.93 0.49	0.72 0.51	0.40 0.52	0.36 0.80	1.18 0.66	0.93 0.54
Reserve	0.92	0.65	0.64	0.81	0.68	0.57	0.49	0.51	0.52	0.80	0.66	0.54
Reserve Regulation	0.92 0.15	0.65 0.15	0.64 0.16	0.81 0.12	0.68 0.14	0.57 0.16	0.49 0.09	0.51 0.09	0.52 0.09	0.80 0.16	0.66 0.17	0.54 0.17
Reserve Regulation NYISO Cost of Operations	0.92 0.15 0.65	0.65 0.15 0.65	0.64 0.16 0.66	0.81 0.12 0.65	0.68 0.14 0.66	0.57 0.16 0.67	0.49 0.09 0.67	0.51 0.09 0.66	0.52 0.09 0.66	0.80 0.16 0.63	0.66 0.17 0.63	0.54 0.17 0.63
Reserve Regulation NYISO Cost of Operations FERC Fee Recovery	0.92 0.15 0.65 0.08	0.65 0.15 0.65 0.10	0.64 0.16 0.66 0.09	0.81 0.12 0.65 0.10	0.68 0.14 0.66 0.09	0.57 0.16 0.67 0.09	0.49 0.09 0.67 0.06	0.51 0.09 0.66 0.06	0.52 0.09 0.66 0.08	0.80 0.16 0.63 0.09	0.66 0.17 0.63 0.09	0.54 0.17 0.63 0.08
Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift	0.92 0.15 0.65 0.08 (0.92)	0.65 0.15 0.65 0.10 (0.50)	0.64 0.16 0.66 0.09 (0.31)	0.81 0.12 0.65 0.10 (0.45)	0.68 0.14 0.66 0.09 0.05	0.57 0.16 0.67 0.09 0.30	0.49 0.09 0.67 0.06 (0.13)	0.51 0.09 0.66 0.06 (0.02)	0.52 0.09 0.66 0.08 (0.11)	0.80 0.16 0.63 0.09 (0.30)	0.66 0.17 0.63 0.09 (0.27)	0.54 0.17 0.63 0.08 (0.29)
Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift Uplift: Local Reliability Share	0.92 0.15 0.65 0.08 (0.92) 0.59	0.65 0.15 0.65 0.10 (0.50) 0.14	0.64 0.16 0.66 0.09 (0.31) 0.19	0.81 0.12 0.65 0.10 (0.45) 0.12	0.68 0.14 0.66 0.09 0.05 0.22	0.57 0.16 0.67 0.09 0.30 0.18	0.49 0.09 0.67 0.06 (0.13) 0.44	0.51 0.09 0.66 0.06 (0.02) 0.59	0.52 0.09 0.66 0.08 (0.11) 0.37	0.80 0.16 0.63 0.09 (0.30) 0.27	0.66 0.17 0.63 0.09 (0.27) 0.25	0.54 0.17 0.63 0.08 (0.29) 0.23
Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift Uplift: Local Reliability Share Uplift: Statewide Share	0.92 0.15 0.65 0.08 (0.92) 0.59 (1.52)	0.65 0.15 0.65 0.10 (0.50) 0.14 (0.64)	0.64 0.16 0.66 0.09 (0.31) 0.19 (0.51)	0.81 0.12 0.65 0.10 (0.45) 0.12 (0.57)	0.68 0.14 0.66 0.09 0.05 0.22 (0.17)	0.57 0.16 0.67 0.09 0.30 0.18 0.12	0.49 0.09 0.67 0.06 (0.13) 0.44 (0.57)	0.51 0.09 0.66 0.06 (0.02) 0.59 (0.61)	0.52 0.09 0.66 0.08 (0.11) 0.37 (0.48)	0.80 0.16 0.63 0.09 (0.30) 0.27 (0.56)	0.66 0.17 0.63 0.09 (0.27) 0.25 (0.52)	0.54 0.17 0.63 0.08 (0.29) 0.23 (0.52)
Reserve Regulation NYISO Cost of Operations FERC Fee Recovery Uplift Uplift: Local Reliability Share Uplift: Statewide Share Voltage Support and Black Start	0.92 0.15 0.65 0.08 (0.92) 0.59 (1.52) 0.40	0.65 0.15 0.65 0.10 (0.50) 0.14 (0.64) 0.41	0.64 0.16 0.66 0.09 (0.31) 0.19 (0.51) 0.42	0.81 0.12 0.65 0.10 (0.45) 0.12 (0.57) 0.41	0.68 0.14 0.66 0.09 0.05 0.22 (0.17) 0.42	0.57 0.16 0.67 0.09 0.30 0.18 0.12 0.42	0.49 0.09 0.67 0.06 (0.13) 0.44 (0.57) 0.42	0.51 0.09 0.66 0.06 (0.02) 0.59 (0.61) 0.42	0.52 0.09 0.66 0.08 (0.11) 0.37 (0.48) 0.42	0.80 0.16 0.63 0.09 (0.30) 0.27 (0.56) 0.40	0.66 0.17 0.63 0.09 (0.27) 0.25 (0.52) 0.40	0.54 0.17 0.63 0.08 (0.29) 0.23 (0.52) 0.40

<sup>\*</sup> Excludes ICAP payments. Market Mitigation and Analysis Prepared: 9/10/2019 1:42 PM



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>2019</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
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				
DAM LSE Internal LBMP Energy Sales	57%	57%	59%	59%	57%	58%	64%	63%				
DAM External TC LBMP Energy Sales	6%	5%	3%	1%	3%	3%	3%	3%				
DAM Bilateral - Internal Bilaterals	29%	30%	30%	31%	32%	29%	26%	26%				
DAM Bilateral - Importl/Non-LBMP Market Bilaterals	5%	5%	5%	5%	6%	5%	4%	4%				
DAM Bilateral - Export/Non-LBMP Market Bilaterals	1%	1%	2%	2%	2%	2%	1%	1%				
DAM Bilateral - Wheel Through Bilaterals	2%	2%	2%	2%	1%	2%	2%	2%				
Balancing Energy Market MWh	-322,442	-323,188	-261,217	-218,482	-392,699	-102,044	103,628	-514,102				
Balancing Energy LSE Internal LBMP Energy Sales	-120%	-126%	-138%	-178%	-150%	-264%	-2%	-119%				
Balancing Energy External TC LBMP Energy Sales	65%	67%	82%	113%	68%	233%	199%	41%				
Balancing Energy Bilateral - Internal Bilaterals	-4%	-1%	-3%	2%	1%	0%	5%	0%				
Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	15%	0%				
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	3%	7%	6%	7%	2%	8%	8%	1%				
Balancing Energy Bilateral - Wheel Through Bilaterals	-45%	-47%	-47%	-44%	-21%	-77%	-125%	-23%				
Transactions Summary	1070	17.70	11 70	1170	2170	1170	12070	2070				
LBMP	63%	62%	61%	60%	59%	62%	68%	65%				
Internal Bilaterals	29%	30%	30%	31%	33%	30%	25%	27%				
Import Bilaterals	29% 5%	5%	30% 6%	51% 6%	55% 6%	5%	25% 4%	27% 5%				
·	5% 1%	5% 2%	2%	6% 2%	2%	5% 2%	4% 1%	5% 1%				
Export Bilaterals Wheels Through	1%	2% 1%	2% 1%	2% 1%	2% 0%	2% 1%	1%	1%				
	170	1 70	1 70	1 70	070	170	1 70	1 70				
Market Share of Total Load	400.00/	400 50/	400.00/	404.00/	400.00/	400 70/	00.40/	400.00/				
Day Ahead Market	102.2%	102.5%	102.0%	101.9%	103.2%	100.7%	99.4%	103.2%				
Balancing Energy +	-2.2%	-2.5%	-2.0%	-1.9%	-3.2%	-0.7%	0.6%	-3.2%				
Total MWH	14,977,016			11,592,547	12,128,884			15,865,866				
Average Daily Energy Sendout/Month GWh	449	436	411	371	373	429	539	487				
2018	lanuary	February	March	April	May	lune	luly	Διιαμεί	Sentember	October	November	December
2018	January	February	March	April	<u>May</u>	<u>June</u>	<u>July</u>	August		October	November	December
Day Ahead Market MWh	15,153,751	12,643,854	13,521,386	12,158,686	12,721,073	13,983,384	16,839,994	17,195,447	14,432,632	13,548,828	13,506,134	14,450,460
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales	15,153,751 59%	12,643,854 57%	13,521,386 58%	12,158,686 60%	12,721,073 61%	13,983,384 61%	16,839,994 65%	17,195,447 65%	14,432,632 61%	13,548,828 57%	13,506,134 58%	14,450,460 56%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales	15,153,751 59% 4%	12,643,854 57% 3%	13,521,386 58% 2%	12,158,686 60% 2%	12,721,073 61% 2%	13,983,384 61% 1%	16,839,994 65% 1%	17,195,447 65% 2%	14,432,632 61% 3%	13,548,828 57% 6%	13,506,134 58% 6%	14,450,460 56% 6%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals	15,153,751 59% 4% 29%	12,643,854 57% 3% 31%	13,521,386 58% 2% 32%	12,158,686 60% 2% 30%	12,721,073 61% 2% 29%	13,983,384 61% 1% 30%	16,839,994 65% 1% 26%	17,195,447 65% 2% 25%	14,432,632 61% 3% 28%	13,548,828 57% 6% 29%	13,506,134 58% 6% 30%	14,450,460 56% 6% 30%
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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	15,153,751 59% 4% 29% 5% 2%	12,643,854 57% 3% 31% 5% 2%	13,521,386 58% 2% 32% 5% 2%	12,158,686 60% 2% 30% 5% 2%	12,721,073 61% 2% 29% 5% 2%	13,983,384 61% 1% 30% 5% 1%	16,839,994 65% 1% 26% 4% 1%	17,195,447 65% 2% 25% 4% 1%	14,432,632 61% 3% 28% 5% 1%	13,548,828 57% 6% 29% 5% 2%	13,506,134 58% 6% 30% 2% 2%	14,450,460 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	15,153,751 59% 4% 29% 5% 2% 1%	12,643,854 57% 3% 31% 5% 2% 2%	13,521,386 58% 2% 32% 5% 2% 2%	12,158,686 60% 2% 30% 5% 2% 2%	12,721,073 61% 2% 29% 5% 2% 2%	13,983,384 61% 1% 30% 5% 1% 2%	16,839,994 65% 1% 26% 4% 1% 2%	17,195,447 65% 2% 25% 4% 1% 2%	14,432,632 61% 3% 28% 5% 1% 2%	13,548,828 57% 6% 29% 5% 2% 1%	13,506,134 58% 6% 30% 2% 2% 1%	14,450,460 56% 6% 30% 5% 2% 2%
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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	15,153,751 59% 4% 29% 5% 2% 1%	12,643,854 57% 3% 31% 5% 2% 2%	13,521,386 58% 2% 32% 5% 2% 2%	12,158,686 60% 2% 30% 5% 2% 2%	12,721,073 61% 2% 29% 5% 2% 2%	13,983,384 61% 1% 30% 5% 1% 2%	16,839,994 65% 1% 26% 4% 1% 2%	17,195,447 65% 2% 25% 4% 1% 2%	14,432,632 61% 3% 28% 5% 1% 2%	13,548,828 57% 6% 29% 5% 2% 1%	13,506,134 58% 6% 30% 2% 2% 1%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94%
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	15,153,751 59% 4% 29% 5% 2% 1%	12,643,854 57% 3% 31% 5% 2% 2% -299,377	13,521,386 58% 2% 32% 5% 2% 2% -386,811	12,158,686 60% 2% 30% 5% 2% 2%	12,721,073 61% 2% 29% 5% 2% 2% -29,539	13,983,384 61% 1% 30% 5% 1% 2%	16,839,994 65% 1% 26% 4% 1% 2%	17,195,447 65% 2% 25% 4% 1% 2%	14,432,632 61% 3% 28% 5% 1% 2%	13,548,828 57% 6% 29% 5% 2% 1% -314,885	13,506,134 58% 6% 30% 2% 2% 1%	14,450,460 56% 6% 30% 5% 2% 2% -428,748
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	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208%	12,721,073 61% 2% 29% 5% 2% 2% -29,539 -458%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 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	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% 189%	12,721,073 61% 2% 29% 5% 2% 2% -29,539 -458% 564%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27%
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	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74% 9%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% 189% -11%	12,721,073 61% 29% 29% 5% 2% 2% -29,539 -458% 564% 29%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29% 5%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 7%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3%
Day Ahead Market MWh  DAM LSE Internal LBMP Energy Sales  DAM External TC LBMP Energy Sales  DAM Bilateral - Internal Bilaterals  DAM Bilateral - Export/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	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74% 9% 0%	12,643,854 57% 3% 31% 5% 2% -299,377 -101% 24% 5% 0%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 0%	12,158,686 60% 2% 30% 5% 2% -72,862 -208% 189% -11% 0%	12,721,073 61% 29% 5% 2% 2% -29,539 -458% 564% 29% 0%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29% 5% 0%	16,839,994 65% 1% 26% 4% 1% -80,438 -123% 129% 18% 0%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23% 0%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 7% 0%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 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 - Importl/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	15,153,751 59% 4% 29% 5% 2% -149,619 -147% 74% 9% 0% 22%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5% 0% 9%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 0% 6%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% -11% 0% 34%	12,721,073 61% 29% 5% 2% 2% -29,539 -458% 564% 29% 0% 51%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29% 0% 3%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18% 0%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23% 0% 25%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 0% 3%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0% 0%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10% 0%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% 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	15,153,751 59% 4% 29% 5% 2% -149,619 -147% 74% 9% 0% 22%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5% 0% 9%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 0% 6%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% -11% 0% 34%	12,721,073 61% 29% 5% 2% 2% -29,539 -458% 564% 29% 0% 51%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29% 0% 3%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18% 0%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23% 0% 25%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 0% 3%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0% 0%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10% 0%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% 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	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74% 9% 0% 22% -58%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5% 0% 9% -36%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 0% 6% -15%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% -11% 0% 34% -103%	12,721,073 61% 29% 55% 2% 2% -29,539 -458% 564% 29% 0% 51% -287%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 5% 0% 3% -23%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18% 0% 14% -138%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23% 0% 25% -281%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 7% 0% 3% -42%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0% 0% -27%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10% 0% -31%	-428,748 -94% 27% 27% 27% -428,748 -94% 27% 3% 0% -36%
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	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74% 9% 0% 22% -58%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 0% 9% -36%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 0% 6% -15%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% -11% 0% 34% -103%	12,721,073 61% 29% 5% 2% 2% -29,539 -458% 564% 29% 0% 51% -287%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 5% 0% 3% -23%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18% 0% 14% -138%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23% 0% 25% -281%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 0% 3% -42%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 0% 0% -27% 63%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10% 0% -31%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% 0% -36%
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	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74% 9% 0% 22% -58%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5% 0% 9% -36%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 6% -15% 59% 33%	12,158,686 60% 2% 30% 5% 2% 2-72,862 -208% 189% -111% 0% 34% -103%	12,721,073 61% 29% 5% 2% 2% -29,539 -458% 564% 0% 51% -287%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29% 5% 0% 3% -23%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18% 0% -138% 66% 27%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 0% 25% -281%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 0% 3% -42%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 0% -27% 63% 30%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10% 0% -31%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% 0% -36% 61% 31%
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 - Internal Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals  Export Bilaterals	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74% 9% 0% -58%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5% 0% 9% -36%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 6% -15% 59% 33% 6%	12,158,686 60% 2% 30% 5% 2% -72,862 -208% 189% -111% 0% 34% -103%	12,721,073 61% 29% 5% 2% 2% -29,539 -458% 564% 29% 51% -287%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29% 5% 0% 3% -23%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18% 0% -138% 66% 27% 4%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23% 0% -281% 68% 25% 4%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 0% 3% -42%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 0% 0% -27% 63% 30% 5%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 0% -31% 64% 31% 33%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% -36% 61% 31% 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 - Internal Bilaterals  Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Balancing Energy Bilateral - Wheel Through Bilaterals  Transactions Summary  LBMP  Internal Bilaterals  Import Bilaterals  Export Bilaterals  Export Bilaterals	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74% 9% 0% -58% 63% 30% 5% 2%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5% 0% 9% -36% 59% 32% 59% 32% 5% 2%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 6% -15% 59% 33% 6% 2%	12,158,686 60% 2% 30% 5% 2% 2-72,862 -208% 189% -111% 0% 34% -103% 62% 30% 5% 2%	12,721,073 61% 2% 29% 5% 2% 2-29,539 -458% 564% 29% 51% -287% 63% 29% 55% 2%	13,983,384 61% 1% 30% 5% 1% 22% -354,112 -113% 29% 5% 0% -23% 61% 31% 5% 1%	16,839,994 65% 1% 26% 4% 1% -80,438 -123% 129% 18% 0% 14% -138%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23% 0% -281% 68% 25% 4% 1%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 7% 0% 3% -42%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0% 0% -27% 63% 30% 5% 2%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10% -31% 64% 31% 33% 24%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% 0% -36% 61% 31% 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  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	15,153,751 59% 4% 29% 5% 2% 1% -149,619 -147% 74% 9% 0% 22% -58% 63% 30% 5% 2% 1%	12,643,854 57% 3% 31% 5% 2% -299,377 -101% 24% 5% 0% 9% -36% 59% 32% 5% 2% 1%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 6% -15% 59% 33% 6% 2% 1%	12,158,686 60% 2% 30% 5% 2% -72,862 -208% 189% -11% 0% 34% -103% 62% 30% 5% 2% 1%	12,721,073 61% 2% 29% 5% 2% 2% -29,539 -458% 564% 29% 0% 51% -287% 63% 29% 5% 2% 1%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 5% 0% 33% -23% 61% 31% 5% 1%	16,839,994 65% 1% 26% 4% 1% -80,438 -123% 129% 18% 0% -138% 66% 27% 4% 1%	17,195,447 65% 2% 25% 4% 1% -44,732 -75% 209% 23% 0% -281% 68% 25% 4% 1%	14,432,632 61% 3% 28% 5% 1% -210,436 -82% 14% 7% 0% 3% -42%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0% -27% 63% 30% 5% 2% 1%	13,506,134 58% 6% 30% 2% 2% 2% 1% -304,277 -100% 18% 3% 10% -31% 64% 31% 33% 24% 14%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% -36% 61% 31% 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  Balancing Energy Market MWh  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	15,153,751 59% 4% 29% 5% 2% -149,619 -147% 74% 9% 0% 22% -58% 63% 30% 5% 2% 1%	12,643,854 57% 3% 31% 5% 2% -299,377 -101% 24% 5% 0% 9% -36% 59% 32% 5% 2% 1%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 6% -15% 59% 33% 6% 2% 1%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% 189% -11% 0% 34% -103% 62% 30% 5% 2% 1%	12,721,073 61% 2% 29% 5% 2% -29,539 -458% 564% 29% 0% 51% -287% 63% 29% 1%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29% 0% 33% -23% 61% 31% 5% 1% 2%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18% 0% -14% -138% 66% 27% 4% 1%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 25% -281% 68% 25% 4% 1% 1% 100.3%	14,432,632 61% 3% 28% 5% 1% -210,436 -82% 14% 0% 3% -42% 64% 28% 5% 1% 2%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0% -27% 63% 30% 5% 2% 1%	13,506,134 58% 6% 30% 2% 2% 2% 1% -304,277 -100% 18% 3% 10% 0% -31% 64% 31% 32% 1% 102.3%	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% 0% -36% 61% 31% 5% 2% 11%
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 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 +	15,153,751 59% 4% 29% 5% 2% -149,619 -147% 74% 9% 0% 22% -58% 63% 30% 5% 2% 101.0% -10.0%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5% 0% 9% -36% 59% 32% 5% 2% 1% 102.4% -2.4%	13,521,386 58% 2% 32% 5% 2% 2% 2% -386,811 -128% 37% 0% 6% -15% 59% 33% 6% 2% 1% 102.9% -2.9%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% -11% 0% 34% -103% 62% 30% 5% 2% 1%	12,721,073 61% 2% 29% 5% 2% 2% -29,539 -458% 564% 29% -287% 63% 29% 1% 100.2% -0.2%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 0% 3% -23% 61% 31% 5% 1% 2%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 18% 0% 14% -138% 66% 27% 4% 1% 1%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 23% 0% 25% -281% 68% 4% 1% 1%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 0% 3% -42% 64% 28% 5% 1% 2%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0% 0% -27% 63% 30% 5% 2% 105.24% 105.24%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10% 0% -31% 64% 31% 64% 31% 10% 10% 2% 10% 20% 10% 10% 10% 10% 10% 10% 10% 1	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% 0% -36% 61% 31% 5% 2% 11% 103.1% -3.1%
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  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	15,153,751 59% 4% 29% 5% 2% -149,619 -147% 74% 9% 0% 22% -58% 63% 30% 5% 2% 101.0% -10.0%	12,643,854 57% 3% 31% 5% 2% 2% -299,377 -101% 24% 5% 0% 9% -36% 59% 32% 5% 2% 1% 102.4% -2.4%	13,521,386 58% 2% 32% 5% 2% 2% -386,811 -128% 37% 0% 6% -15% 59% 33% 6% 2% 1%	12,158,686 60% 2% 30% 5% 2% 2% -72,862 -208% 189% -11% 0% 34% -103% 62% 30% 5% 2% 1%	12,721,073 61% 2% 29% 5% 2% -29,539 -458% 564% 29% 0% 51% -287% 63% 29% 1%	13,983,384 61% 1% 30% 5% 1% 2% -354,112 -113% 29% 0% 33% -23% 61% 31% 5% 1% 2%	16,839,994 65% 1% 26% 4% 1% 2% -80,438 -123% 129% 18% 0% -14% -138% 66% 27% 4% 1%	17,195,447 65% 2% 25% 4% 1% 2% -44,732 -75% 209% 25% -281% 68% 25% 4% 1% 1% 100.3%	14,432,632 61% 3% 28% 5% 1% 2% -210,436 -82% 14% 0% 3% -42% 64% 28% 5% 1% 2%	13,548,828 57% 6% 29% 5% 2% 1% -314,885 -105% 30% 2% 0% -27% 63% 30% 5% 2% 1%	13,506,134 58% 6% 30% 2% 2% 1% -304,277 -100% 18% 3% 10% 0% -31% 64% 31% 64% 31% 10% 10% 2% 10% 20% 10% 10% 10% 10% 10% 10% 10% 1	14,450,460 56% 6% 30% 5% 2% 2% -428,748 -94% 27% 3% 0% 0% -36% 61% 31% 5% 2% 11%

Notes: Percent totals may not equal 100% due to rounding. Virtual Transactions are not reflected in this chart.

