

Market Monitor Report

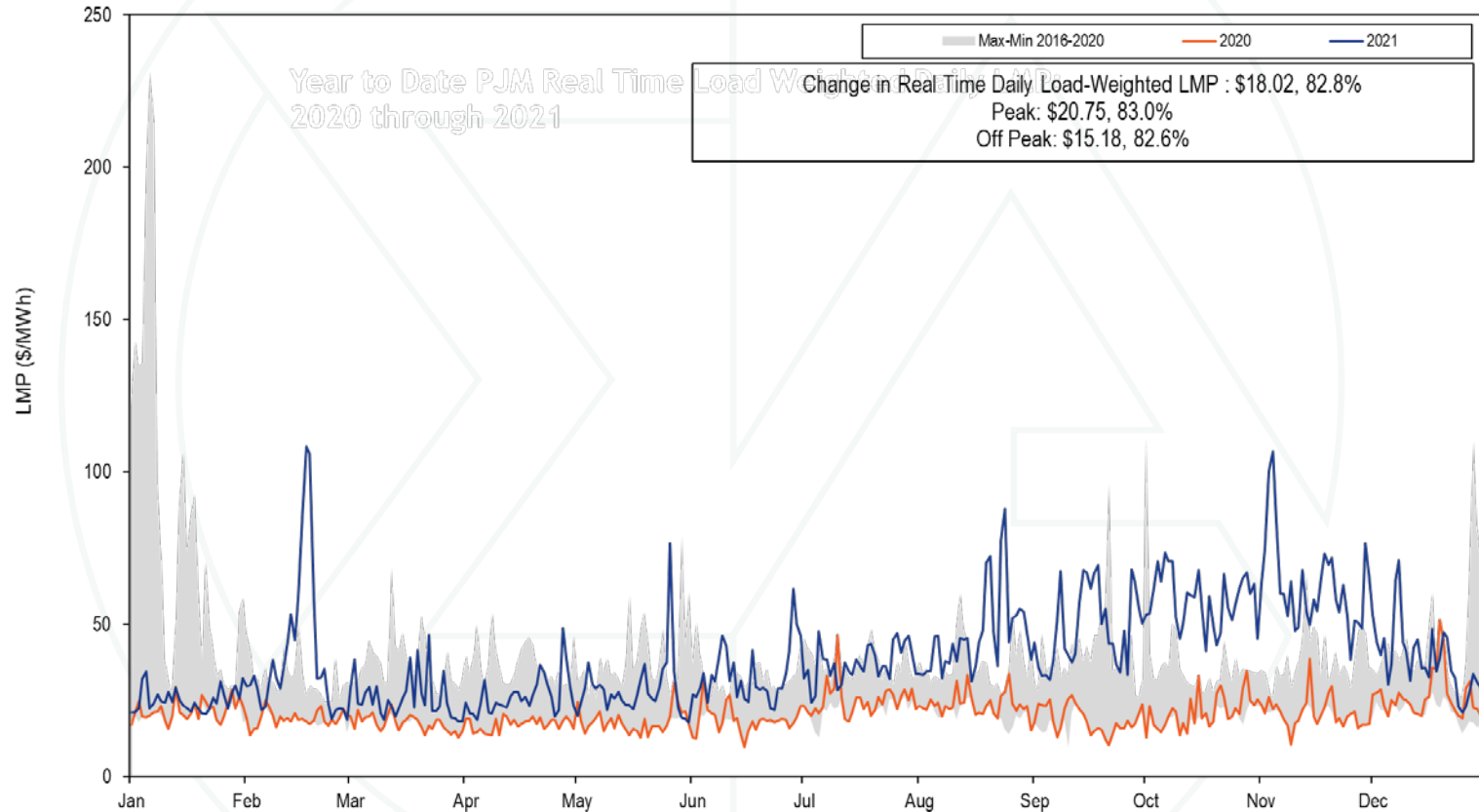
MC Webinar
01.24.2022

IMM

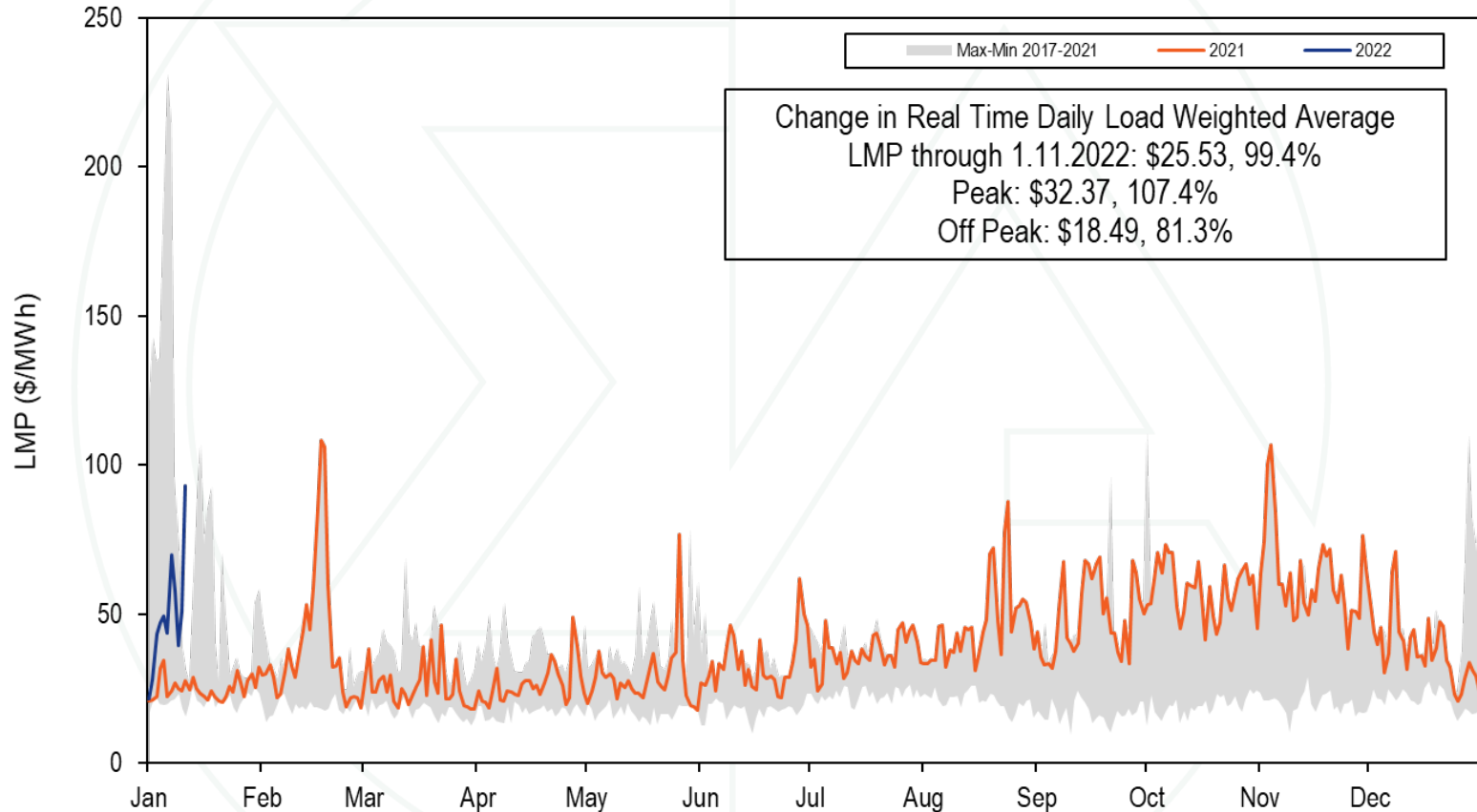


Monitoring Analytics

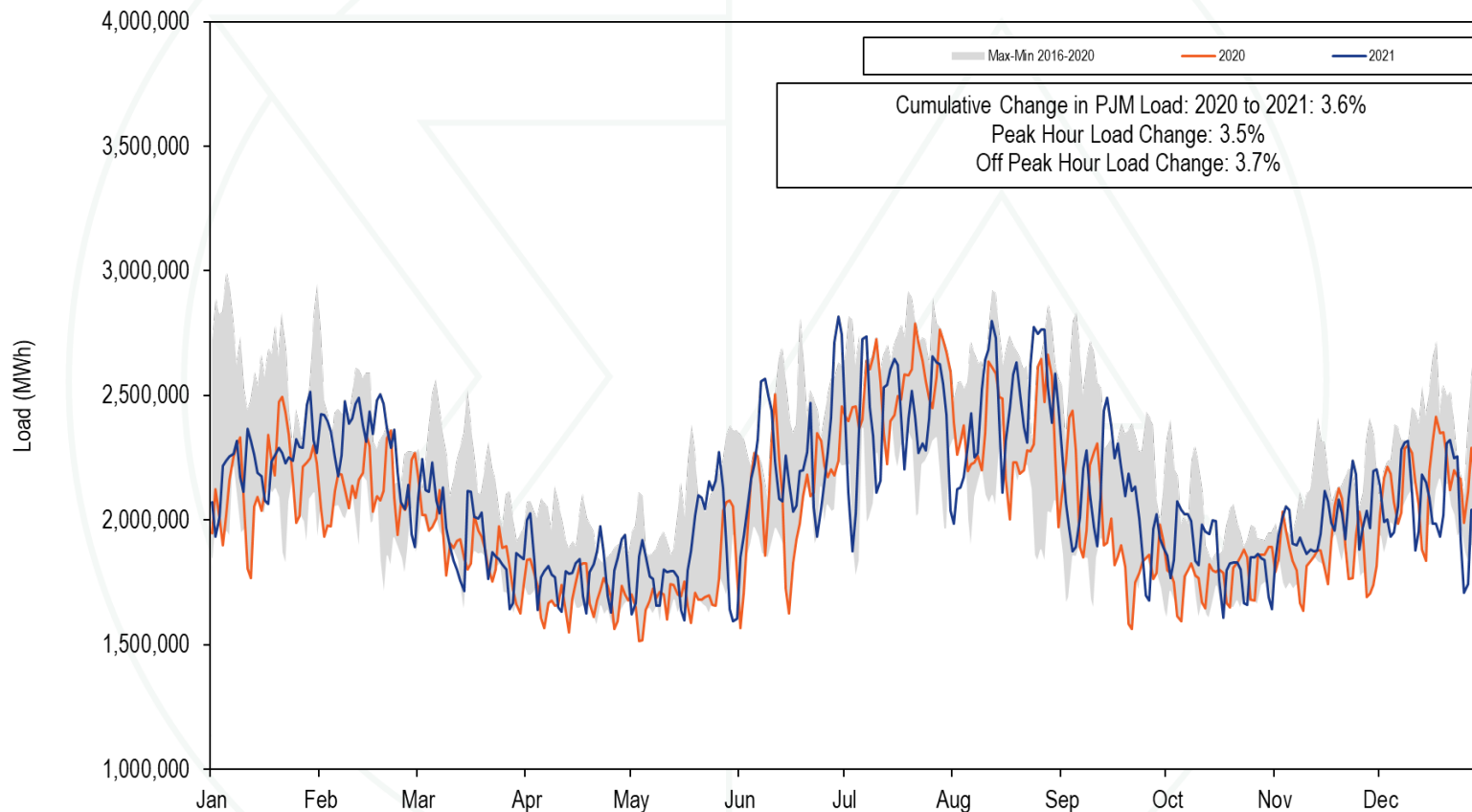
