

Market Monitor Report

MC Webinar
06.17.2024

IMM



Monitoring Analytics

Hot Weather – Ambient Derates

- **With the upcoming hot weather, generators must remember that their maximum output (economic maximum and emergency maximum) must be updated to reflect the forecasted (DA) and actual (RT) weather conditions.**
- **Reductions from ICAP are expected when actual ambient conditions are worse than the rated ambient conditions used to determine ICAP. These reductions must be reflected in the Energy Market (Markets Gateway) and as an ambient derate in eDART.**
- **Generators that cannot achieve ICAP when actual ambient conditions are equal or more favorable than the rated ambient conditions should review their ICAP calculation methods and CAPMOD down the resource if necessary to ensure that ICAP reflects reality.**

Committed Offer Issue

- **The OA defines Committed Offer as “an offer on which a resource was scheduled by the Office of the Interconnection for a particular clock hour for an Operating Day”.**
- **The Committed Offer is mainly used in two areas: uplift compensation and preventing price-based offer increases.**

Committed Offer Issue - Uplift

- **The OA defines Total Operating Reserve Offer as “the applicable offer used to calculate Operating Reserve credits.” It also states that “the applicable offer used to calculate day-ahead Operating Reserve credits shall be the Committed Offer, and the applicable offer used to calculate balancing Operating Reserve credits shall be lesser of the Committed Offer or Final Offer for each hour in an Operating Day.”**
- **Operating Reserve credits (uplift) is capped at the Committed Offer.**

Committed Offer Issue – Price Increases

- **Section 1.10.9A (a) (i) states that “once a Market Seller’s resource is committed for an applicable clock hour, the Market Seller may not increase its Incremental Energy Offer and may only submit a market-based Real-time Offer that is higher than its market-based offer that was in effect at the time of commitment to reflect increases in the resource’s cost-based Start-up Costs and cost-based No-load Costs”.**
- **Committed units cannot increase the incremental offer curve of their price-based offers for committed hours.**

Committed Offer Issue – PJM Explanation to FERC

- **This is consistent with PJM’s description when it filed hourly offer (IDO ER16-372). PJM stated:**
 - **PJM is proposing to define a resource’s Committed Offer as the “[o]ffer on which a resource was scheduled by the Office of the Interconnection for a particular clock hour for the Operating Day.”⁵⁰ The term “committed” is used in this context to signify a decision to schedule a resource to operate in either the Day-ahead Energy Market or outside the Day-ahead Energy Market. The Committed Offer is the hourly offer, or set of hourly offers, on which a decision was made to schedule a resource. For resources scheduled in the Day-ahead Energy Market, the Committed Offer is the hourly market-based or cost-based offer on which the resource received a commitment. For resources scheduled outside of the Day-ahead Energy Market, the Committed Offer is the offer on which PJM dispatchers based their commitment decision for the resource.**

Committed Offer Issue – WS Gerri

- **During WS Gerri, PJM made several commitments outside (before) the Day-Ahead Market for conservative operations. These commitments resulted in significant uplift payments. The uplift payments were initially paid based on the offers submitted for the applicable Day-Ahead Market, after the commitment was made, and not based on the offers at the time of commitment.**
- **The IMM notified PJM of the discrepancy. In May, PJM resettled (recovered) uplift payments made in excess of the Committed Offer. In June, PJM undid the May resettlement and returned the uplift payments to the Market Sellers impacted.**

Committed Offer Issue – PJM’s Position

- **PJM argued that the tariff does not require Market Sellers to make binding offers unless the resource has a notification or startup time greater than 24 hours.**
- **Section 1.10.1A (f) states that “a Market Seller (i) may submit a non-binding forecast of the price at which it expects to offer a generation resource increment to the Office of the Interconnection over the next seven days, and (ii) shall submit a binding offer for energy, along with Start-up Costs and No-load Costs, if any, for the next seven days or part thereof, for any generation resource with minimum notification or start-up requirement greater than 24 hours.”**

Committed Offer Issue – Binding Offer Forecast

- **PJM’s argument is inconsistent with the definition of a Committed Offer, inconsistent with the arguments PJM made to FERC in the hourly offer filing, and inconsistent with anti market manipulation rules.**
- **Binding offers mean that a Market Seller cannot change their seven day offer forecast if it has a notification or start time greater than 24 hours.**
- **The Committed Offer rules mean that once a unit is committed, uplift payments are based on the Committed Offer and if committed on price, the unit cannot increase the price for the committed hours. It does not mean that offers for uncommitted hours are binding, it does not mean that cost-based offers for committed hours are binding, it does not mean that price-based offers for committed hours cannot be decreased.**