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

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

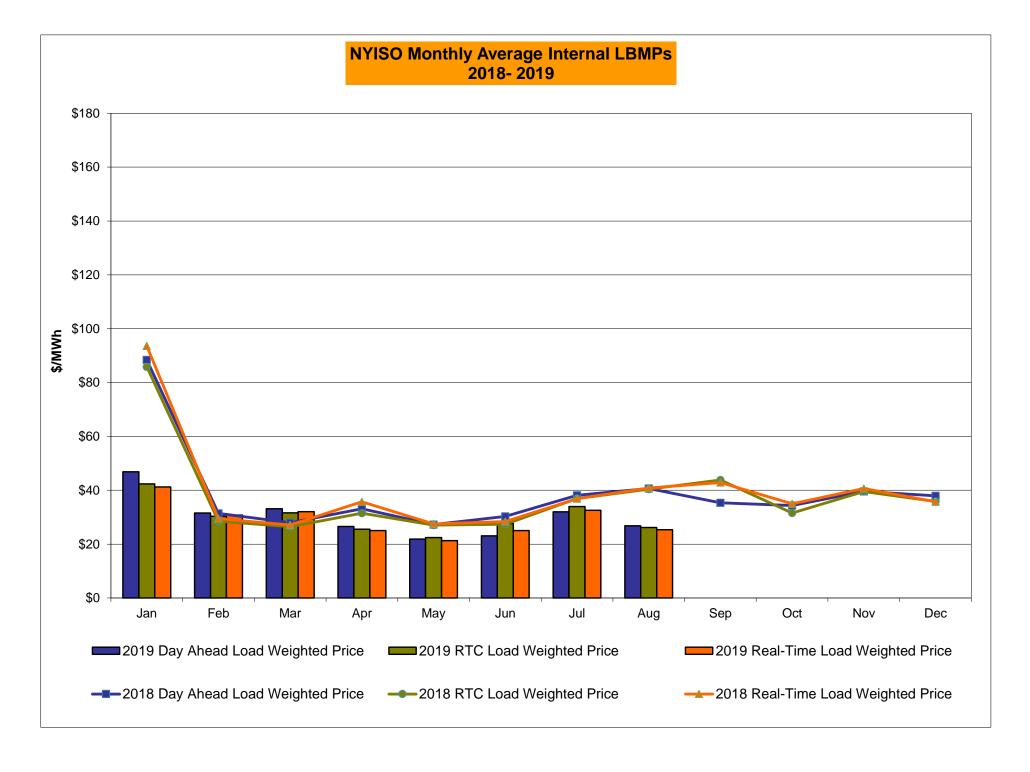
#### NYISO Markets 2019 Energy Statistics

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	August September	October November December
DAY AHEAD LBMP									
Price *	\$45.01	\$30.66	\$32.34	\$25.97	\$21.16	\$21.79	\$30.16	\$25.35	
Standard Deviation	\$25.67	\$12.86	\$9.30	\$6.32	\$5.89	\$7.28	\$12.06	\$8.73	
Load Weighted Price **	\$46.88	\$31.53	\$33.14	\$26.57	\$21.89	\$23.04	\$31.98	\$26.83	
RTC LBMP									
Price *	\$40.86	\$29.74	\$31.04	\$25.07	\$21.88	\$25.67	\$32.23	\$24.92	
Standard Deviation	\$23.02	\$10.79	\$8.48	\$7.53	\$8.01	\$23.45	\$21.96	\$14.96	
Load Weighted Price **	\$42.39	\$30.32	\$31.62	\$25.54	\$22.44	\$27.64	\$33.92	\$26.14	
REAL TIME LBMP									
Price *	\$39.54	\$30.13	\$31.46	\$24.47	\$20.56	\$23.30	\$30.77	\$24.01	
Standard Deviation	\$26.03	\$13.77	\$12.54	\$17.27	\$10.35	\$17.49	\$20.63	\$12.36	
Load Weighted Price **	\$41.24	\$30.80	\$32.06	\$25.06	\$21.28	\$25.05	\$32.53	\$25.34	
Average Daily Energy Sendout/Month GWh	449	436	411	371	373	429	539	487	

#### NYISO Markets 2018 Energy Statistics

	January	<u>February</u>	<u>March</u>	<u>April</u>	May	<u>June</u>	<u>July</u>	August S	September	October	November [	<u>December</u>
DAY AHEAD LBMP	<b>#</b> 00 =0	400.0=	<b>407.07</b>	000.40	005.05	<b>#</b> 00 44	<b>405 50</b>	400.00	<b>#</b> 00.00	<b>4</b> 00 0 <del>-</del>	<b>*</b>	<b>#</b> 00.00
Price *	\$83.53	\$30.37	\$27.37	\$32.40	\$25.97	\$28.41	\$35.73	\$38.00	\$33.28	\$33.27	\$38.36	\$36.88
Standard Deviation	\$58.94	\$12.38	\$6.34	\$9.06	\$9.22	\$11.42	\$15.25	\$16.51	\$12.01	\$9.24	\$11.36	\$11.61
Load Weighted Price **	\$88.42	\$31.44	\$27.95	\$33.14	\$27.26	\$30.27	\$38.14	\$40.64	\$35.33	\$34.33	\$39.55	\$37.96
RTC LBMP												
Price *	\$81.65	\$27.73	\$25.99	\$30.80	\$25.40	\$26.06	\$34.65	\$38.13	\$39.52	\$30.92	\$38.37	\$35.01
Standard Deviation	\$60.83	\$11.96	\$8.99	\$14.30	\$20.37	\$12.78	\$17.44	\$20.05	\$61.50	\$13.43	\$17.24	\$12.27
Load Weighted Price **	\$85.85	\$28.54	\$26.46	\$31.47	\$27.08	\$27.35	\$36.93	\$40.40	\$43.83	\$31.55	\$39.53	\$35.84
REAL TIME LBMP												
Price *	\$87.94	\$28.50	\$26.49	\$34.53	\$25.57	\$26.31	\$34.34	\$38.07	\$38.15	\$33.88	\$39.18	\$34.74
Standard Deviation	\$87.41	\$17.36	\$12.25	\$26.57	\$23.49	\$24.34	\$18.44	\$27.21	\$46.81	\$37.42	\$26.15	\$17.44
Load Weighted Price **	\$93.59	\$29.49	\$27.09	\$35.72	\$27.47	\$28.38	\$36.84	\$40.87	\$42.87	\$34.94	\$40.63	\$35.70
Average Daily Energy Sendout/Month GWh	463	426	413	390	397	445	529	537	458	399	411	425

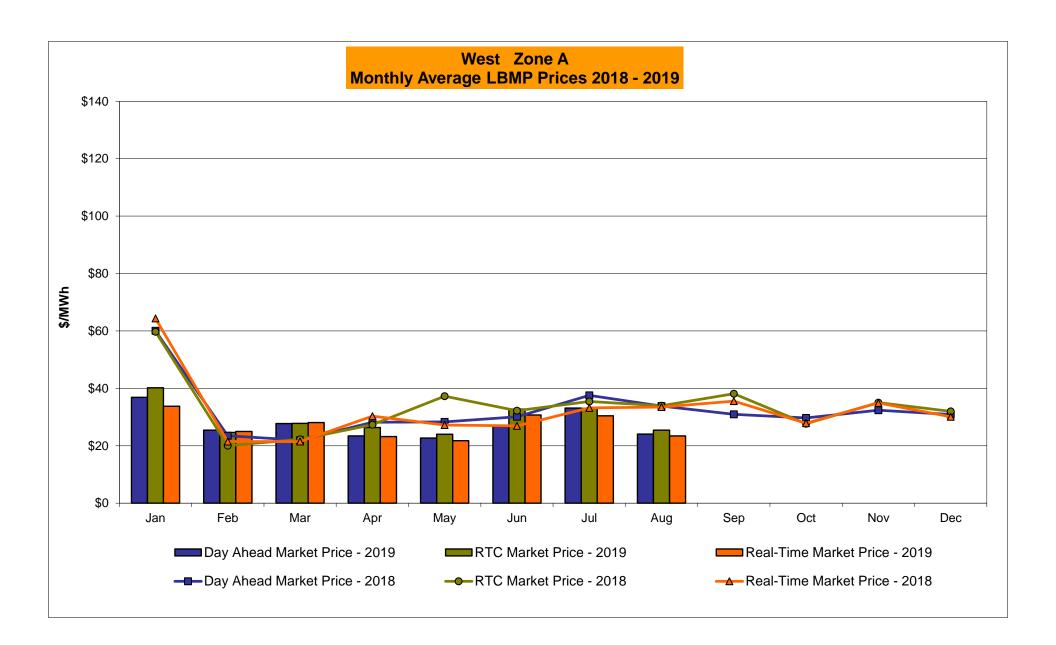
<sup>\*</sup> Average zonal load weighted prices.
\*\* Average zonal load weighted prices, load weighted in each hour.

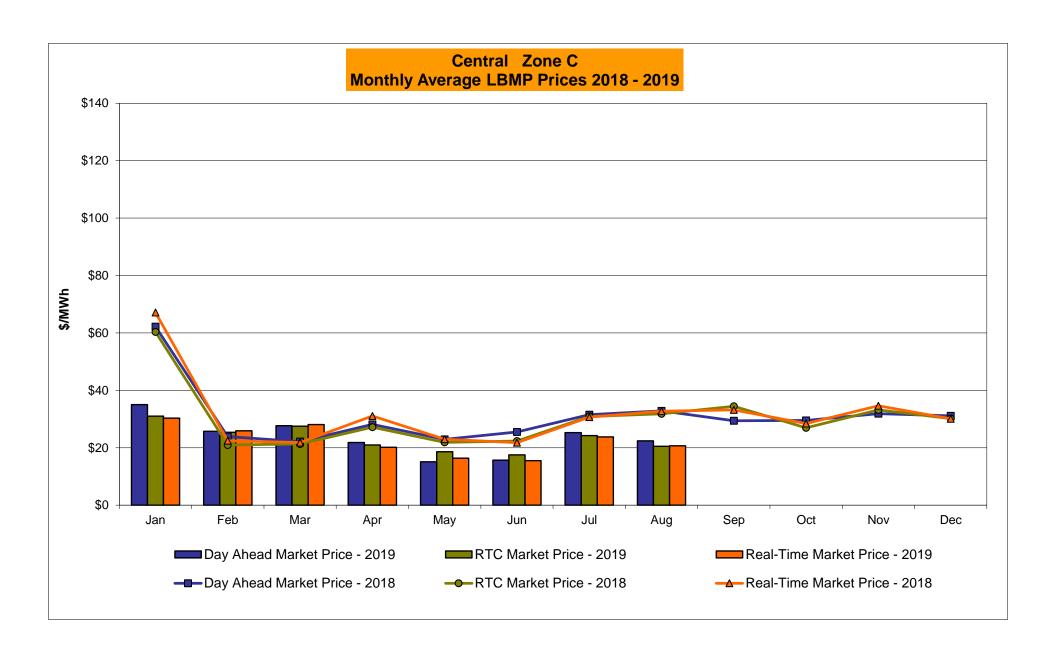


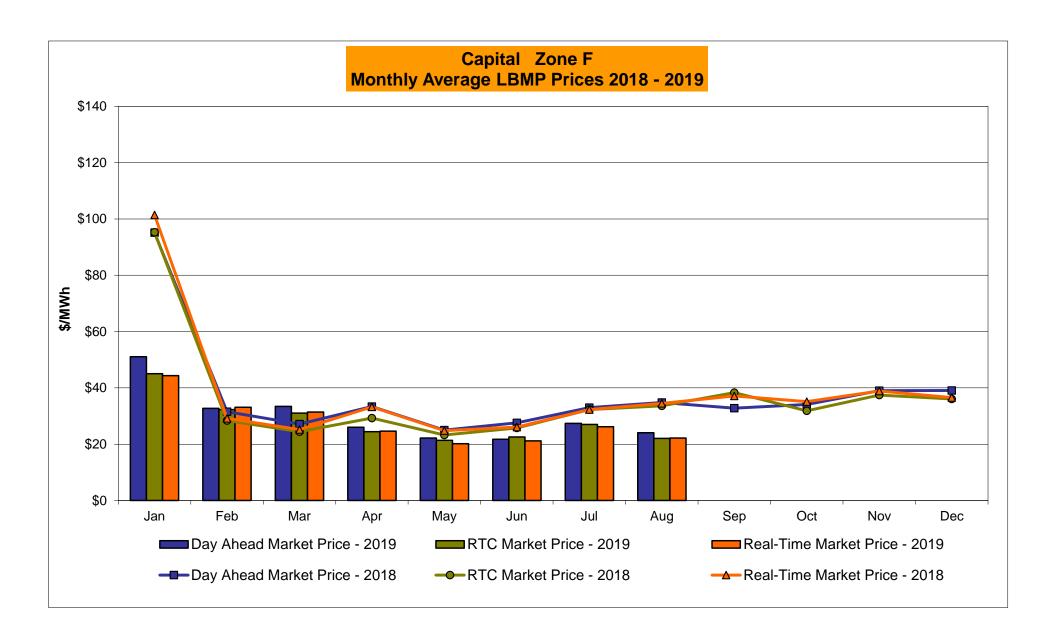
#### **August 2019 Zonal LBMP Statistics for NYISO (\$/MWh)**

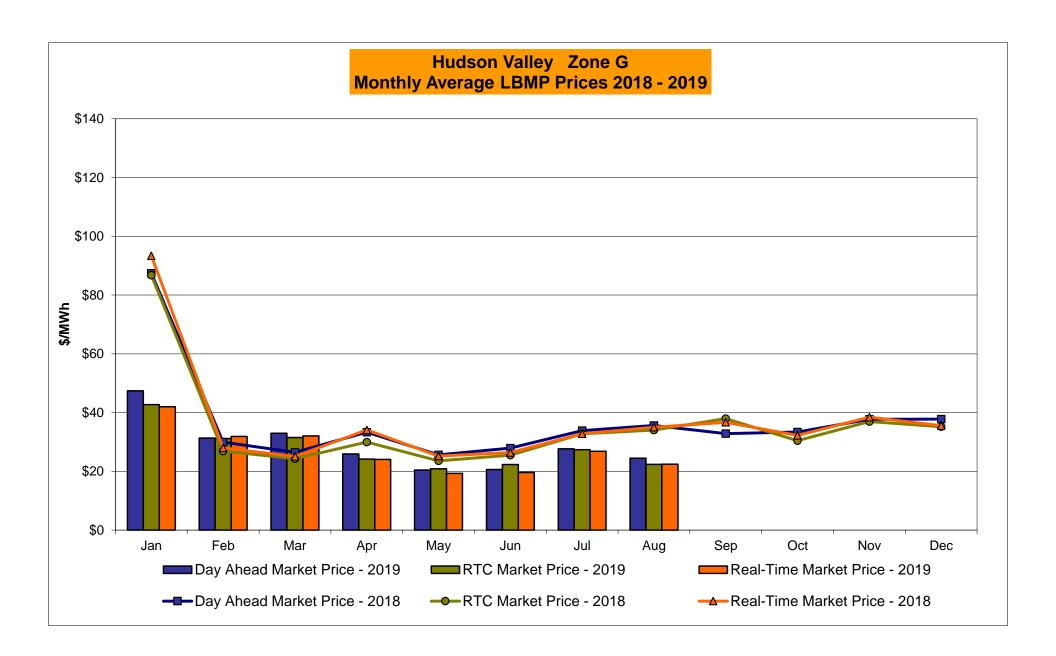
	WEST	GENESEE	NORTH	CENTRAL	MOHAWK VALLEY	CAPITAL	HUDSON VALLEY	MILLWOOD	DUNWOODIE	NEW YORK CITY	LONG ISLAND
	Zone A	Zone B	Zone D	Zone C	Zone E	Zone F	Zone G	Zone H	Zone I	Zone J	Zone K
DAY AHEAD LBMP											
Unweighted Price *	24.05	21.53	19.62	22.40	22.60	24.06	24.50	24.86	25.03	26.59	28.99
Standard Deviation	11.08	7.03	7.26	7.59	7.62	7.46	8.07	8.51	8.63	9.57	10.11
RTC LBMP											
Unweighted Price *	25.44	19.46	18.73	20.48	20.83	22.08	22.38	22.67	23.12	23.66	37.01
Standard Deviation	28.81	7.55	7.80	8.00	8.19	7.83	8.89	9.30	9.76	10.18	73.86
REAL TIME LBMP											
Unweighted Price *	23.41	19.88	18.96	20.67	21.04	22.20	22.44	22.72	23.29	23.97	31.50
Standard Deviation	17.34	10.46	9.97	10.77	11.02	10.89	11.47	11.67	12.14	12.89	28.42
		HADDO	HADBO			CDOSS					
	ONTARIO	HYDRO	HYDRO		NEW	CROSS	NODTUDODT				
	ONTARIO	QUEBEC	QUEBEC	P IM	NEW	SOUND	NORTHPORT-	NEDTLINE	I INDEN VET	HIIDSON	Dennison
	ONTARIO IESO	QUEBEC		РЈМ	NEW ENGLAND	SOUND CABLE	NORWALK	NEPTUNE Controllable	LINDEN VFT	HUDSON	Dennison Controllable
		QUEBEC	QUEBEC	PJM <u>Zone P</u>		SOUND		NEPTUNE Controllable Line	LINDEN VFT Controllable Line	HUDSON Controllable Line	Dennison Controllable Line
DAY AHEAD LBMP	IESO	QUEBEC (Wheel)	QUEBEC (Import/Export)		ENGLAND	SOUND CABLE Controllable	NORWALK Controllable	Controllable	<u>Controllable</u>	<u>Controllable</u>	Controllable
<b>DAY AHEAD LBMP</b> Unweighted Price *	IESO	QUEBEC (Wheel)	QUEBEC (Import/Export)		ENGLAND	SOUND CABLE Controllable	NORWALK Controllable	Controllable	<u>Controllable</u>	<u>Controllable</u>	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> 20.23	QUEBEC (Wheel)  Zone M  20.33	QUEBEC (Import/Export)  Zone M  20.33	<b>Zone P</b> 23.69	ENGLAND  Zone N  24.47	SOUND CABLE Controllable Line	NORWALK Controllable Line 26.59	Controllable Line 26.89	Controllable Line 24.95	Controllable Line 25.42	Controllable Line 19.17
Unweighted Price * Standard Deviation	<b>Zone O</b> 20.23	QUEBEC (Wheel)  Zone M  20.33	QUEBEC (Import/Export)  Zone M  20.33	<b>Zone P</b> 23.69	ENGLAND  Zone N  24.47	SOUND CABLE Controllable Line	NORWALK Controllable Line 26.59	Controllable Line 26.89	Controllable Line 24.95	Controllable Line 25.42	Controllable Line 19.17
Unweighted Price * Standard Deviation  RTC LBMP	Zone O 20.23 6.13	QUEBEC (Wheel) Zone M 20.33 6.89	QUEBEC (Import/Export)  Zone M  20.33 6.89	<b>Zone P</b> 23.69 7.98	<b>Zone N</b> 24.47 7.89	SOUND CABLE Controllable Line 27.55 8.98	NORWALK Controllable Line 26.59 8.22	Controllable Line 26.89 9.03	Controllable Line 24.95 7.72	Controllable Line 25.42 8.64	Controllable Line 19.17 7.09
Unweighted Price * Standard Deviation  RTC LBMP Unweighted Price * Standard Deviation  REAL TIME LBMP	20.23 6.13 19.04 7.08	QUEBEC (Wheel)  Zone M  20.33 6.89  18.38 8.06	QUEBEC (Import/Export)  Zone M  20.33 6.89  18.38 8.06	Zone P 23.69 7.98 22.18 10.35	Zone N 24.47 7.89 23.70 9.64	SOUND CABLE Controllable Line 27.55 8.98 40.24 80.04	NORWALK Controllable Line 26.59 8.22 32.32 72.69	26.89 9.03 30.39 52.33	24.95 7.72 21.83 10.25	25.42 8.64 23.21 9.54	19.17 7.09 18.61 8.92
Unweighted Price * Standard Deviation  RTC LBMP  Unweighted Price * Standard Deviation	Zone O 20.23 6.13	QUEBEC (Wheel)  Zone M  20.33 6.89	QUEBEC (Import/Export)  Zone M  20.33 6.89	Zone P 23.69 7.98	<b>Zone N</b> 24.47 7.89	SOUND CABLE Controllable Line 27.55 8.98	NORWALK Controllable Line 26.59 8.22	Controllable Line 26.89 9.03	Controllable Line 24.95 7.72	25.42 8.64	<b>Controllable Line</b> 19.17 7.09