2021 Over 2020 PJM Real-Time LMP



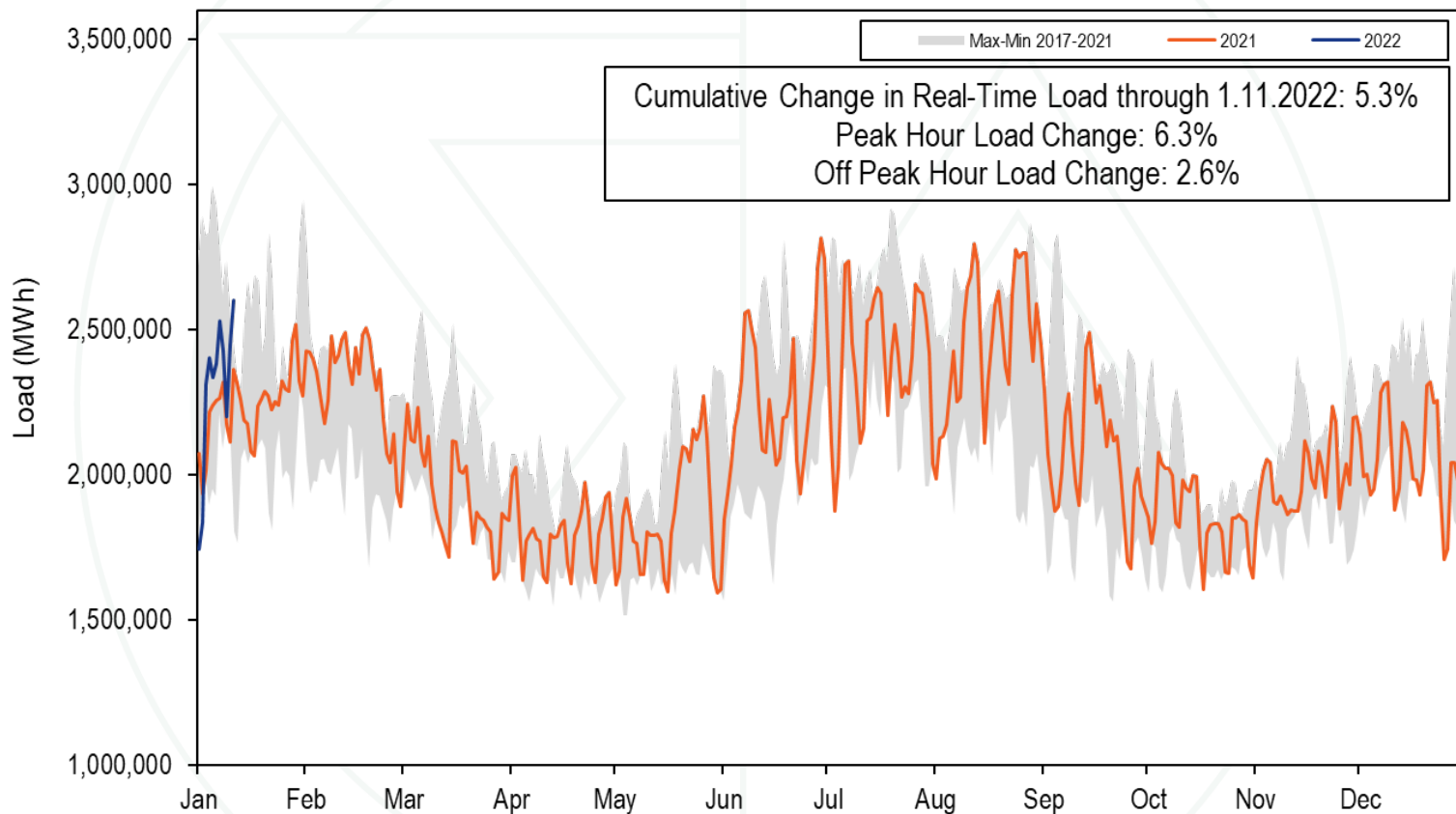
2022 YTD PJM Real-Time LMP



2021 over 2020 PJM Real-Time Daily Load



2022 YTD PJM Real-Time Daily Load