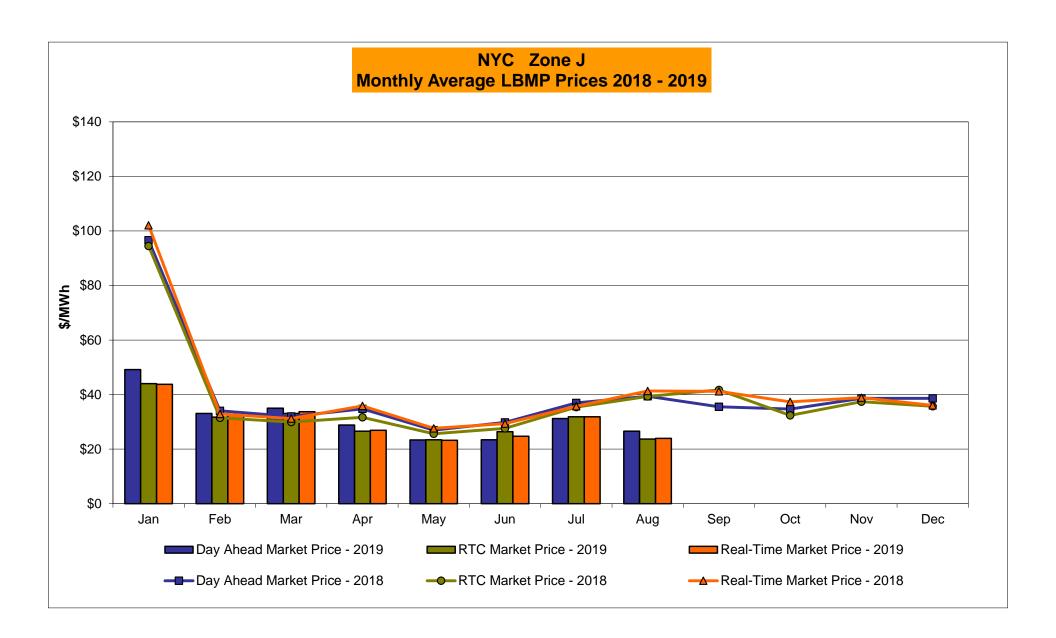
<sup>\*</sup> Straight LBMP averages

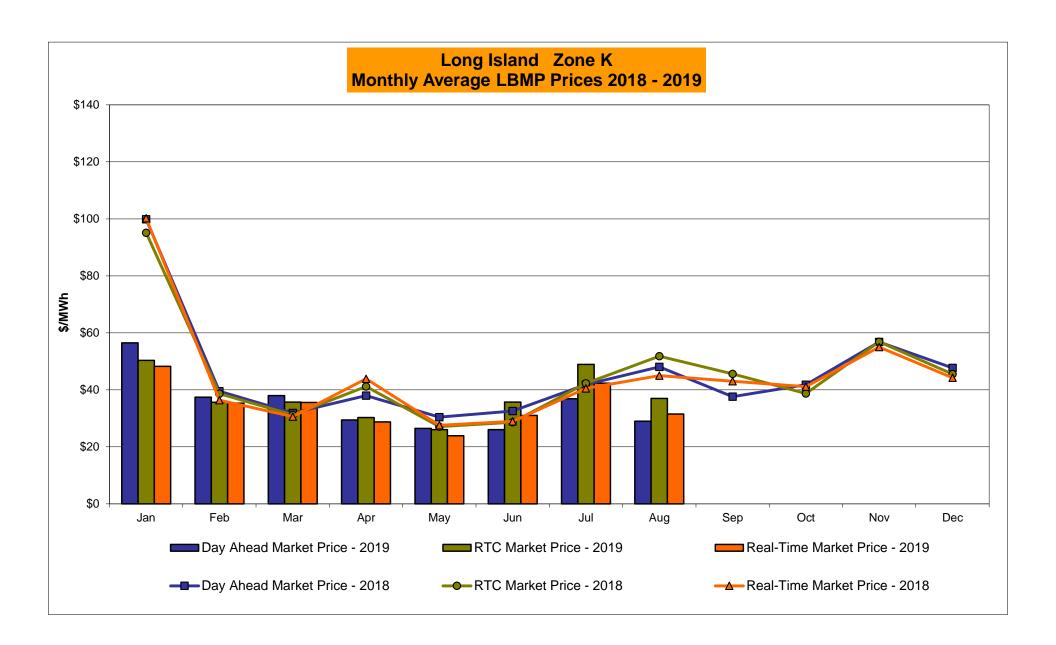


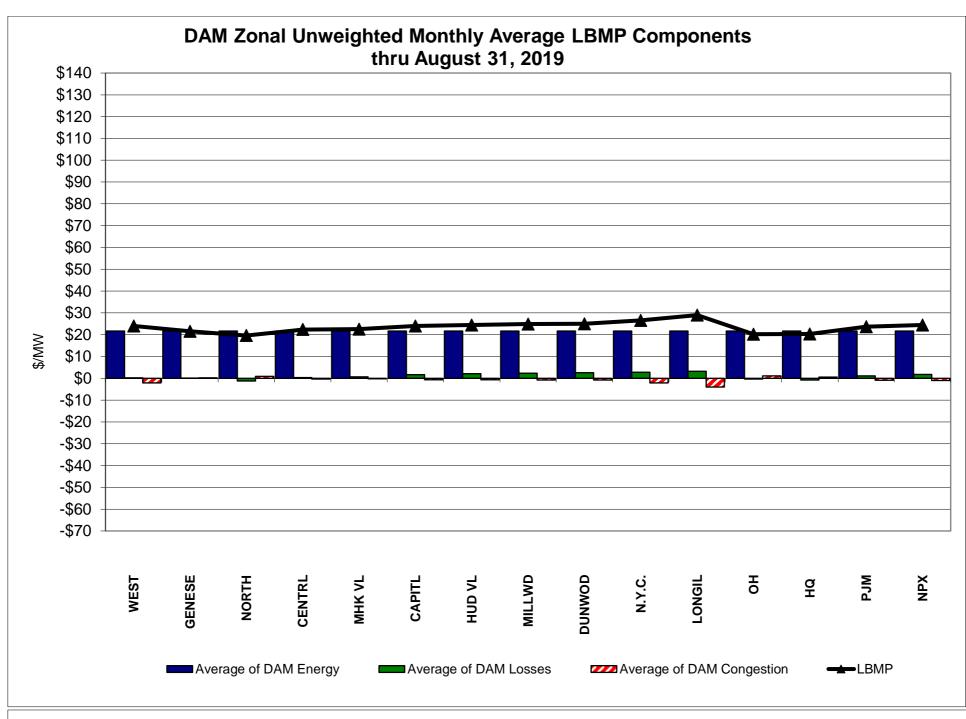


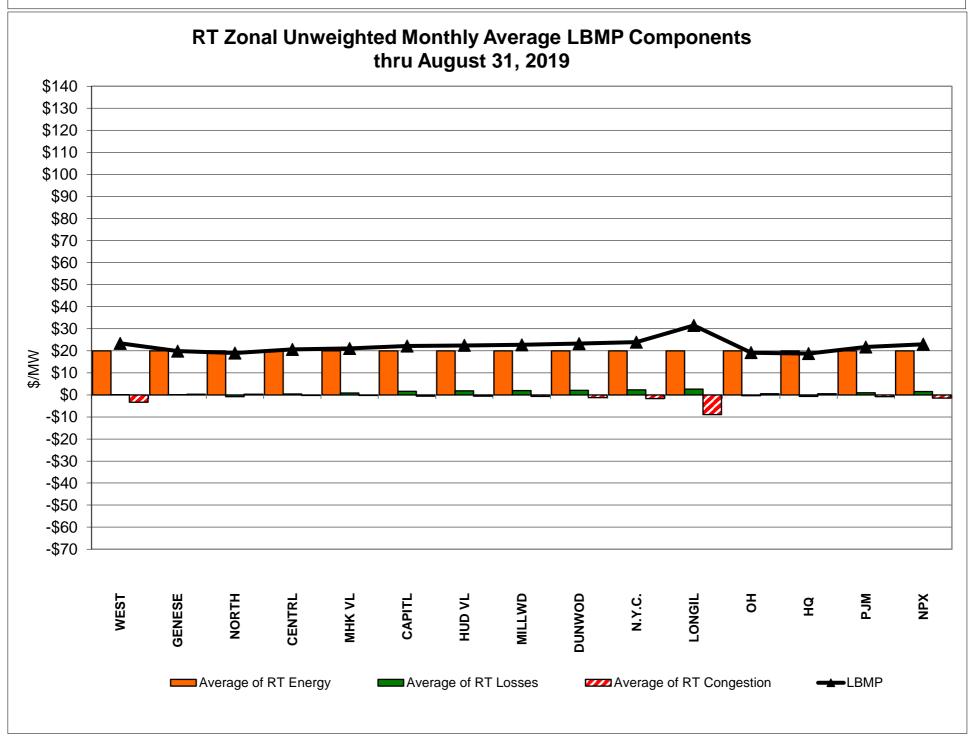




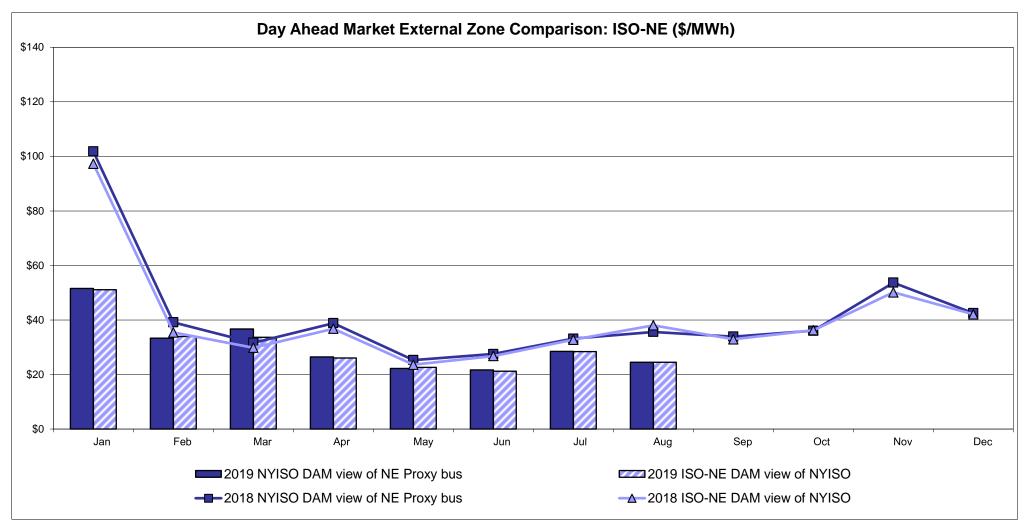


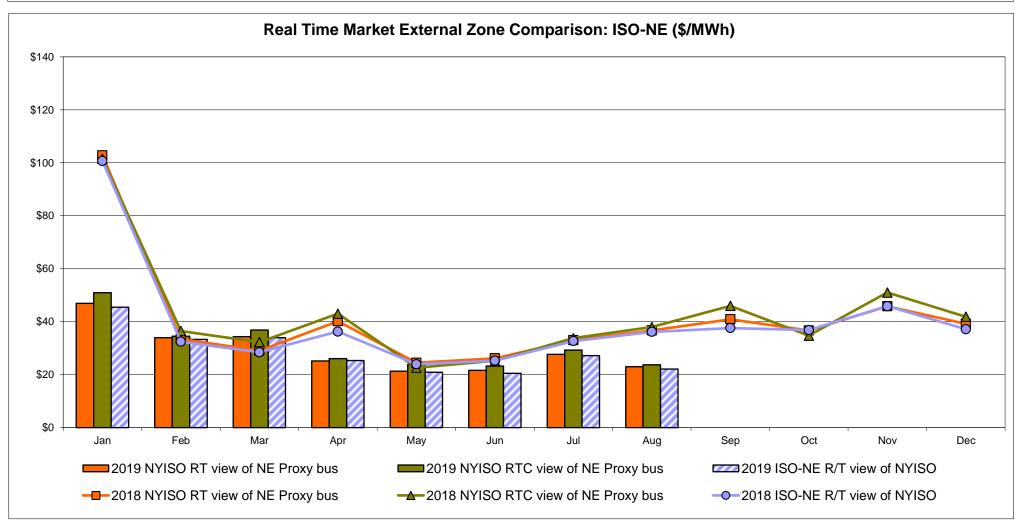




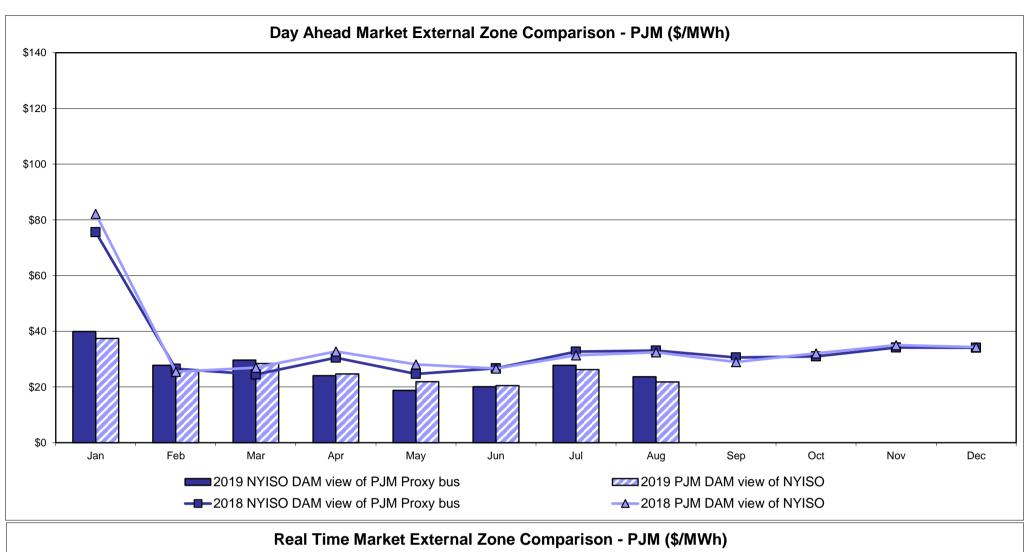


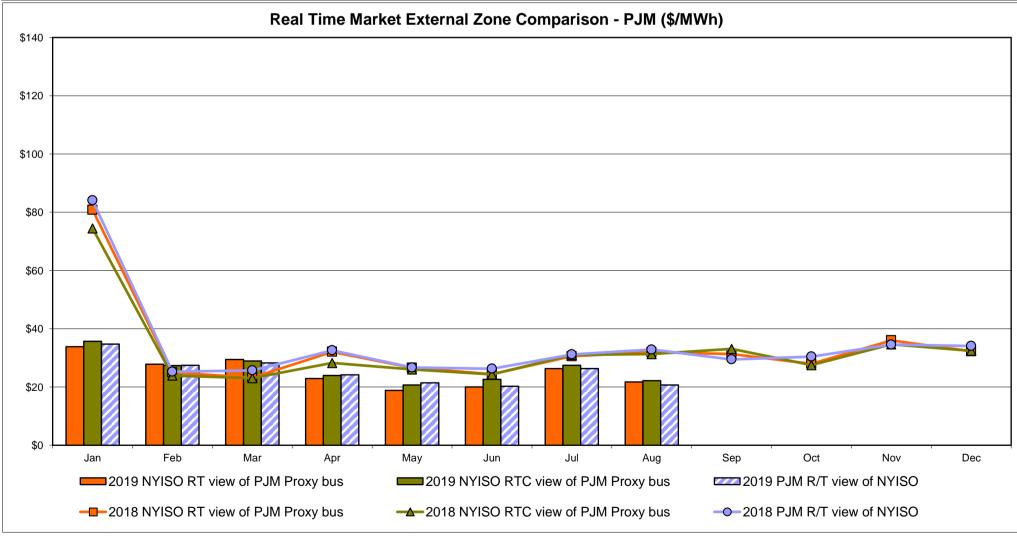
### **External Comparison ISO-New England**



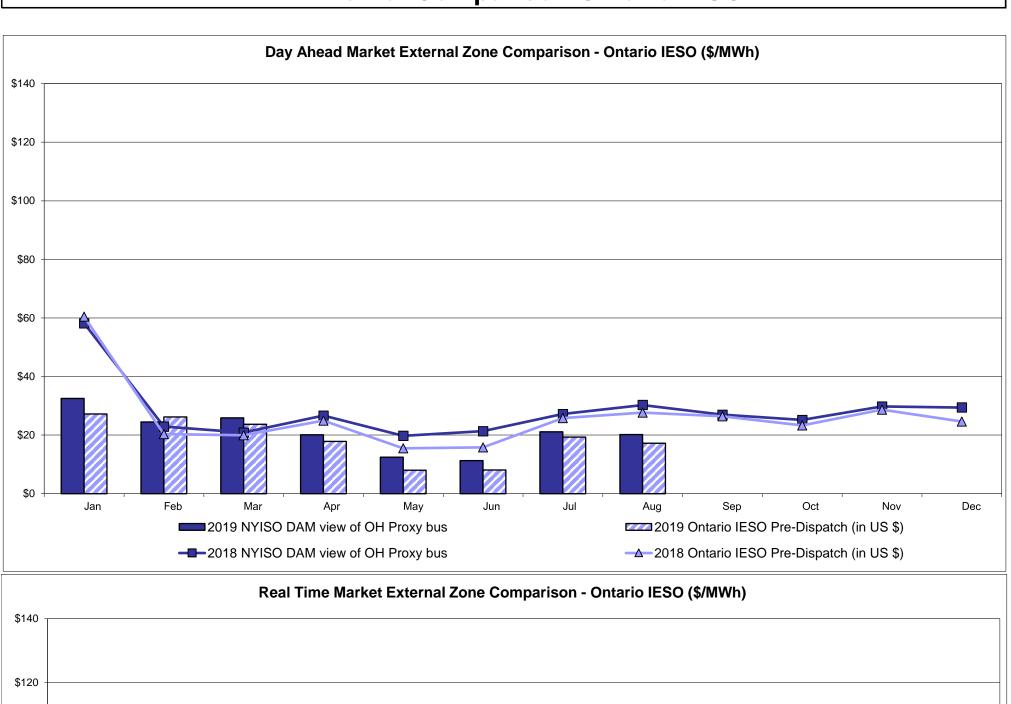


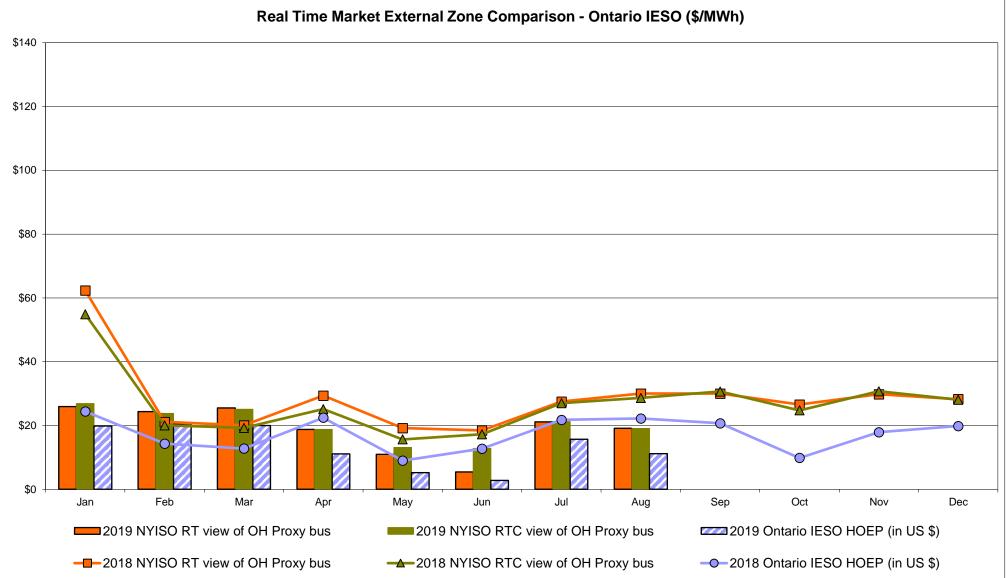
#### **External Comparison PJM**





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

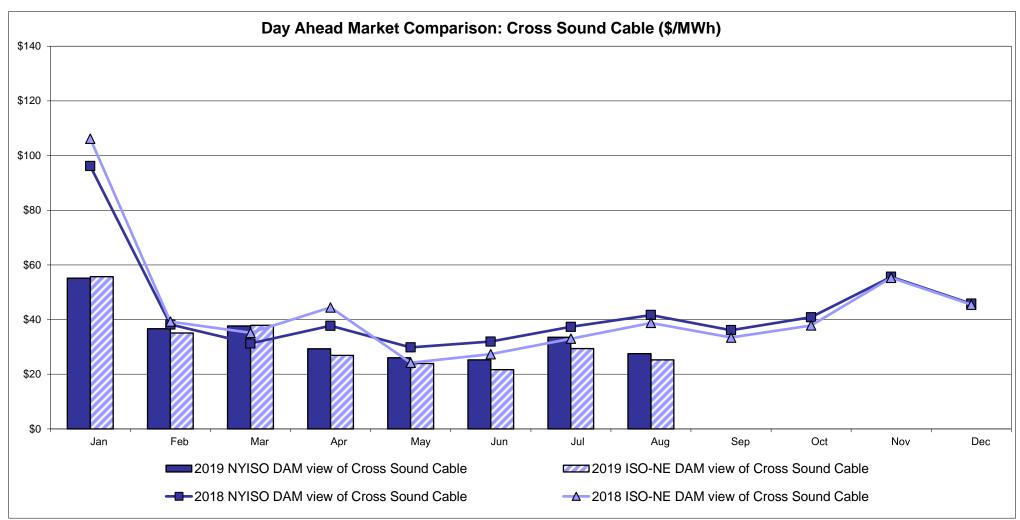


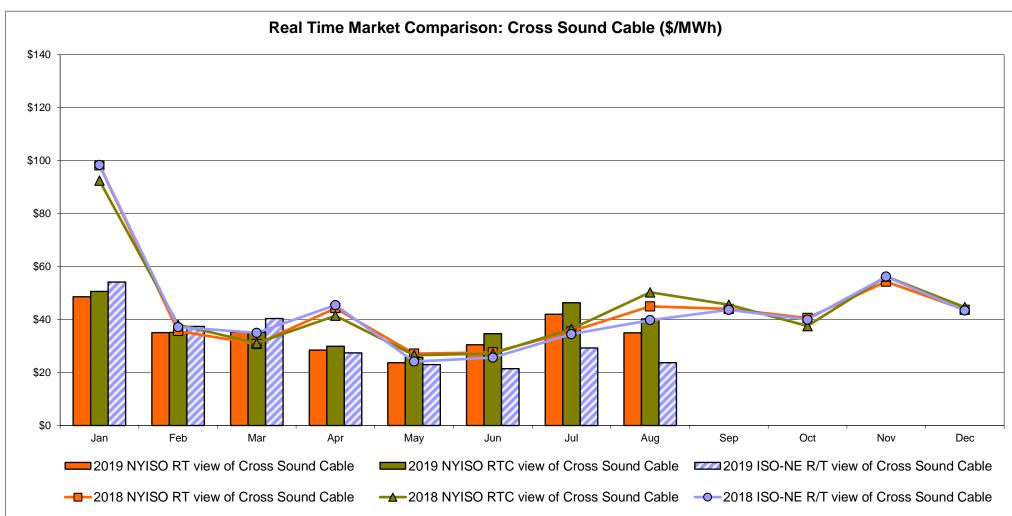


Notes: Exchange factor used for August 2019 was 0.75340917652377 to US

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

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





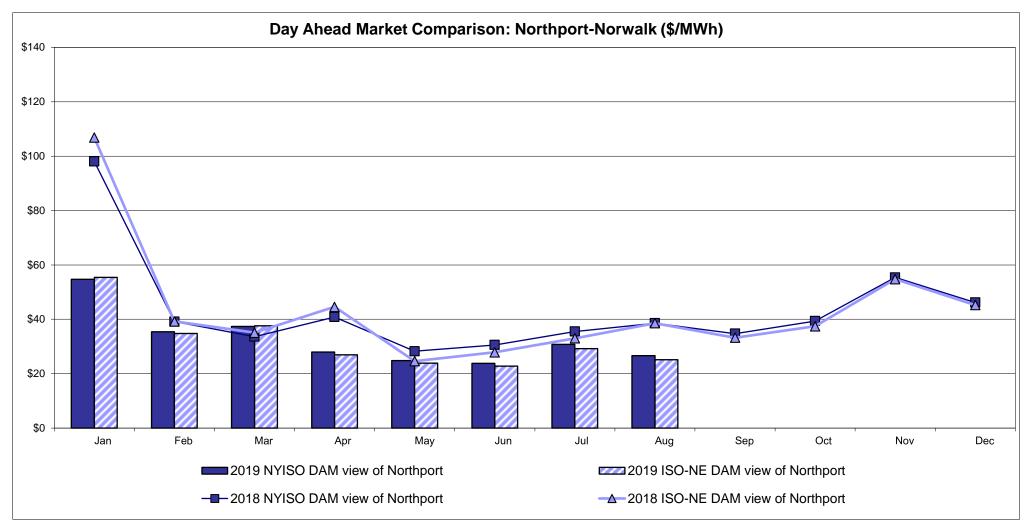
#### Note:

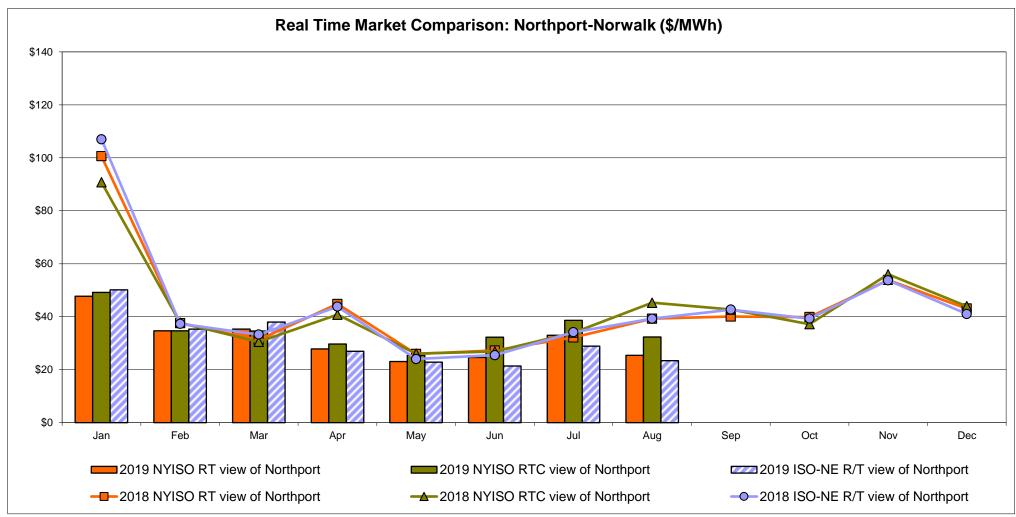
ISO-NE Forecast is an advisory posting @ 18:00 day before.

The DAM and R/T prices at the Shorham 13899 interface are used for ISO-NE.

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

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





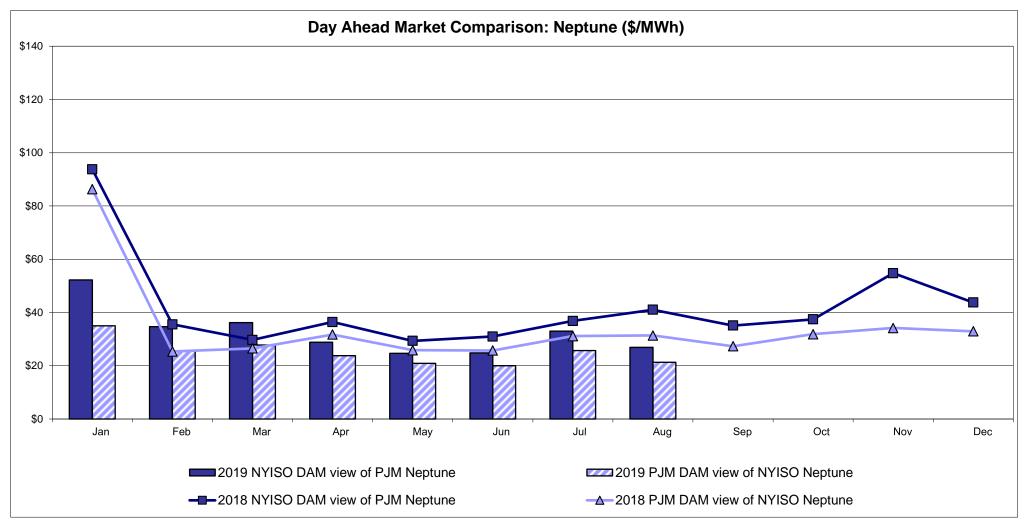
Note:

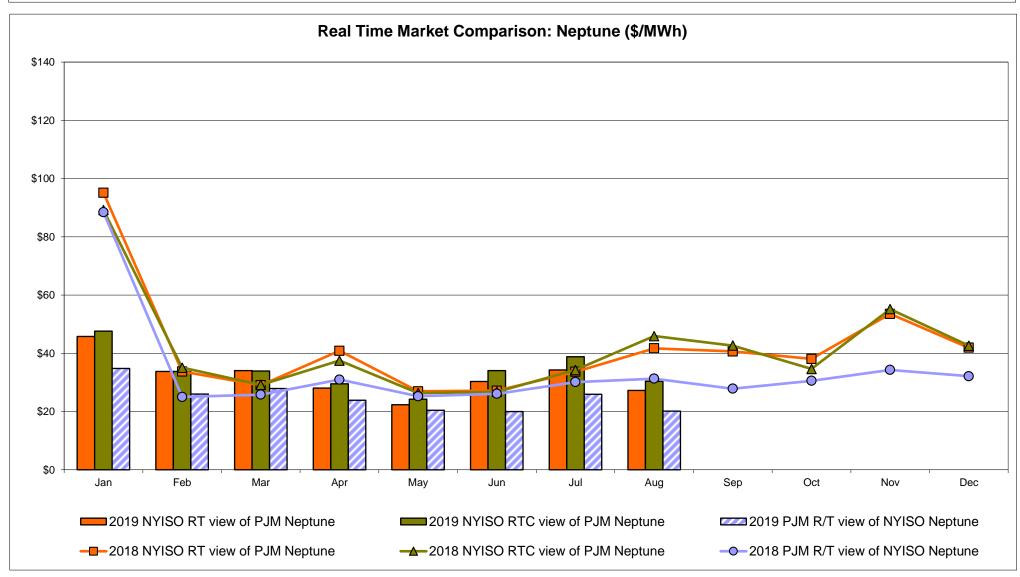
ISO-NE Forecast is an advisory posting @ 18:00 day before.

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

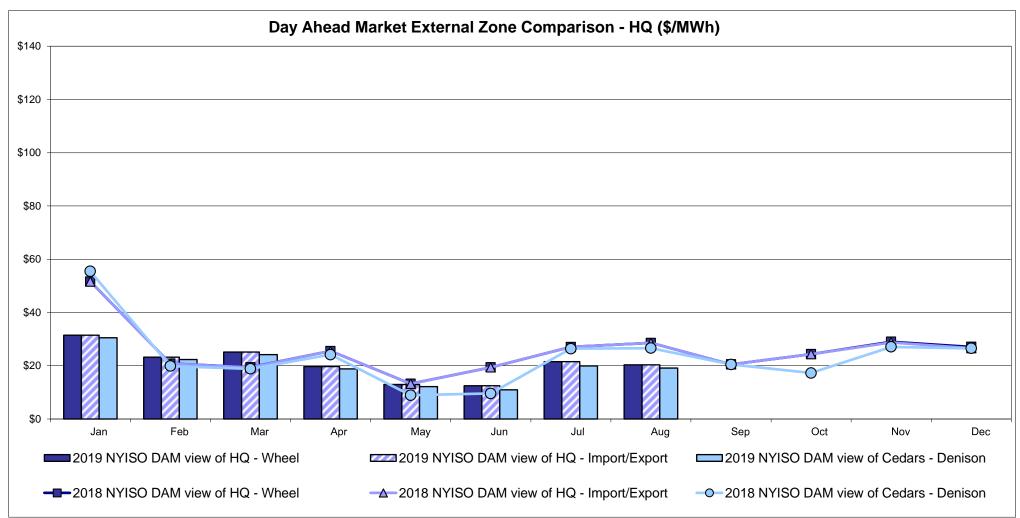
The DAM and R/T prices at the 1385 interface are used for NYISO.

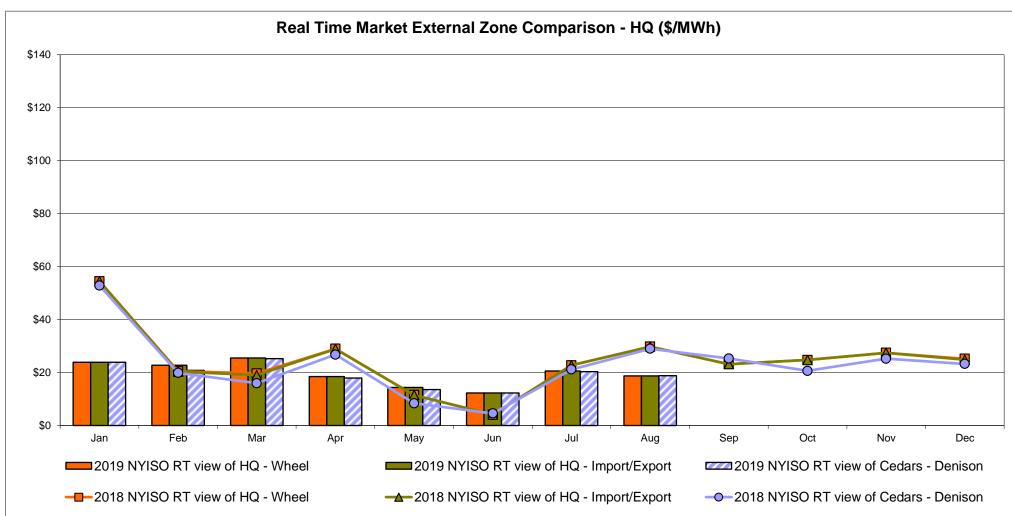
#### **External Controllable Line: Neptune (PJM)**





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

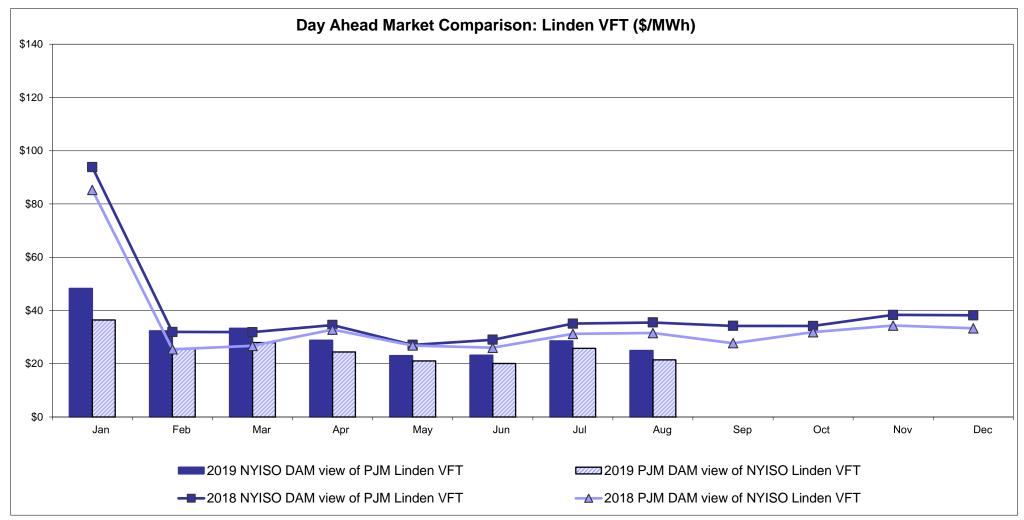


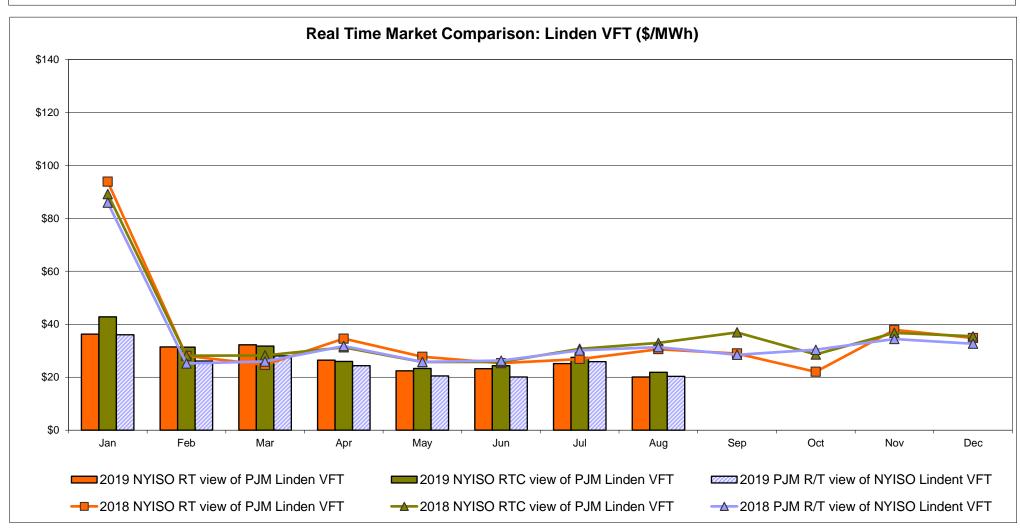


Note:

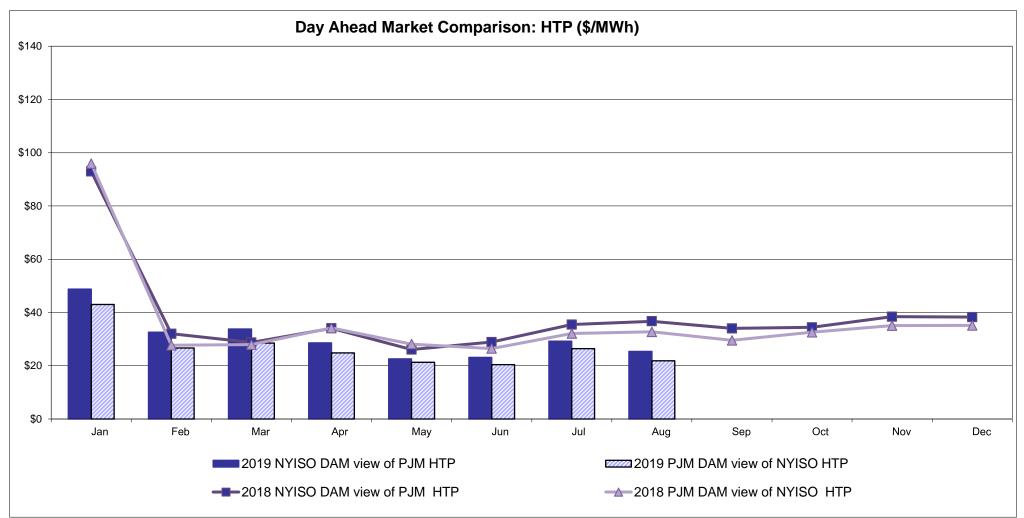
Hydro-Quebec Prices are unavailable.