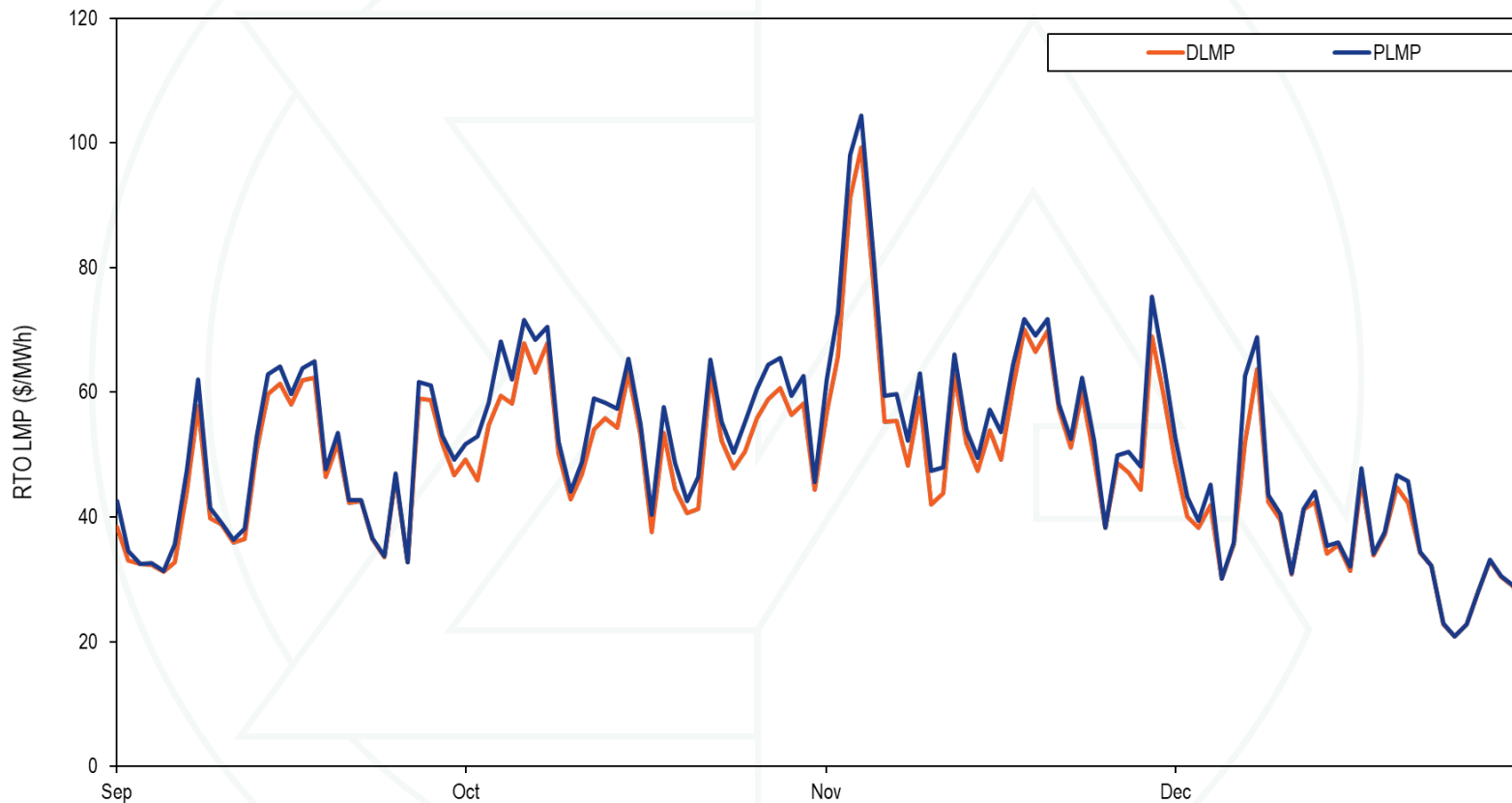
Fast Start Eligible Units

Unit Type	2021											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CT	192	192	192	191	191	191	193	193	199	199	199	199
Diesel	29	29	29	29	29	29	29	30	30	30	30	30