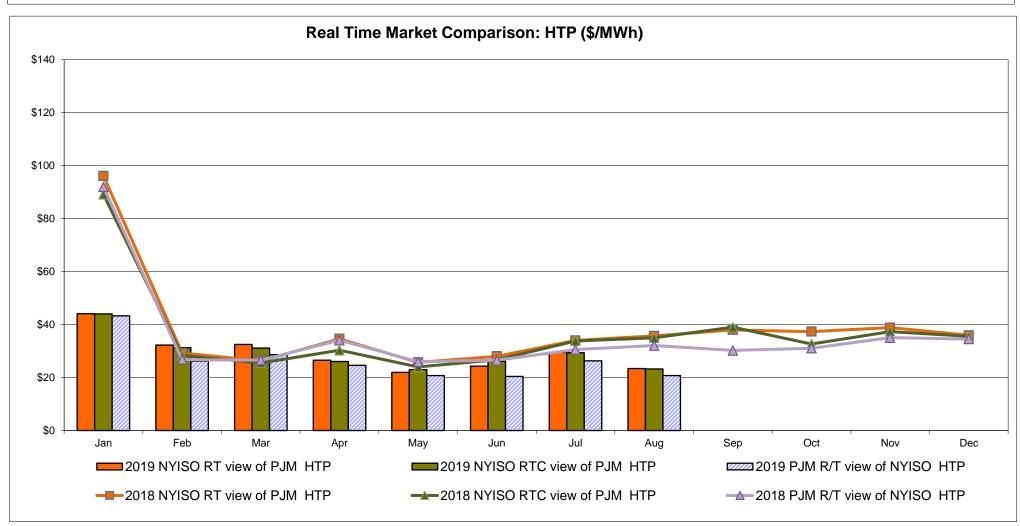
#### **External Controllable Line: Linden VFT (PJM)**





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

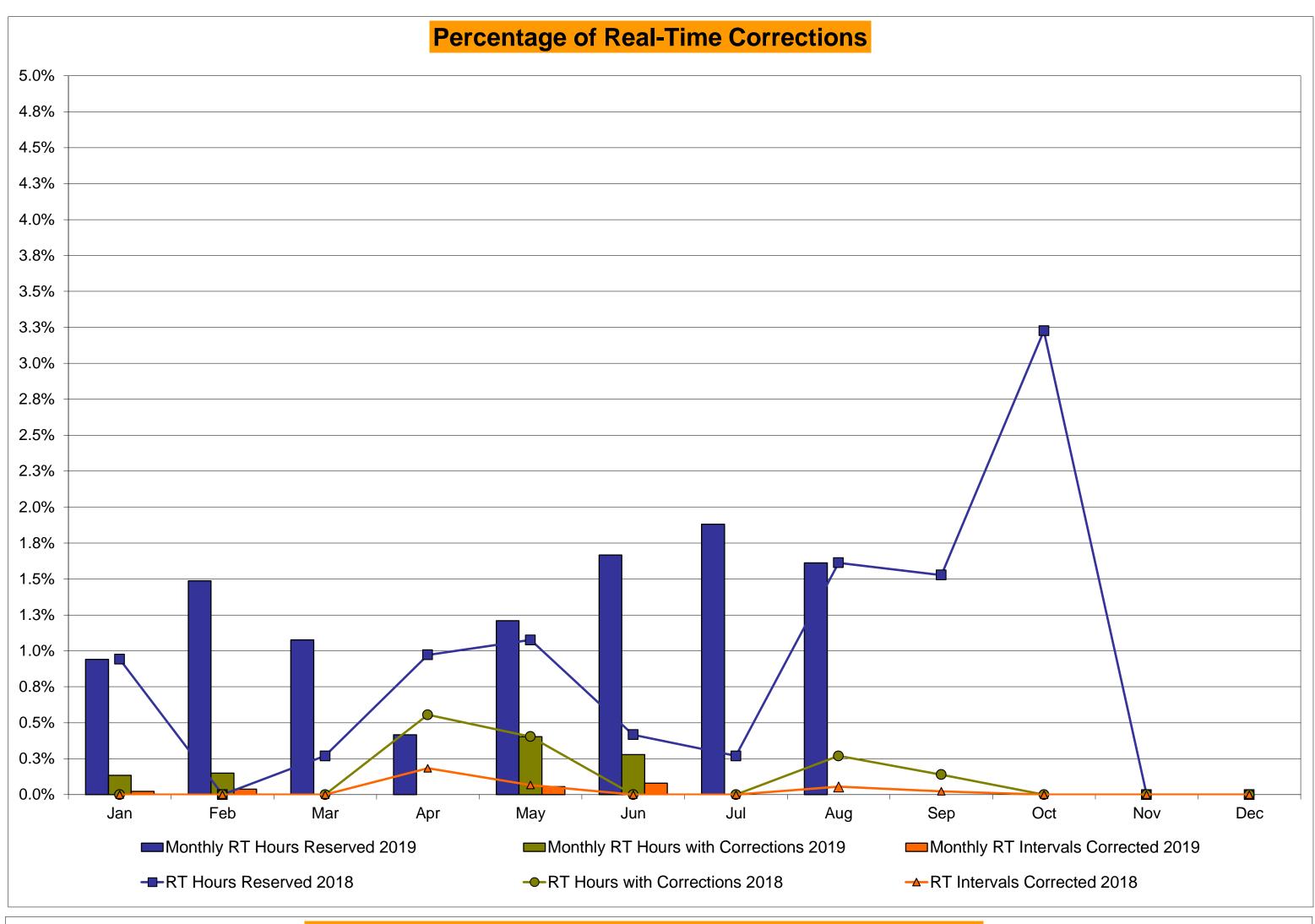


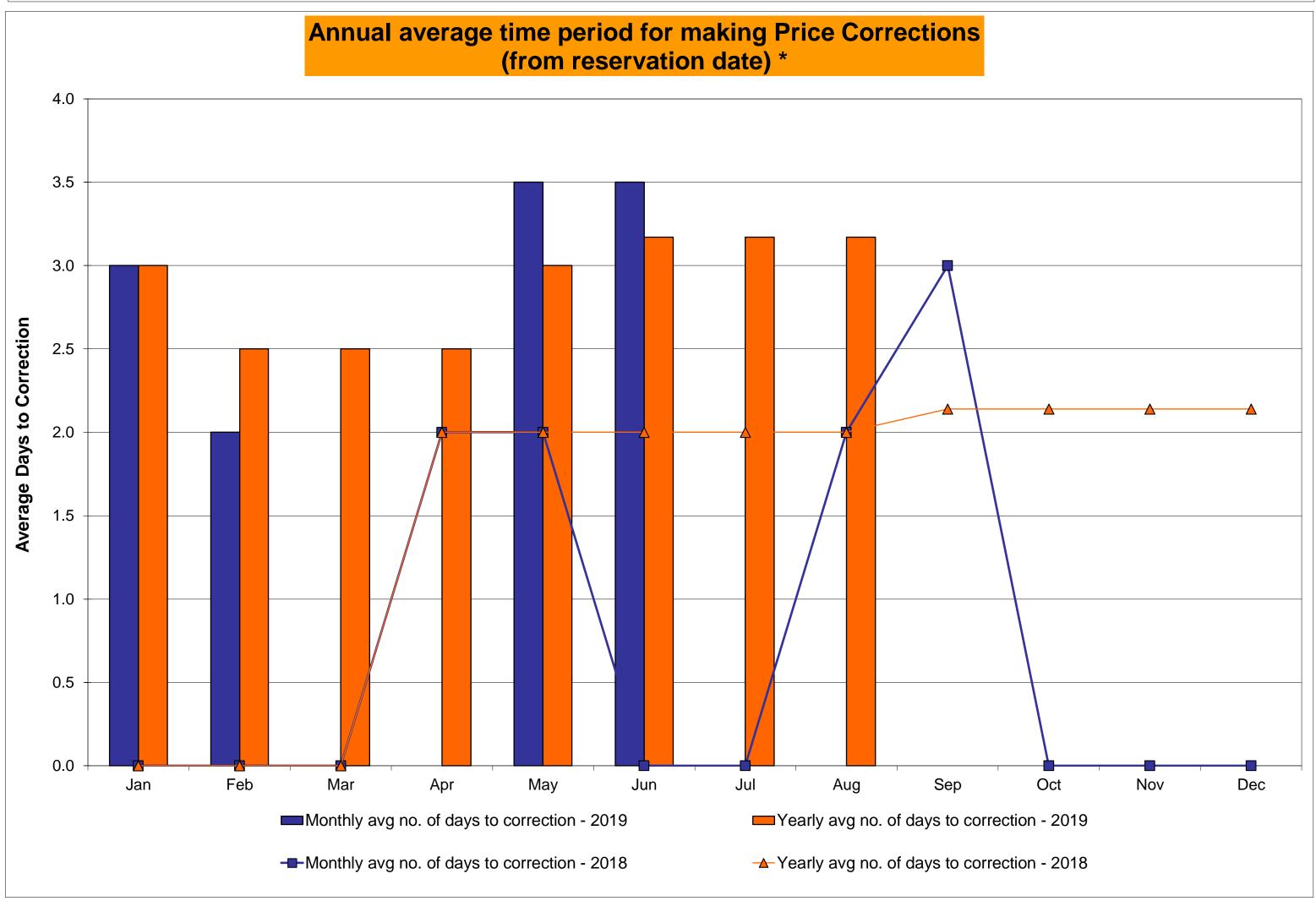


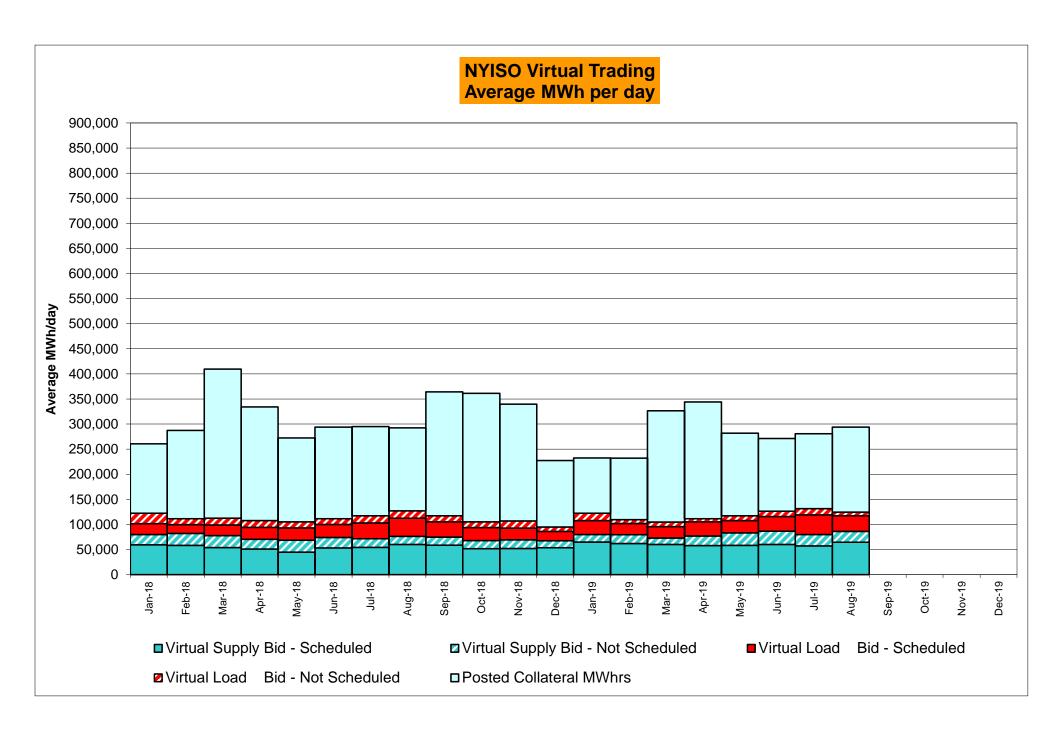
#### **NYISO Real Time Price Correction Statistics**

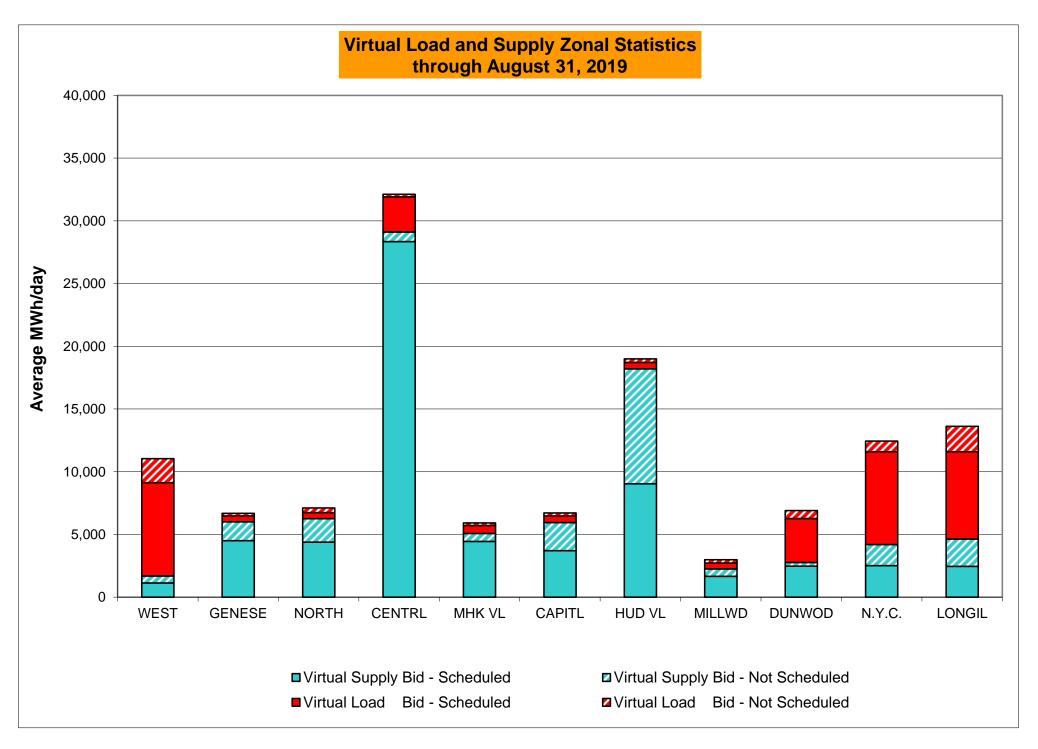
2019 Hour Corrections		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	September	<u>October</u>	November	<u>December</u>
Number of hours with corrections	in the month	1	1	0	0	3	2	0	0				
Number of hours	in the month	744	672	743	720	744	720	744	744				
% of hours with corrections	in the month	0.13%	0.15%	0.00%	0.00%	0.40%	0.28%	0.00%	0.00%				
% of hours with corrections	year-to-date	0.13%	0.14%	0.09%	0.07%	0.14%	0.16%	0.14%	0.12%				
Interval Corrections	year-to-date	0.1370	0.1470	0.0370	0.07 /0	0.1470	0.1070	0.1470	0.1270				
Number of intervals corrected	in the month	2	3	0	0	5	7	0	0				
Number of intervals	in the month	9,071	8,131	9,008	8,750	9,033	8,863	9,243	9,048				
% of intervals corrected	in the month	0.02%	0.04%	0.00%	0.00%	0.06%	0.08%	0.00%	0.00%				
70 Of littervals corrected	iii tiie iiioiitii												
% of intervals corrected	year-to-date	0.02%	0.03%	0.02%	0.01%	0.02%	0.03%	0.03%	0.02%				
Hours Reserved		_		_		_							
Number of hours reserved	in the month	7	10	8	3	9	12	14	12				
Number of hours	in the month	744	672	743	720	744	720	744	744				
% of hours reserved	in the month	0.94%	1.49%	1.08%	0.42%	1.21%	1.67%	1.88%	1.61%				
% of hours reserved	year-to-date	0.94%	1.20%	1.16%	0.97%	1.02%	1.13%	1.24%	1.29%				
Days to Correction *													
Avg. number of days to correction	in the month	3.00	2.00	0.00	0.00	3.50	3.50	0.00	0.00				
Avg. number of days to correction	year-to-date	3.00	2.50	2.50	2.50	3.00	3.17	3.17	3.17				
<b>Days Without Corrections</b>													_
Days without corrections	in the month	30	27	31	30	29	28	31	31				
Days without corrections	year-to-date	30	57	88	118	147	175	206	237				
2018		January	February	March	<u>April</u>	May	<u>June</u>	<u>July</u>	August	September	October	November	December
2018 Hour Corrections		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	May	<u>June</u>	<u>July</u>	<u>August</u>	September	<u>October</u>	November	<u>December</u>
	in the month	<del></del>	<del></del>		<u>April</u> 4	-				September 1			<u>December</u> 0
Hour Corrections  Number of hours with corrections	in the month	0	0	0	4	<u>May</u> 3 744	0	0	2	1	0	0	0
Hour Corrections	in the month in the month in the month	<del></del>	<del></del>			3				<u>September</u> 1 720 0.14%			
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections	in the month in the month	0 744 0.00%	0 672 0.00%	0 743 0.00%	4 720 0.56%	3 744 0.40%	0 720 0.00%	0 744 0.00%	2 744 0.27%	1 720 0.14%	0 744 0.00%	0 721 0.00%	0 744 0.00%
Hour Corrections  Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections	in the month	0 744	0 672	0 743	4 720	3 744	0 720	0 744	2 744	1 720	0 744	0 721	0 744
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 year-to-date	0 744 0.00% 0.00%	0 672 0.00% 0.00%	0 743 0.00% 0.00%	4 720 0.56% 0.14%	3 744 0.40% 0.19%	0 720 0.00% 0.16%	0 744 0.00% 0.14%	2 744 0.27% 0.15%	1 720 0.14% 0.15%	0 744 0.00% 0.14%	0 721 0.00% 0.12%	0 744 0.00%
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	0 744 0.00% 0.00%	0 672 0.00% 0.00%	0 743 0.00% 0.00%	4 720 0.56% 0.14%	3 744 0.40% 0.19%	0 720 0.00% 0.16%	0 744 0.00% 0.14%	2 744 0.27% 0.15%	1 720 0.14% 0.15%	0 744 0.00% 0.14%	0 721 0.00% 0.12%	0 744 0.00% 0.11%
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	in the month in the month year-to-date in the month in the month	0 744 0.00% 0.00% 0 9,021	0 672 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002	4 720 0.56% 0.14% 16 8,717	3 744 0.40% 0.19% 6 9,033	0 720 0.00% 0.16% 0 8,723	0 744 0.00% 0.14% 0 9,021	2 744 0.27% 0.15% 5 9,071	1 720 0.14% 0.15% 2 8,723	0 744 0.00% 0.14% 0 8,990	0 721 0.00% 0.12% 0 8,763	0 744 0.00% 0.11% 0 8,993
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	in the month in the month year-to-date in the month in the month in the month	0 744 0.00% 0.00% 0 9,021 0.00%	0 672 0.00% 0.00% 0 8,112 0.00%	0 743 0.00% 0.00% 0 9,002 0.00%	4 720 0.56% 0.14% 16 8,717 0.18%	3 744 0.40% 0.19% 6 9,033 0.07%	0 720 0.00% 0.16% 0 8,723 0.00%	0 744 0.00% 0.14% 0 9,021 0.00%	2 744 0.27% 0.15% 5 9,071 0.06%	1 720 0.14% 0.15% 2 8,723 0.02%	0 744 0.00% 0.14% 0 8,990 0.00%	0 721 0.00% 0.12% 0 8,763 0.00%	0 744 0.00% 0.11% 0 8,993 0.00%
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	0 744 0.00% 0.00% 0 9,021	0 672 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002	4 720 0.56% 0.14% 16 8,717	3 744 0.40% 0.19% 6 9,033	0 720 0.00% 0.16% 0 8,723	0 744 0.00% 0.14% 0 9,021	2 744 0.27% 0.15% 5 9,071	1 720 0.14% 0.15% 2 8,723	0 744 0.00% 0.14% 0 8,990	0 721 0.00% 0.12% 0 8,763	0 744 0.00% 0.11% 0 8,993
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	in the month in the month year-to-date  in the month in the month in the month year-to-date	0 744 0.00% 0.00% 0 9,021 0.00%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002 0.00%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05%	3 744 0.40% 0.19% 6 9,033 0.07% 0.05%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03%	0 721 0.00% 0.12% 0 8,763 0.00% 0.03%	0 744 0.00% 0.11% 0 8,993 0.00%
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  Wors Reserved Number of hours reserved	in the month in the month year-to-date  in the month in the month in the month year-to-date  in the month	0 744 0.00% 0.00% 0 9,021 0.00% 0.00%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05%	3 744 0.40% 0.19% 6 9,033 0.07% 0.05%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03%	0 721 0.00% 0.12% 0 8,763 0.00% 0.03%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03%
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	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	0 744 0.00% 0.00% 0 9,021 0.00% 0.00%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05%	3 744 0.40% 0.19% 6 9,033 0.07% 0.05%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03% 24 744	0 721 0.00% 0.12% 0 8,763 0.00% 0.03%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03%
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  Wors Reserved Number of hours reserved	in the month in the month year-to-date  in the month in the month in the month year-to-date  in the month	0 744 0.00% 0.00% 0 9,021 0.00% 0.00%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05%	3 744 0.40% 0.19% 6 9,033 0.07% 0.05%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03%	0 721 0.00% 0.12% 0 8,763 0.00% 0.03%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03%
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	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	0 744 0.00% 0.00% 0 9,021 0.00% 0.00%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05%	3 744 0.40% 0.19% 6 9,033 0.07% 0.05%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03% 24 744	0 721 0.00% 0.12% 0 8,763 0.00% 0.03%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03%
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 *	in the month in the month year-to-date  in the month in the month in the month year-to-date  in the month	0 744 0.00% 0.00% 0 9,021 0.00% 0.00% 7 744 0.94%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00% 2 743 0.27%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05% 7 720 0.97%	3 744 0.40% 0.19% 6 9,033 0.07% 0.05% 8 744 1.08% 0.66%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04% 3 720 0.42%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04% 2 744 0.27% 0.57%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04% 12 744 1.61% 0.70%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04% 11 720 1.53% 0.79%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03% 24 744 3.23%	0 721 0.00% 0.12% 0 8,763 0.00% 0.03% 0 721 0.00% 0.95%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03% 0 744 0.00%
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	in the month in the month year-to-date  in the month in the month in the month year-to-date  in the month	0 744 0.00% 0.00% 0 9,021 0.00% 0.00% 7 744 0.94%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00% 2 743 0.27%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05% 7 720 0.97%	3 744 0.40% 0.19% 6 9,033 0.07% 0.05% 8 744 1.08%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04% 3 720 0.42% 0.62%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04% 2 744 0.27% 0.57%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04% 12 744 1.61% 0.70%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04% 11 720 1.53%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03% 24 744 3.23% 1.04%	0 721 0.00% 0.12% 0 8,763 0.00% 0.03% 0 721 0.00% 0.95%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03% 0 744 0.00%
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  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	0 744 0.00% 0.00% 0 9,021 0.00% 0.00% 7 744 0.94% 0.94%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00% 0 672 0.00% 0.49%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00% 2 743 0.27% 0.42%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05% 7 720 0.97% 0.56%	3 744 0.40% 0.19% 6 9,033 0.07% 0.05% 8 744 1.08% 0.66%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04% 3 720 0.42% 0.62%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04% 2 744 0.27% 0.57%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04% 12 744 1.61% 0.70%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04% 11 720 1.53% 0.79%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03% 24 744 3.23% 1.04%	0 721 0.00% 0.12% 0 8,763 0.00% 0.03% 0 721 0.00% 0.95%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03% 0 744 0.00% 0.87%
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  Wo of intervals corrected  Hours Reserved Number of hours reserved Number of hours % of hours reserved % of hours reserved  More to Correction % 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  in the month	0 744 0.00% 0.00% 0 9,021 0.00% 0.00% 7 744 0.94% 0.94%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00% 0 672 0.00% 0.49%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00% 2 743 0.27% 0.42%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05% 7 720 0.97% 0.56% 2.00	3 744 0.40% 0.19% 6 9,033 0.07% 0.05% 8 744 1.08% 0.66%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04% 3 720 0.42% 0.62%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04% 2 744 0.27% 0.57%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04% 12 744 1.61% 0.70%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04% 11 720 1.53% 0.79%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03% 24 744 3.23% 1.04%	0 721 0.00% 0.12% 0 8,763 0.00% 0.03% 0 721 0.00% 0.95%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03% 0 744 0.00% 0.87%
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  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  in the month	0 744 0.00% 0.00% 0 9,021 0.00% 0.00% 7 744 0.94% 0.94%	0 672 0.00% 0.00% 0 8,112 0.00% 0.00% 0 672 0.00% 0.49%	0 743 0.00% 0.00% 0 9,002 0.00% 0.00% 2 743 0.27% 0.42%	4 720 0.56% 0.14% 16 8,717 0.18% 0.05% 7 720 0.97% 0.56% 2.00	3 744 0.40% 0.19% 6 9,033 0.07% 0.05% 8 744 1.08% 0.66%	0 720 0.00% 0.16% 0 8,723 0.00% 0.04% 3 720 0.42% 0.62%	0 744 0.00% 0.14% 0 9,021 0.00% 0.04% 2 744 0.27% 0.57%	2 744 0.27% 0.15% 5 9,071 0.06% 0.04% 12 744 1.61% 0.70%	1 720 0.14% 0.15% 2 8,723 0.02% 0.04% 11 720 1.53% 0.79%	0 744 0.00% 0.14% 0 8,990 0.00% 0.03% 24 744 3.23% 1.04%	0 721 0.00% 0.12% 0 8,763 0.00% 0.03% 0 721 0.00% 0.95%	0 744 0.00% 0.11% 0 8,993 0.00% 0.03% 0 744 0.00% 0.87%

<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) - 2019 Virtual Load Bid Virtual Load Bid **Virtual Supply Bid Virtual Supply Bid** Virtual Load Bid **Virtual Supply Bid** Not Not Not Not Not Not Date Scheduled Scheduled Scheduled Scheduled Date Scheduled Scheduled Scheduled Scheduled Date Scheduled Scheduled Scheduled Scheduled Zone Zone Zone MHK VL DUNWOD **WEST** Jan-19 9,007 5,211 1,609 797 Jan-19 1,171 117 1,965 471 Jan-19 1,370 798 2,651 203 Feb-19 6,628 2,000 1,397 921 Feb-19 872 75 1,709 596 Feb-19 1,064 494 3,273 259 Mar-19 5,264 2.548 1,107 569 Mar-19 1,275 113 2,208 386 Mar-19 1,159 471 3,571 199 9,744 2,589 461 43 1,904 1,446 3,278 228 Apr-19 721 Apr-19 843 331 Apr-19 125 818 32 2,337 2,999 255 May-19 7,022 5,165 783 May-19 527 489 May-19 1,459 153 Jun-19 8,695 6,210 1,183 1,106 Jun-19 577 98 1,731 582 Jun-19 3,157 426 2,365 290 Jul-19 9.264 5,278 1,201 856 Jul-19 775 142 3,111 336 Jul-19 4,623 673 1,967 276 Aug-19 7,441 562 629 209 3,509 624 2,470 295 1,910 1,129 Aug-19 4,439 643 Aug-19 Sep-19 Sep-19 Sep-19 Oct-19 Oct-19 Oct-19 Nov-19 Nov-19 Nov-19 Dec-19 Dec-19 Dec-19 GENESE 527 CAPITL N.Y.C. Jan-19 153 3,560 529 Jan-19 3,042 962 1,550 1,424 Jan-19 3,665 3,061 2,599 1,366 Feb-19 896 66 3.776 520 Feb-19 2.591 485 1.851 1.756 Feb-19 2.545 2.025 2.248 1.648 Mar-19 987 241 3,224 432 Mar-19 383 Mar-19 3,746 2,432 968 2,012 2,004 1,666 1,774 Apr-19 Apr-19 Apr-19 808 4,479 475 1,585 232 2,869 4,012 83 2,102 1,111 3,431 656 May-19 343 171 2,680 1,446 May-19 1,438 362 3,006 2,580 May-19 4,207 977 3,304 4,320 2,552 4,222 2,404 Jun-19 407 146 4.498 Jun-19 741 206 3,393 Jun-19 5,271 930 1,778 Jul-19 503 215 2,807 1,125 Jul-19 802 243 3,884 3,155 Jul-19 10,542 1,697 1,247 1,418 469 Aug-19 204 4,508 1,496 531 232 3,710 2,237 Aug-19 7,395 852 2.521 1,675 Aug-19 Sep-19 Sep-19 Sep-19 Oct-19 Oct-19 Oct-19 Nov-19 Nov-19 Nov-19 Dec-19 Dec-19 Dec-19 NORTH 484 HUD VL 980 LONGIL 540 6.406 1,553 Jan-19 856 9.176 7,130 Jan-19 3.362 2,135 3.091 1.056 Jan-19 Feb-19 431 359 6,559 977 843 Feb-19 3,446 1,743 Feb-19 7,408 7,858 2,514 1,297 1,425 Mar-19 349 419 6,855 1,845 Mar-19 1,460 1,425 8,787 4,948 Mar-19 2,752 1,198 3,372 1,025 284 186 1,823 487 8,845 Apr-19 7,243 Apr-19 1,011 7,962 Apr-19 4,934 1,386 3,096 697 498 446 2,954 457 6,634 9,871 3,869 1,430 3,396 1,359 May-19 4,995 May-19 1,064 May-19 4,364 249 2,303 Jun-19 481 256 2,986 Jun-19 658 8,949 9,323 Jun-19 5,177 1,639 2,391 Jul-19 553 311 4,460 1,978 Jul-19 795 392 7,632 10,915 Jul-19 6,906 3,006 1,739 1,662 Aug-19 489 374 4,387 1,866 Aug-19 503 281 9,041 9,166 Aug-19 6,950 2,028 2,454 2,183 Sep-19 Sep-19 Sep-19 Oct-19 Oct-19 Oct-19 Nov-19 Nov-19 Nov-19 Dec-19 Dec-19 Dec-19 CENTRL Jan-19 3,795 374 30,145 507 MILLWD Jan-19 405 386 2,051 169 **NYISO** Jan-19 27,683 14,720 64,802 15,203 Feb-19 3,059 123 29,111 609 540 138 1,311 247 Feb-19 22,118 7,905 62,089 17,582 Feb-19 Mar-19 3,411 332 25,195 Mar-19 505 89 1,404 Mar-19 22,918 8,993 60,159 12,736 542 155 22,748 215 28,247 Apr-19 3.475 150 453 Apr-19 686 1,636 371 Apr-19 6,153 58.038 18.80 May-19 3,220 195 26,474 474 613 226 1,687 505 May-19 24,261 9,615 58,331 25,035 May-19 Jun-19 3,635 241 26,799 832 Jun-19 495 182 1,940 506 Jun-19 29,295 10,583 60,017 26,481 209 780 452 Jul-19 3,307 27,998 642 Jul-19 1,156 470 Jul-19 38,851 12,618 57,203 22,833 Aug-19 2,794 208 28,343 772 Aug-19 464 269 1,657 595 Aug-19 31,173 7,192 64,660 21,491 Sep-19 Sep-19 Sep-19 Oct-19 Oct-19 Oct-19

Nov-19

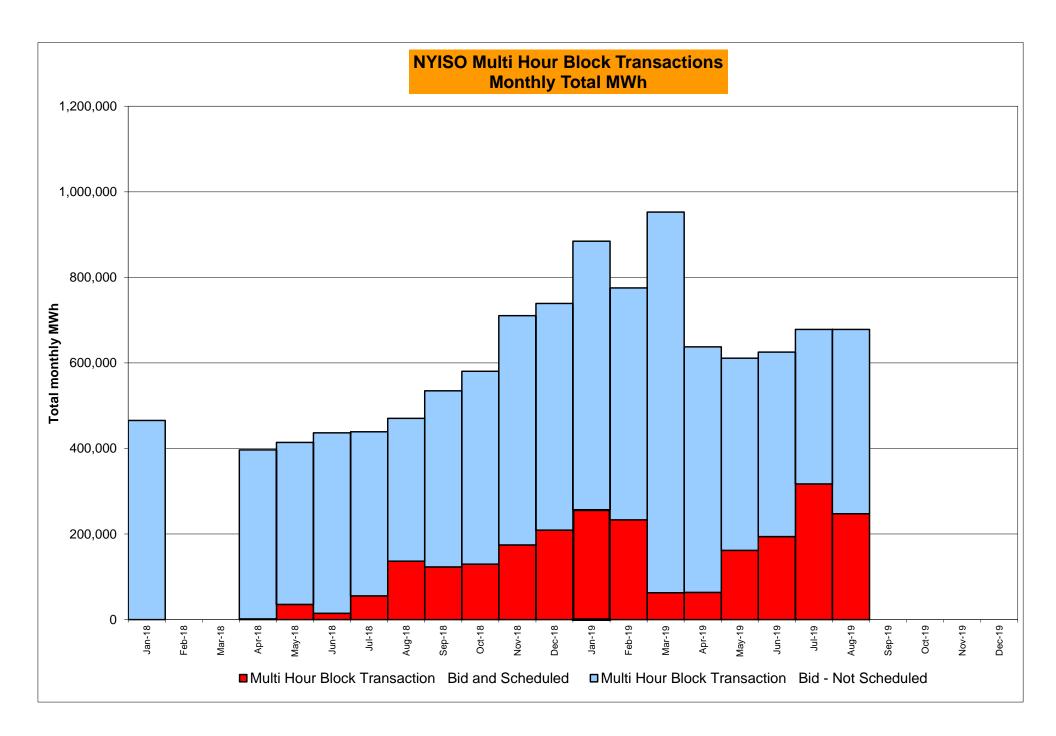
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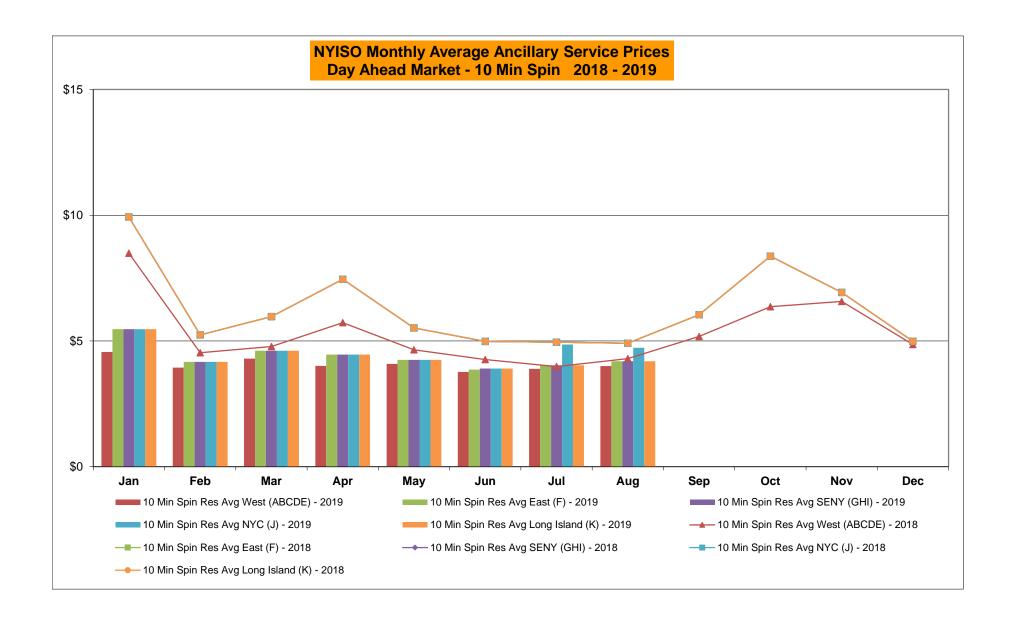
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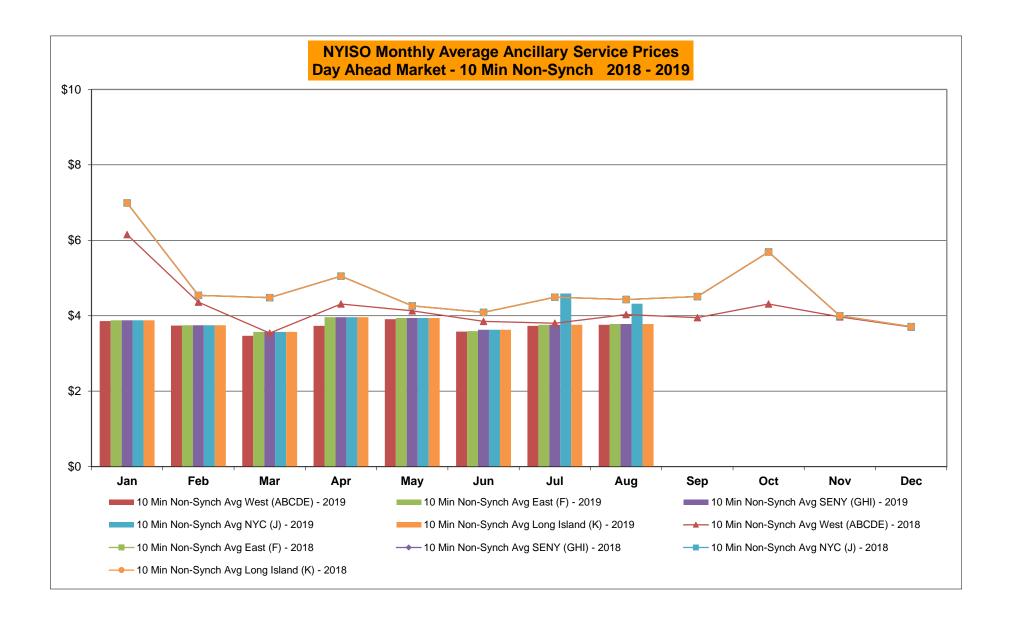
Dec-19