Landfill	44	44	43	43	43	43	42	41	41	41	41	41
Solar	213	213	214	217	217	219	222	222	223	224	226	229
Wind	98	98	98	98	99	99	99	99	99	100	100	101

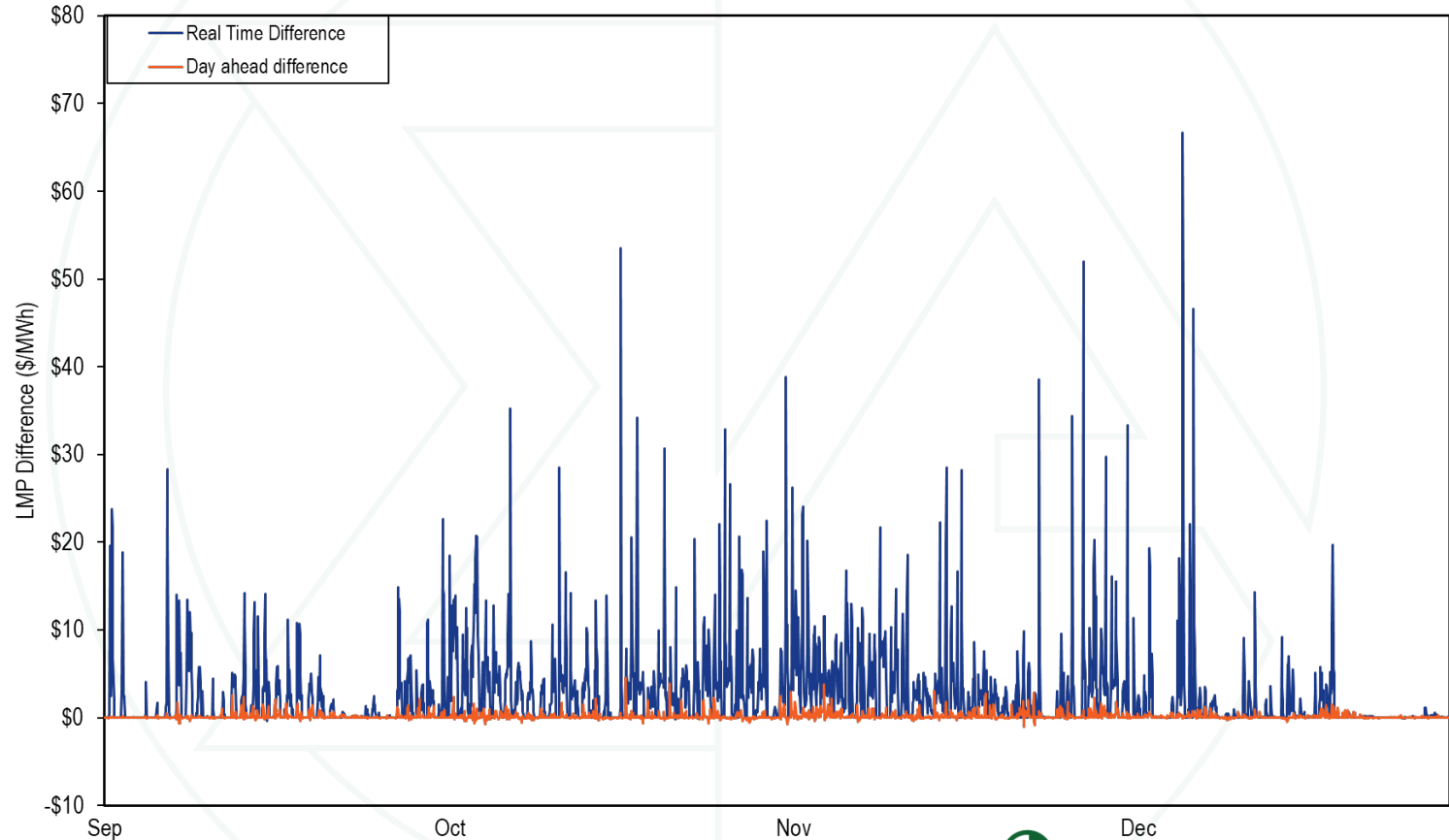
- Fast start eligible when:
 - Units are fast start capable; and
 - Offered with a notification plus start time of one hour or less and a min run time of one hour or less; and
 - Offered pool scheduled