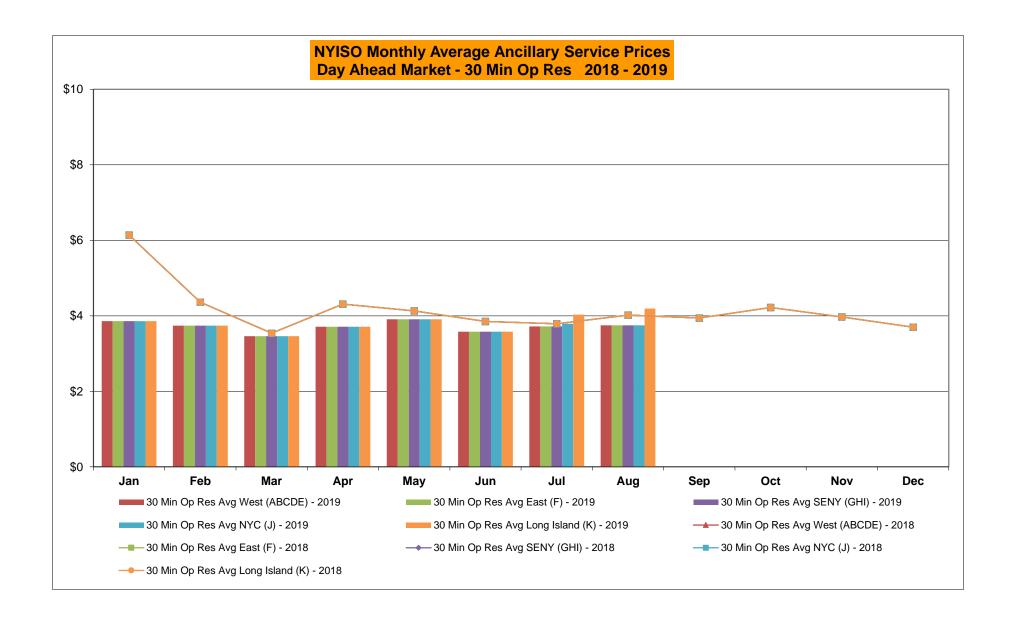
Nov-19

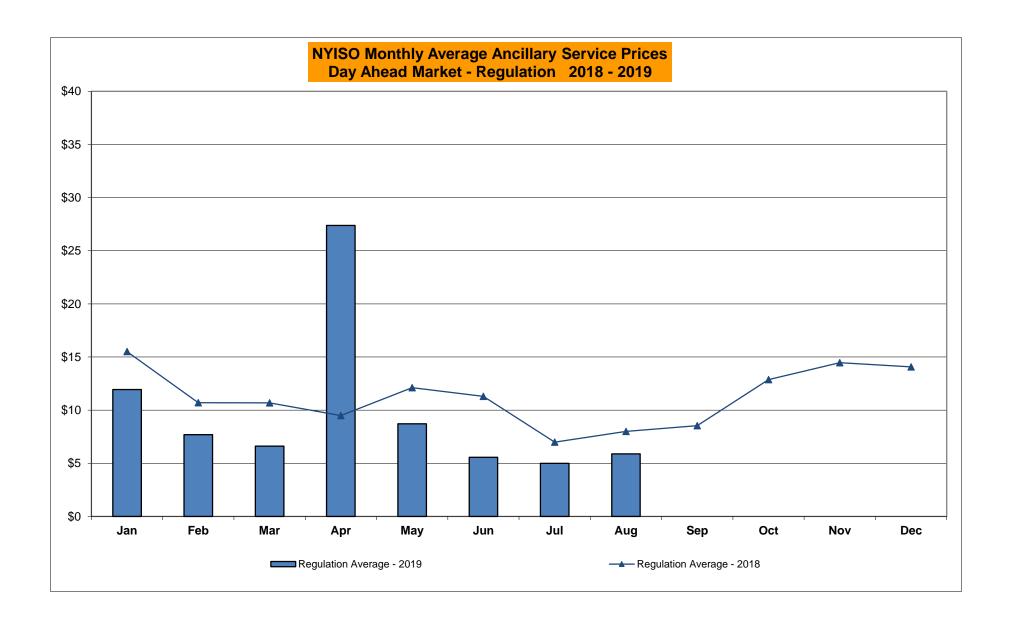
Dec-19

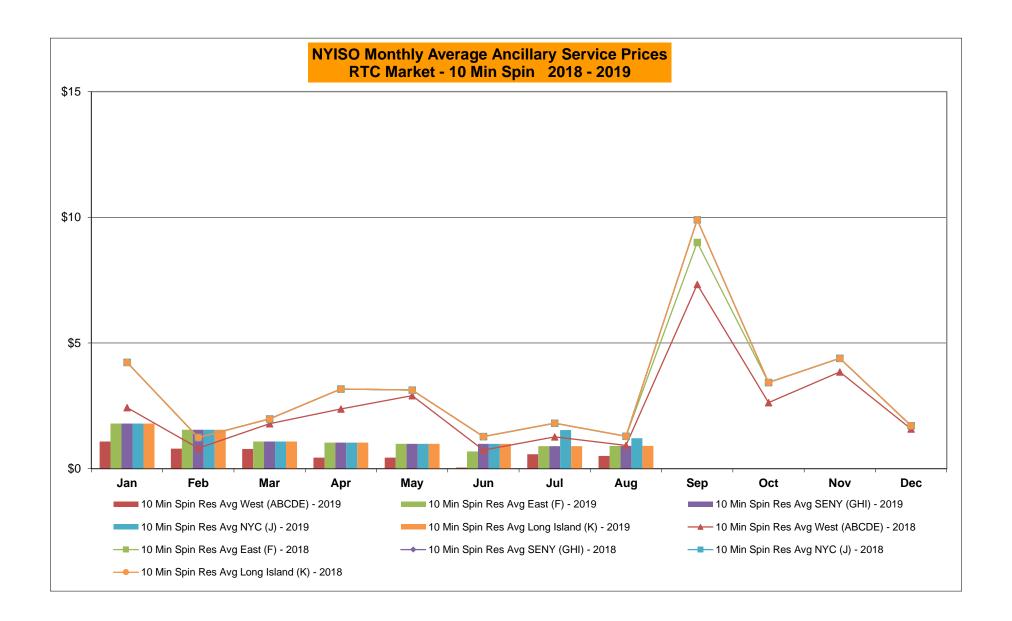


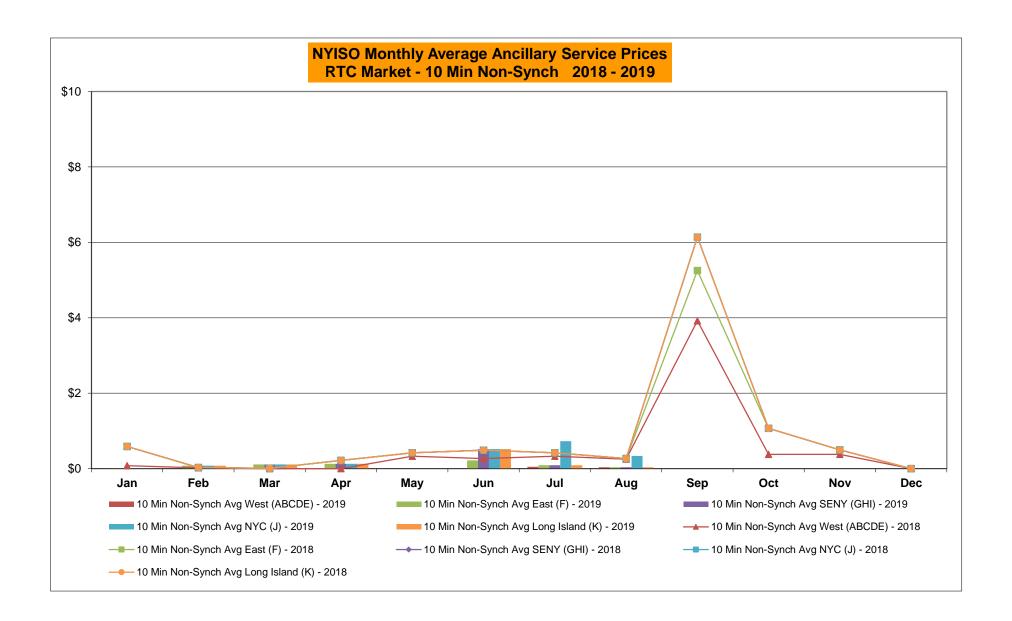


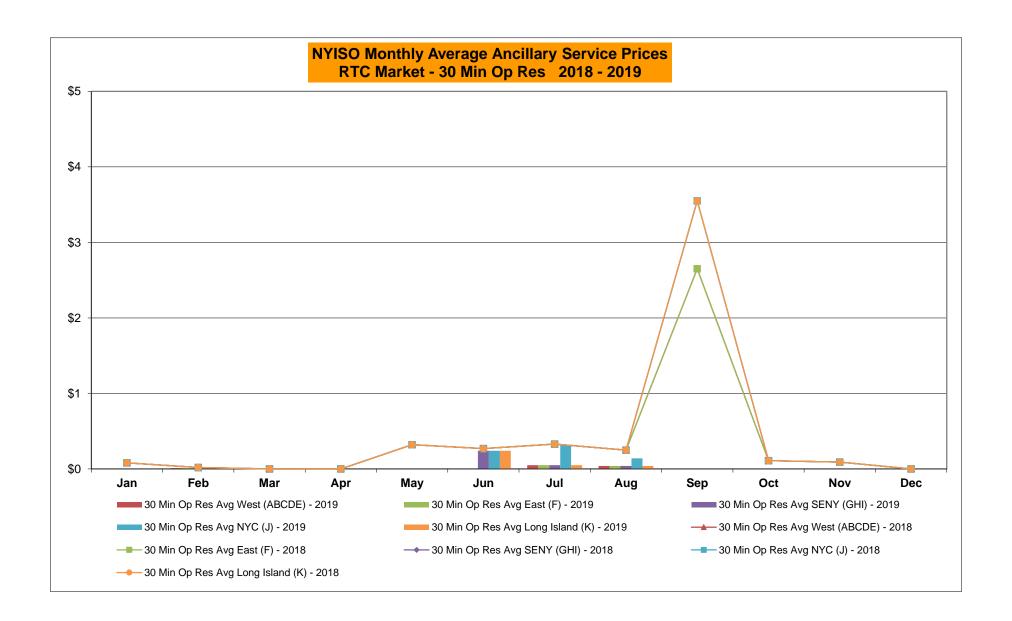


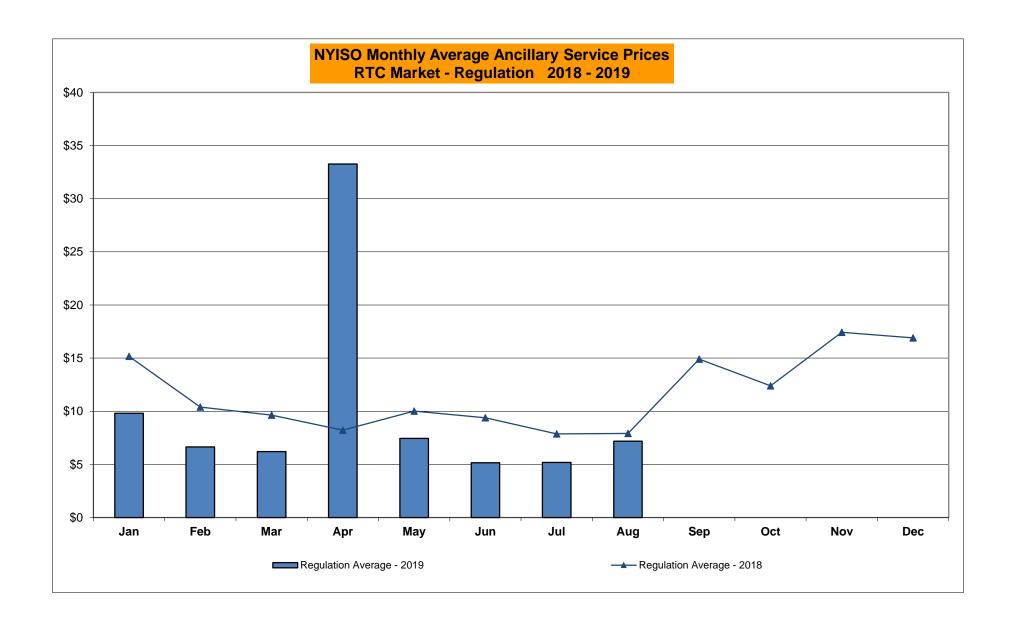


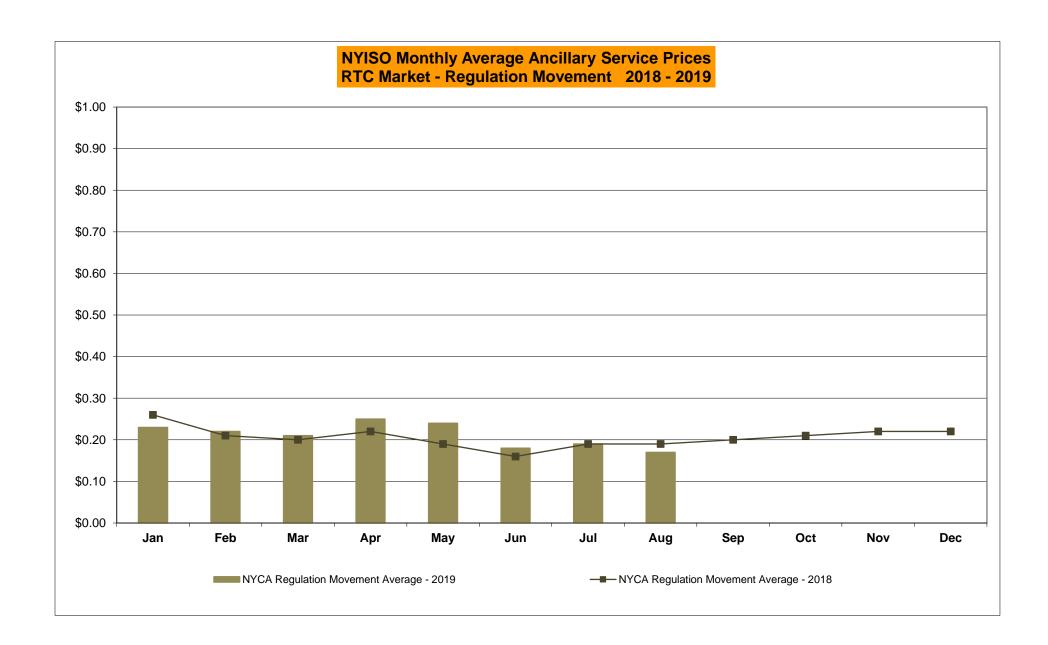


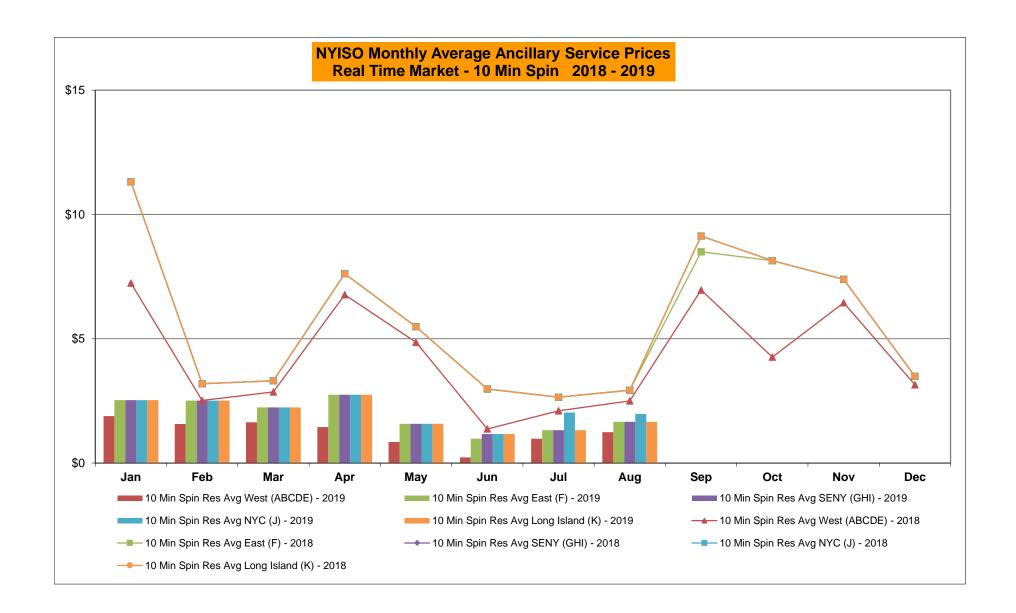


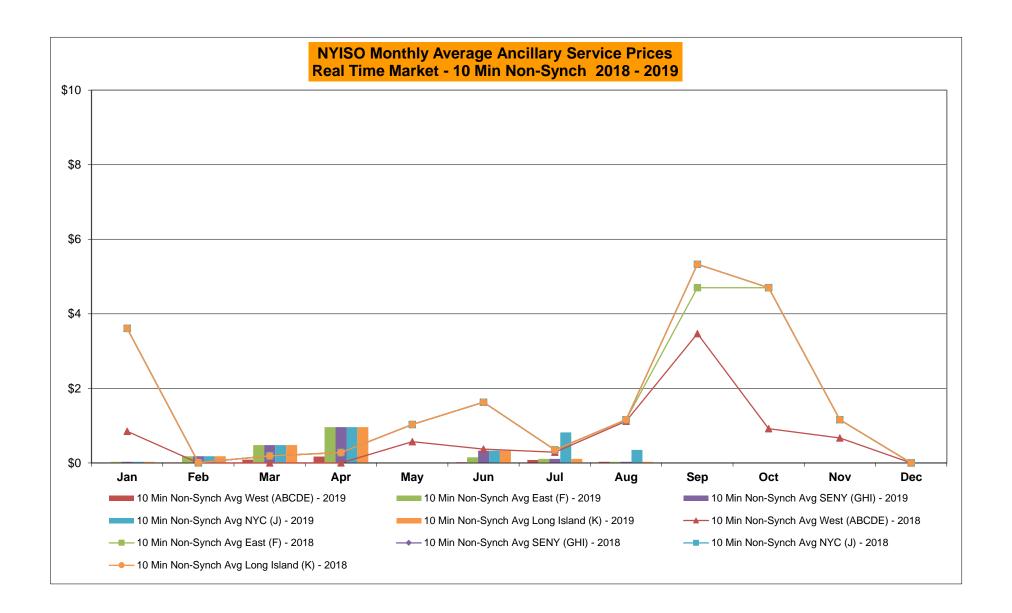


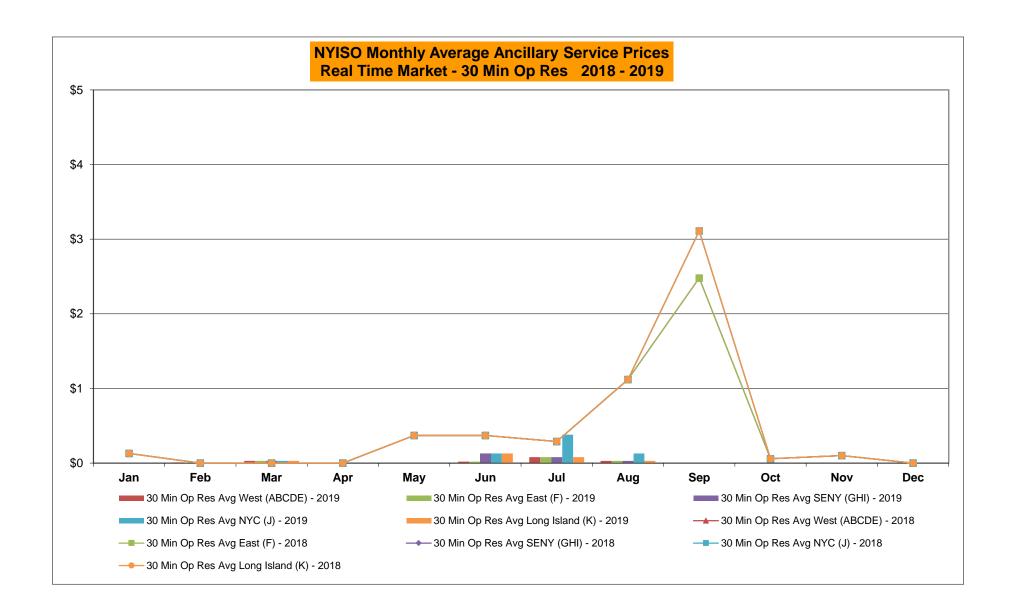


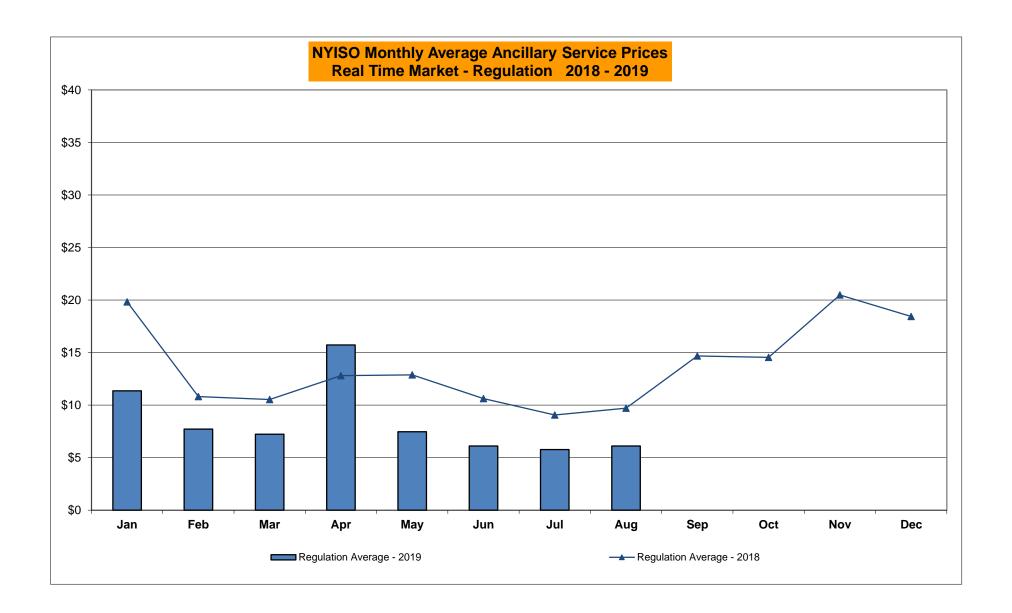


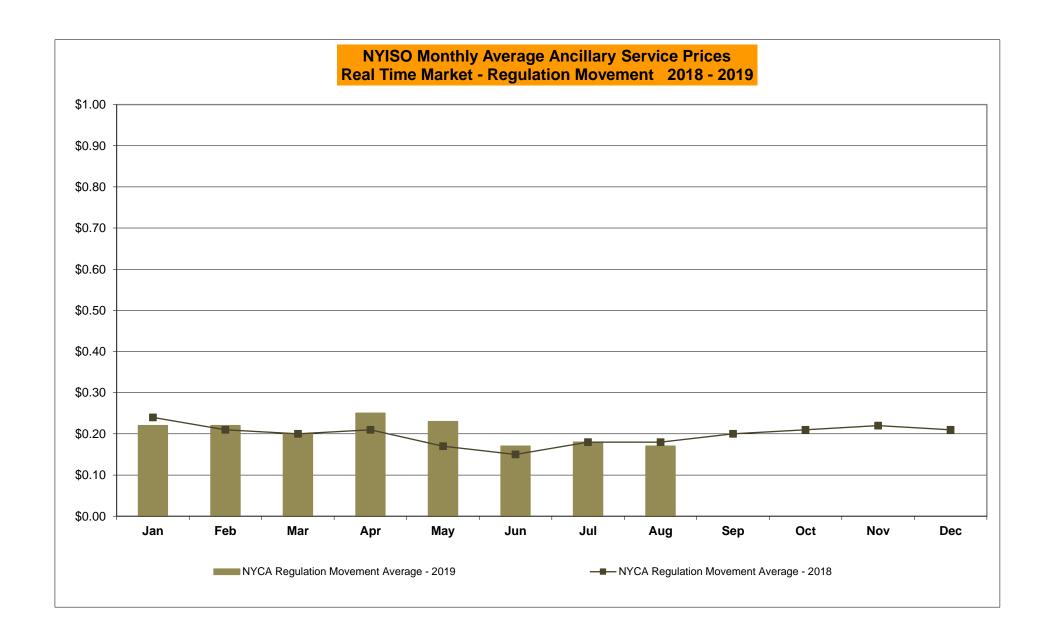












### NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - DAM

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	October	November	December
Day Ahead Market												
10 Min Spin Long Island (K)	5.47	4.17	4.61	4.46	4.25	3.90	4.03	4.19				
10 Min Spin NYC (J)	5.47	4.17	4.61	4.46	4.25	3.90	4.86	4.73				
10 Min Spin SENY (GHI)	5.47	4.17	4.61	4.46	4.25	3.90	4.03	4.19				
10 Min Spin East (F)	5.47	4.17	4.61	4.46	4.25	3.86	4.03	4.19				
10 Min Spin West (ABCDE)	4.56	3.94	4.30	4.01	4.09	3.77	3.89	4.00				
10 Min Non Synch Long Island (K)	3.88	3.75	3.57	3.96	3.94	3.63	3.76	3.78				
10 Min Non Synch NYC (J)	3.88	3.75	3.57	3.96	3.94	3.63	4.59	4.32				
10 Min Non Synch SENY (GHI)	3.88	3.75	3.57	3.96	3.94	3.63	3.76	3.78				
10 Min Non Synch East (F)	3.88	3.75	3.57	3.96	3.94	3.59	3.76	3.78				
10 Min Non Synch West (ABCDE)	3.86	3.74	3.47	3.73	3.91	3.58	3.73	3.76				
30 Min Long Island (K)	3.86	3.74	3.46	3.71	3.91	3.58	3.72	3.75				
30 Min NYC (J)	3.86	3.74	3.46	3.71	3.91	3.58	3.79	3.75				
30 Min SENY (GHI)	3.86	3.74	3.46	3.71	3.91	3.58	3.72	3.75				
30 Min East (F)	3.86	3.74	3.46	3.71	3.91	3.58	3.72	3.75				
30 Min West (ABCDE)	3.86	3.74	3.46	3.71	3.91	3.58	3.72	3.75				
Regulation	11.94	7.69	6.62	27.38	8.71	5.57	4.99	5.89				
2018	January	<u>February</u>	March	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	August	September	October	November	December
Day Ahead Market												
10 Min Spin SENY (GHIJK)	9.93	5.24	5.97	7.45	5.52	4.98	4.95	4.91	6.04	8.37	6.93	4.99
10 Min Spin East (F)	9.93	5.24	5.97	7.45	5.52	4.98	4.95	4.91	6.04	8.37	6.93	4.99
10 Min Spin West (ABCDE)	8.49	4.53	4.78	5.73	4.65	4.26	3.98	4.30	5.18	6.36	6.57	4.86
10 Min Non Synch SENY (GHIJK)	6.99	4.54	4.48	5.05	4.26	4.09	4.49	4.43	4.51	5.69	4.00	3.71
10 Min Non Synch East (F)	6.99	4.54	4.48	5.05	4.26	4.09	4.49	4.43	4.51	5.69	4.00	3.71
10 Min Non Synch West (ABCDE)	6.15	4.36	3.54	4.31	4.13	3.85	3.80	4.03	3.95	4.31	3.97	3.70
30 Min SENY (GHIJK)	6.14	4.36	3.54	4.31	4.13	3.85	3.79	4.02	3.94	4.22	3.97	3.70
30 Min East (F)	6.14	4.36	3.54	4.31	4.13	3.85	3.79	4.02	3.94	4.22	3.97	3.70
30 Min West (ABCDE)	6.14	4.36	3.54	4.31	4.13	3.85	3.79	4.02	3.94	4.22	3.97	3.70
Regulation	15.51	10.70	10.68	9.49	12.11	11.30	6.99	8.00	8.54	12.88	14.47	14.07