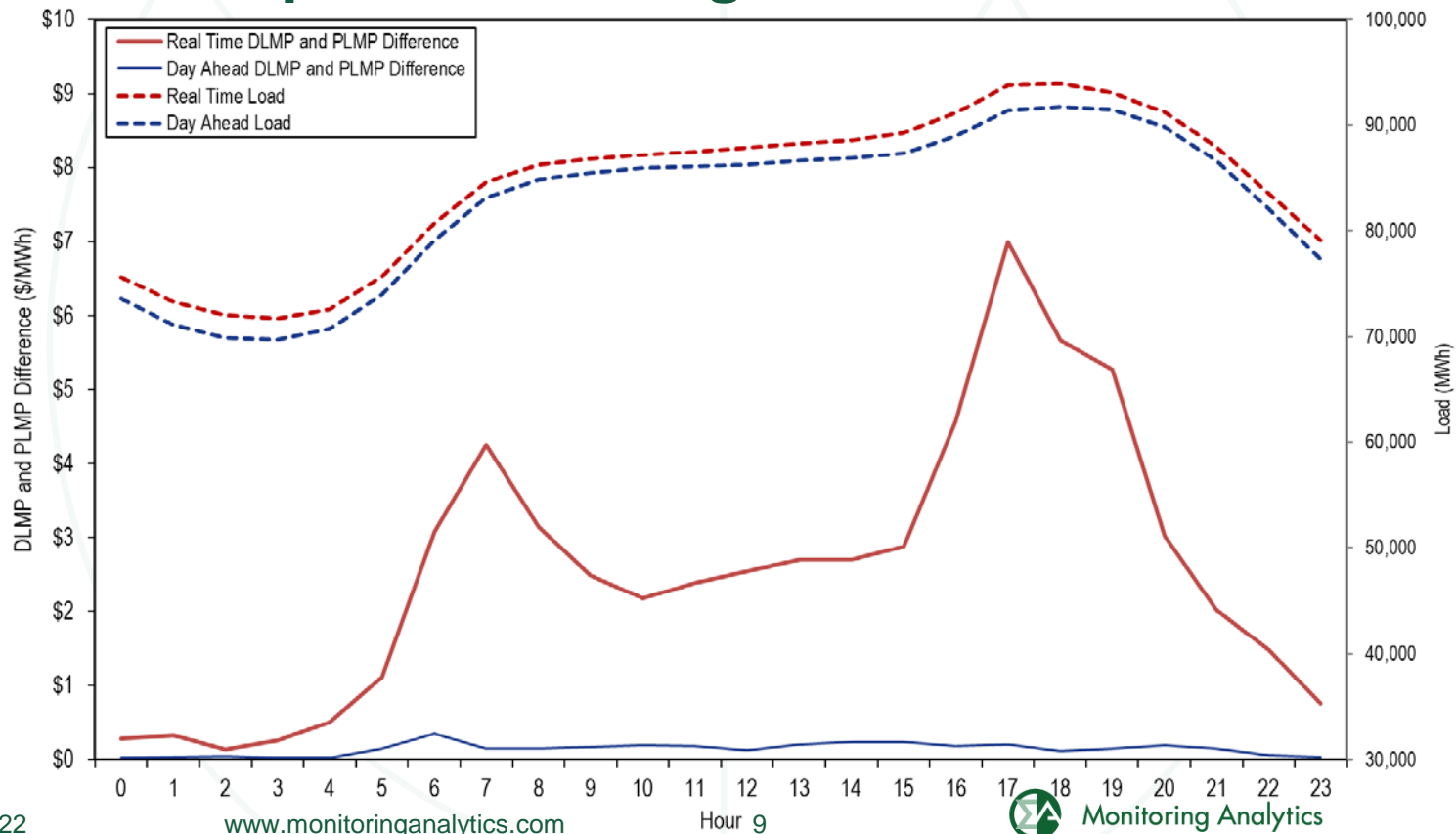
2021 Daily Average Real-Time PLMP and DLMP



2021 Hourly Difference: PLMP – DLMP



Average Hourly Load and DLMP and PLMP Difference September through December 2021



Fast Start Impacts: Zonal Average Differences

ZONE	2021 Sep - Dec		Difference	Difference Percent
	Average DLMP	Average PLMP		
AECO	\$38.52	\$40.00	\$1.48	3.8%
AEP	\$49.58	\$52.23	\$2.65	5.3%
APS	\$51.03	\$53.71	\$2.68	5.2%
ATSI	\$49.22	\$51.76	\$2.53	5.1%
BGE	\$55.72	\$58.84	\$3.12	5.6%
COMED	\$41.87	\$44.46	\$2.60	6.2%
DAY	\$52.27	\$54.97	\$2.70	5.2%
DEOK	\$50.41	\$53.06	\$2.65	5.3%
DOM	\$55.08	\$57.99	\$2.90	5.3%
DPL	\$43.18	\$45.83	\$2.65	6.1%
DUQ	\$48.85	\$51.37	\$2.52	5.2%
EKPC	\$50.75	\$53.42	\$2.67	5.3%
JCPL	\$40.44	\$42.17	\$1.73	4.3%
METED	\$49.55	\$52.10	\$2.55	5.1%
OVEC	\$49.56	\$52.16	\$2.60	5.2%
PECO	\$38.85	\$40.41	\$1.56	4.0%
PENELEC	\$47.52	\$49.87	\$2.34	4.9%
PEPCO	\$55.49	\$58.55	\$3.06	5.5%
PPL	\$44.25	\$46.41	\$2.15	4.9%
PSEG	\$40.56	\$42.29	\$1.73	4.3%
RECO	\$42.21	\$44.09	\$1.88	4.5%

Fast Start Impacts: Hub Average Differences

2021 Sep - Dec								
Hub	Real Time				Day Ahead			
	Average DLMP	Average PLMP	Difference	Difference Percent	Average DLMP	Average PLMP	Difference	Difference Percent
AEP GEN HUB	\$48.81	\$51.01	\$2.20	4.5%	\$49.88	\$50.03	\$0.15	0.3%
AEP-DAYTON HUB	\$48.73	\$51.03	\$2.30	4.7%	\$49.92	\$50.07	\$0.15	0.3%
ATSI GEN HUB	\$48.09	\$50.27	\$2.18	4.5%	\$49.77	\$49.91	\$0.14	0.3%
CHICAGO GEN HUB	\$40.83	\$43.35	\$2.52	6.2%	\$42.40	\$42.55	\$0.15	0.4%
CHICAGO HUB	\$42.19	\$44.79	\$2.60	6.2%	\$43.40	\$43.56	\$0.15	0.4%
DOMINION HUB	\$53.51	\$55.90	\$2.38	4.5%	\$53.58	\$53.74	\$0.16	0.3%
EASTERN HUB	\$42.61	\$44.98	\$2.36	5.5%	\$44.18	\$44.33	\$0.15	0.3%
N ILLINOIS HUB	\$41.82	\$44.38	\$2.56	6.1%	\$43.10	\$43.25	\$0.15	0.4%
NEW JERSEY HUB	\$40.16	\$41.66	\$1.50	3.7%	\$40.55	\$40.64	\$0.09	0.2%
OHIO HUB	\$48.17	\$50.50	\$2.33	4.8%	\$49.55	\$49.70	\$0.15	0.3%
WEST INT HUB	\$50.34	\$52.61	\$2.27	4.5%	\$51.27	\$51.42	\$0.15	0.3%
WESTERN HUB	\$50.71	\$52.92	\$2.21	4.4%	\$51.99	\$52.15	\$0.16	0.3%