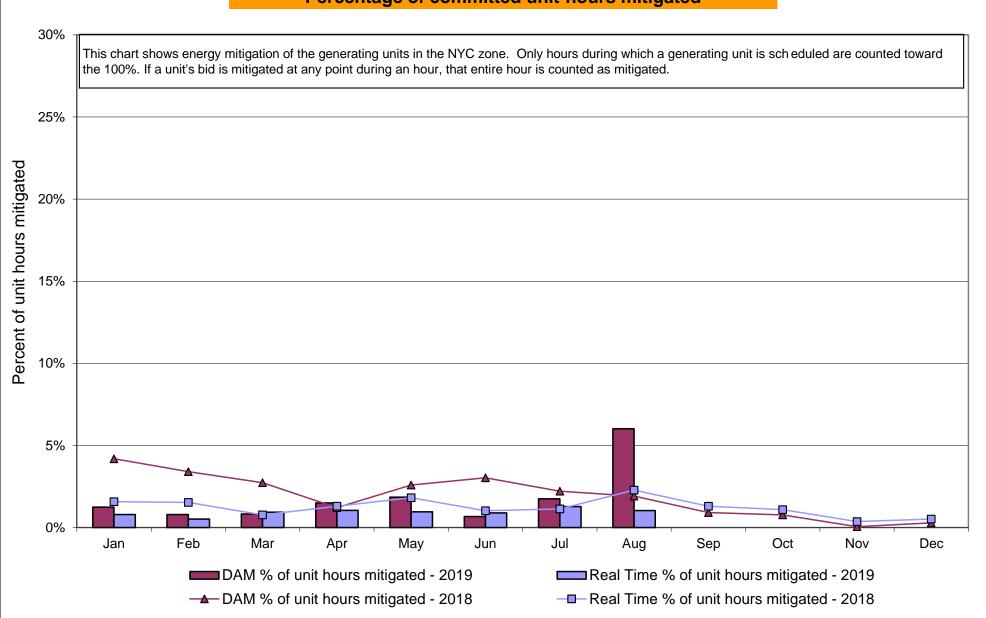
## NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - RTC

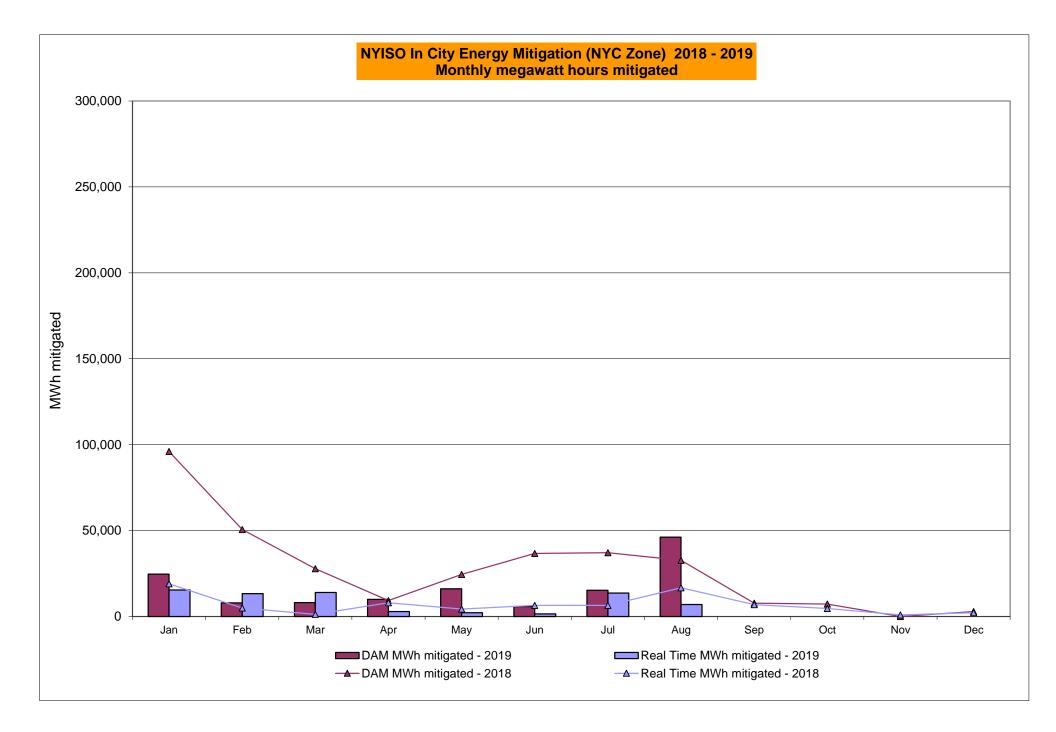
<u>2019</u>	<u>January</u>	<u>February</u>	March	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	November	December
RTC Market												
10 Min Spin Long Island (K)	1.80	1.55	1.08	1.04	0.99	0.99	0.90	0.91				
10 Min Spin NYC (J)	1.80	1.55	1.08	1.04	0.99	0.99	1.54	1.21				
10 Min Spin SENY (GHI)	1.80	1.55	1.08	1.04	0.99	0.99	0.90	0.91				
10 Min Spin East (F)	1.80	1.55	1.08	1.04	0.99	0.69	0.90	0.91				
10 Min Spin West (ABCDE)	1.08	0.80	0.79	0.44	0.44	0.05	0.58	0.51				
10 Min Non Synch Long Island (K)	0.01	0.08	0.11	0.13	0.00	0.52	0.09	0.04				
10 Min Non Synch NYC (J)	0.01	0.08	0.11	0.13	0.00	0.52	0.73	0.34				
10 Min Non Synch SENY (GHI)	0.01	0.08	0.11	0.13	0.00	0.52	0.09	0.04				
10 Min Non Synch East (F)	0.01	0.08	0.11	0.13	0.00	0.22	0.09	0.04				
10 Min Non Synch West (ABCDE)	0.00	0.01	0.01	0.00	0.00	0.00	0.05	0.04				
30 Min Long Island (K)	0.00	0.01	0.01	0.00	0.00	0.24	0.05	0.04				
30 Min NYC (J)	0.00	0.01	0.01	0.00	0.00	0.24	0.31	0.14				
30 Min SENY (GHI)	0.00	0.01	0.01	0.00	0.00	0.24	0.05	0.04				
30 Min East (F)	0.00	0.01	0.01	0.00	0.00	0.00	0.05	0.04				
30 Min West (ABCDE)	0.00	0.01	0.01	0.00	0.00	0.00	0.05	0.04				
Regulation	9.81	6.64	6.21	33.26	7.45	5.16	5.19	7.19				
NYCA Regulation Movement	0.23	0.22	0.21	0.25	0.24	0.18	0.19	0.17				
2018	<u>January</u>	<u>February</u>	March	<u>April</u>	May	<u>June</u>	<u>July</u>	<u>August</u>	September	October	November	December
RTC Market		<del></del>	<del></del>									
10 Min Spin SENY (GHIJK)	4.23	1.24	1.98	3.17	3.13	1.28	1.81	1.29	9.90	3.43	4.39	1.71
10 Min Spin East (F)	4.23	1.24	1.98	3.17	3.13	1.28	1.81	1.29	9.00	3.43	4.39	1.71
10 Min Spin West (ABCDE)	2.43	0.82	1.79	2.38	2.91	0.74	1.27	0.93	7.33	2.63	3.85	1.58
10 Min Non Synch SENY (GHIJK)	0.59	0.03	0.01	0.22	0.42	0.49	0.42	0.27	6.14	1.07	0.50	0.00
10 Min Non Synch East (F)	0.59	0.03	0.01	0.22	0.42	0.49	0.42	0.27	5.25	1.07	0.50	0.00
10 Min Non Synch West (ABCDE)	0.08	0.02	0.00	0.00	0.33	0.27	0.33	0.25	3.92	0.38	0.38	0.00
30 Min SENY (GHIJK)	0.08	0.02	0.00	0.00	0.32	0.27	0.33	0.25	3.55	0.11	0.09	0.00
30 Min East (F)	0.08	0.02	0.00	0.00	0.32	0.27	0.33	0.25	2.65	0.11	0.09	0.00
30 Min West (ABCDE)	0.08	0.02	0.00	0.00	0.32	0.27	0.33	0.25	2.65	0.11	0.09	0.00
Regulation	15.17	10.40	9.63	8.22	10.01	9.39	7.87	7.92	14.90	12.40	17.43	16.90
NYCA Regulation Movement	0.26	0.21	0.20	0.22	0.19	0.16	0.19	0.19	0.20	0.21	0.22	0.22

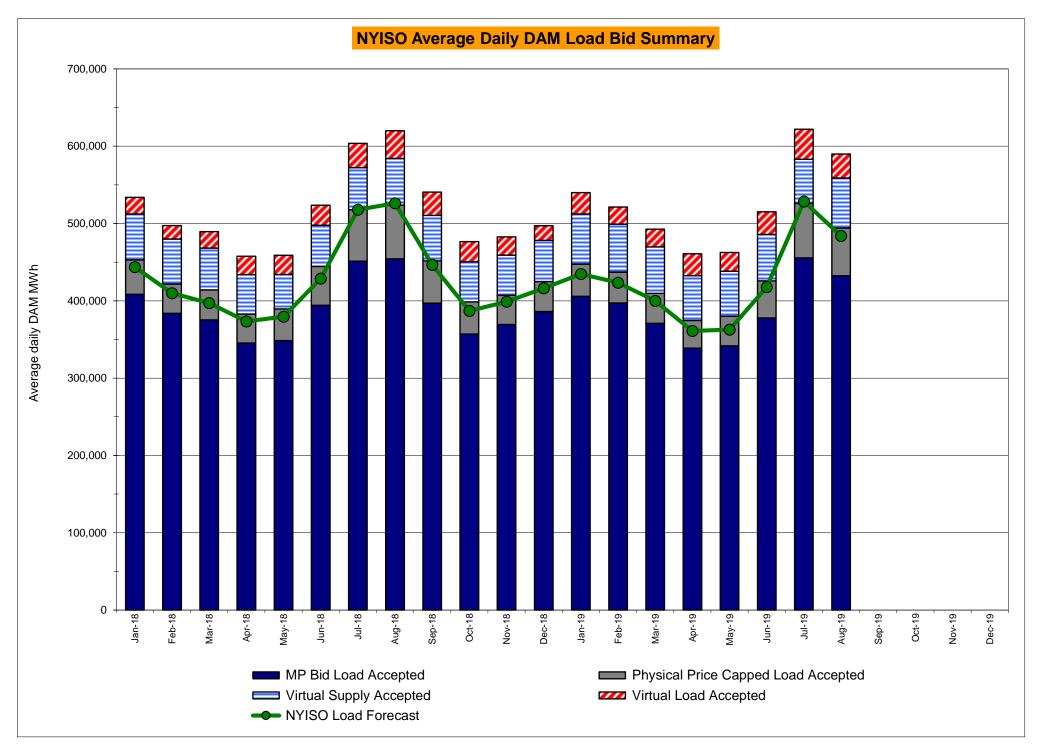
## NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH) - RT

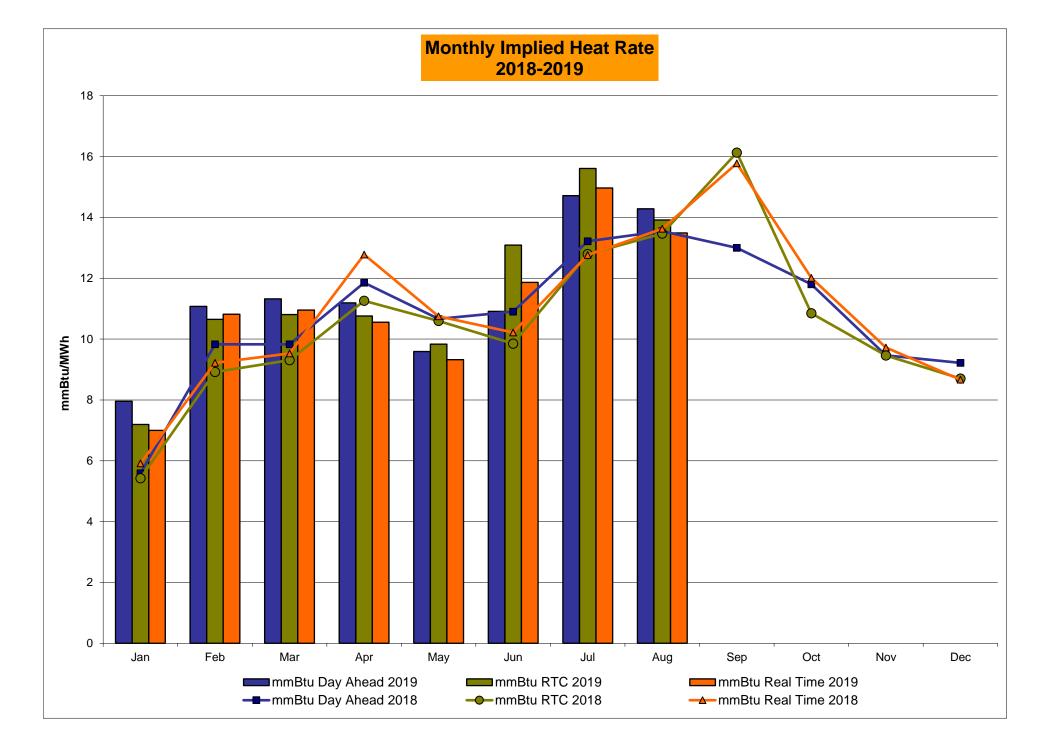
<u>2019</u>	<u>January</u>	<u>February</u>	March	<u>April</u>	May	<u>June</u>	<u>July</u>	<u>August</u>	September	<u>October</u>	November	December
Real Time Market												
10 Min Spin Long Island (K)	2.53	2.51	2.24	2.75	1.58	1.17	1.32	1.66				
10 Min Spin NYC (J)	2.53	2.51	2.24	2.75	1.58	1.17	2.03	1.98				
10 Min Spin SENY (GHI)	2.53	2.51	2.24	2.75	1.58	1.17	1.32	1.66				
10 Min Spin East (F)	2.53	2.51	2.24	2.75	1.58	0.98	1.32	1.66				
10 Min Spin West (ABCDE)	1.89	1.57	1.64	1.45	0.85	0.23	0.98	1.24				
10 Min Non Synch Long Island (K)	0.03	0.18	0.48	0.96	0.00	0.33	0.11	0.03				
10 Min Non Synch NYC (J)	0.03	0.18	0.48	0.96	0.00	0.33	0.82	0.35				
10 Min Non Synch SENY (GHI)	0.03	0.18	0.48	0.96	0.00	0.33	0.11	0.03				
10 Min Non Synch East (F)	0.03	0.18	0.48	0.96	0.00	0.15	0.11	0.03				
10 Min Non Synch West (ABCDE)	0.00	0.01	0.09	0.17	0.00	0.02	0.08	0.03				
30 Min Long Island (K)	0.00	0.01	0.03	0.00	0.00	0.13	0.08	0.03				
30 Min NYC (J)	0.00	0.01	0.03	0.00	0.00	0.13	0.38	0.13				
30 Min SENY (GHI)	0.00	0.01	0.03	0.00	0.00	0.13	0.08	0.03				
30 Min East (F)	0.00	0.01	0.03	0.00	0.00	0.02	0.08	0.03				
30 Min West (ABCDE)	0.00	0.01	0.03	0.00	0.00	0.02	0.08	0.03				
Regulation	11.36	7.72	7.23	15.73	7.47	6.11	5.77	6.11				
NYCA Regulation Movement	0.22	0.22	0.20	0.25	0.23	0.17	0.18	0.17				
2018	<u>January</u>	<u>February</u>	March	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	August	September	October	November	December
Real Time Market												
10 Min Spin SENY (GHIJK)	11.31	3.19	3.31	7.62	5.48	2.98	2.65	2.93	9.13	8.14	7.39	3.49
10 Min Spin East (F)	11.31	3.19	3.31	7.62	5.48	2.98	2.65	2.93	8.50	8.14	7.39	3.49
10 Min Spin West (ABCDE)	7.24	2.52	2.86	6.77	4.86	1.37	2.10	2.50	6.96	4.26	6.45	3.15
10 Min Non Synch SENY (GHIJK)	3.61	0.01	0.19	0.28	1.03	1.63	0.35	1.16	5.33	4.70	1.16	0.00
10 Min Non Synch East (F)	3.61	0.01	0.19	0.28	1.03	1.63	0.35	1.16	4.70	4.70	1.16	0.00
10 Min Non Synch West (ABCDE)	0.85	0.00	0.00	0.00	0.57	0.37	0.29	1.12	3.47	0.92	0.67	0.00
30 Min SENY (GHIJK)	0.13	0.00	0.00	0.00	0.37	0.37	0.29	1.12	3.11	0.06	0.10	0.00
30 Min East (F)	0.13	0.00	0.00	0.00	0.37	0.37	0.29	1.12	2.48	0.06	0.10	0.00
30 Min West (ABCDE)	0.13	0.00	0.00	0.00	0.37	0.37	0.29	1.12	2.48	0.06	0.10	0.00
Regulation	19.82	10.82	10.54	12.80	12.88	10.62	9.06	9.71	14.67	14.54	20.48	18.44
NYCA Regulation Movement	0.24	0.21	0.20	0.21	0.17	0.15	0.18	0.18	0.20	0.21	0.22	0.21

## NYISO In City Energy Mitigation - AMP (NYC Zone) 2018 - 2019 Percentage of committed unit-hours mitigated

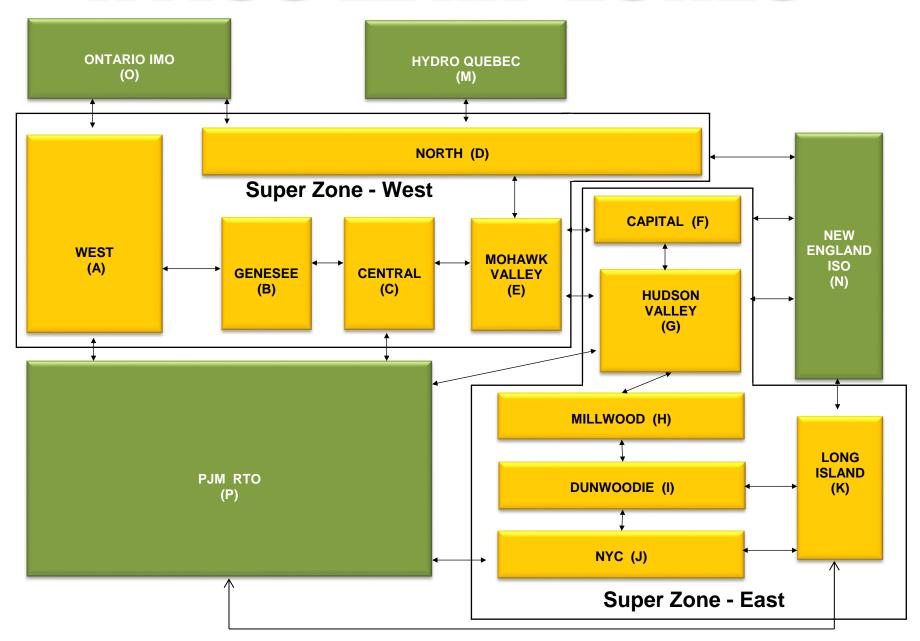








## NYISO LBMP ZONES



#### **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

# The Mission of the New York Independent System Operator is to:

- Serve the public interest and
- Provide benefit to stakeholders by
  - Maintaining and enhancing regional reliability
  - Operating open, fair and competitive wholesale electricity markets
  - Planning the power system for the future
  - Providing factual information to policy makers, stakeholders and investors in the power system



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