Zonal PLMP and DLMP Difference Frequency

ZONE	2021 Sep - Dec									
	< (\$50)	(\$50) to (\$10)	(\$10) to \$0	\$0	\$0 to \$10	\$10 to \$20	\$20 to \$50	\$50 to \$100	\$100 to \$200	>= \$200
PJM-RTO	0.0%	1.6%	0.0%	0.5%	47.1%	46.0%	3.2%	1.1%	0.3%	0.1%
AECO	0.0%	1.7%	0.3%	7.2%	47.8%	40.0%	2.1%	0.6%	0.2%	0.1%
AEP	0.0%	1.6%	0.0%	0.7%	47.3%	45.3%	3.4%	1.2%	0.3%	0.1%
APS	0.0%	1.6%	0.0%	0.9%	47.4%	44.8%	3.4%	1.3%	0.3%	0.1%
ATSI	0.0%	1.6%	0.0%	1.0%	47.3%	45.3%	3.1%	1.1%	0.3%	0.1%
BGE	0.0%	1.6%	0.1%	1.9%	47.3%	42.2%	4.4%	1.8%	0.4%	0.2%
COMED	0.0%	1.6%	0.0%	1.6%	47.6%	43.9%	3.4%	1.4%	0.3%	0.1%
DAY	0.0%	1.6%	0.0%	0.9%	47.4%	44.8%	3.5%	1.3%	0.3%	0.1%
DEOK	0.0%	1.6%	0.0%	0.8%	47.4%	45.0%	3.4%	1.2%	0.3%	0.1%
DOM	0.0%	1.6%	0.1%	1.3%	47.5%	43.4%	4.1%	1.5%	0.4%	0.1%
DPL	0.0%	1.6%	0.1%	10.8%	47.9%	33.5%	2.6%	2.6%	0.6%	0.3%
DUQ	0.0%	1.6%	0.0%	0.9%	47.4%	45.3%	3.2%	1.1%	0.3%	0.1%
EKPC	0.0%	1.6%	0.0%	1.0%	47.5%	44.8%	3.4%	1.2%	0.3%	0.1%
JCPL	0.0%	1.6%	0.0%	3.4%	47.9%	43.9%	2.2%	0.7%	0.2%	0.1%
METED	0.0%	1.6%	0.1%	3.1%	47.5%	42.0%	3.4%	1.5%	0.5%	0.1%
OVEC	0.0%	1.6%	0.0%	0.9%	47.5%	45.1%	3.3%	1.2%	0.3%	0.1%
PECO	0.0%	1.6%	0.0%	9.3%	47.8%	38.0%	2.2%	0.7%	0.2%	0.1%
PENELEC	0.0%	1.7%	0.1%	1.0%	47.3%	45.5%	3.0%	1.0%	0.3%	0.1%
PEPCO	0.0%	1.6%	0.1%	1.8%	47.4%	42.3%	4.4%	1.8%	0.4%	0.2%
PPL	0.0%	1.6%	0.0%	2.8%	47.6%	43.7%	2.7%	1.0%	0.3%	0.1%
PSEG	0.0%	1.6%	0.0%	3.3%	47.8%	44.0%	2.2%	0.6%	0.2%	0.1%
RECO	0.0%	1.6%	0.0%	2.2%	47.5%	45.3%	2.3%	0.7%	0.2%	0.1%



Fast Start Units as a Percent of Marginal Units in the Pricing Run

Unit Type	2021			
	Sep	Oct	Nov	Dec
CT	6.7%	11.1%	11.3%	4.4%
DIESEL	1.3%	2.1%	0.6%	0.6%
WIND	0.0%	0.0%	0.0%	0.1%



Illinois Legislation

- **Illinois legislation (CEJA) impacts on PJM markets**
 - **Opportunity cost calculations**
 - **Information required for implementation of opportunity cost calculations**
 - **Definition of operating for reliability is critical**



Market Manipulation

- **Activity in the virtual market that takes advantage of false arbitrage opportunities caused by day ahead and real time modeling differences**
- **Virtual activity that affects the value of FTRs.**
- **The Commission stated: “While granting PJM’s request for clarification on this issue means that there will be no FTR Forfeiture Rule in effect between May 20, 2021 and the date the Commission imposes a replacement rate, we emphasize that the Commission’s Anti-Manipulation Rule [n.6: See 18 C.F.R. § 1c.2 (2020).] remains in effect during this period.”**

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