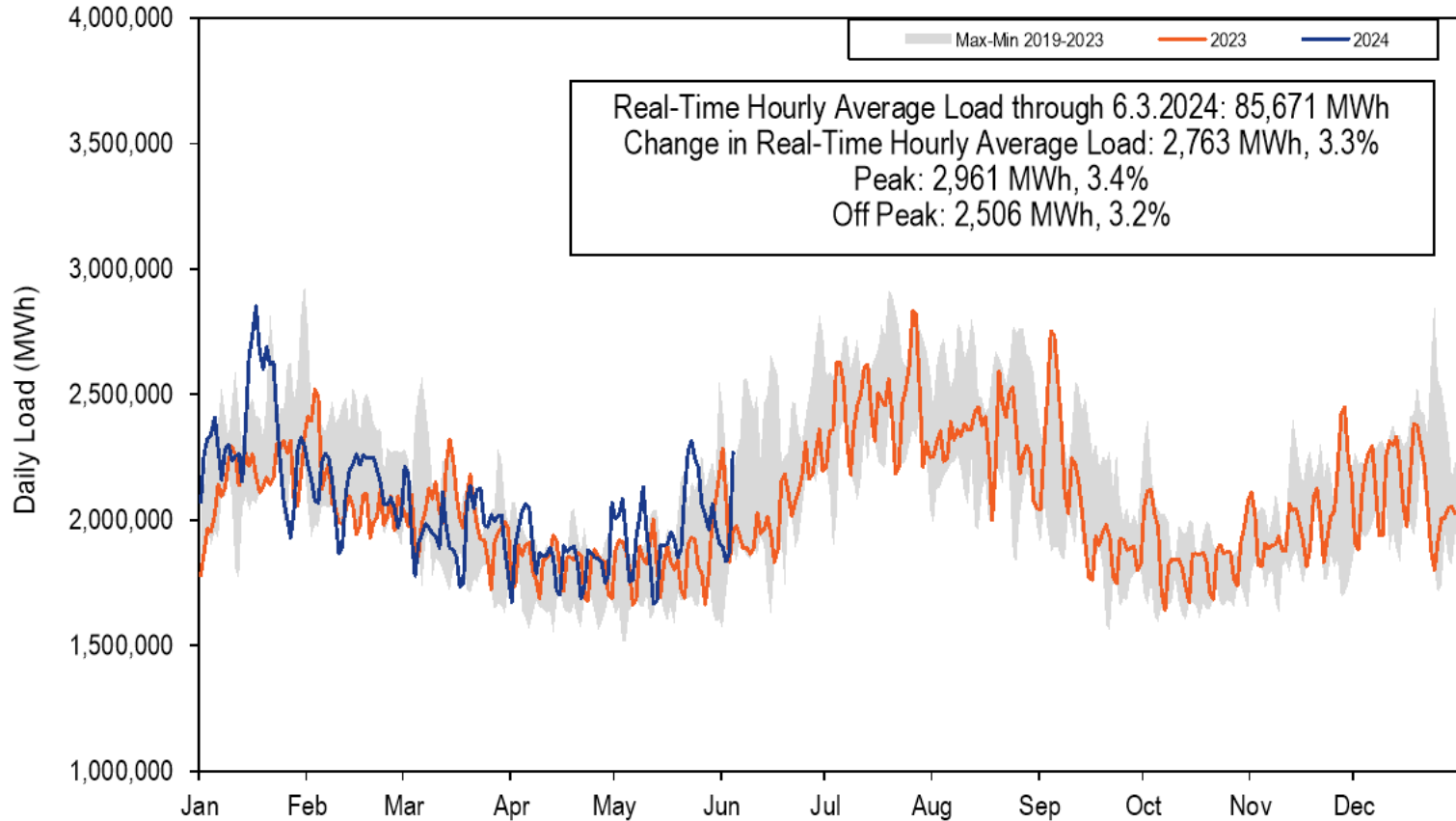
Committed Offer Issue – Conclusion

- **Units should not be allowed to increase their price-based offers after commitment. Uplift payments must be based on the offers used by PJM at the time of commitment. Failure to enforce these rules is a loophole. For example, a unit that receives a commitment by PJM would be able to increase the offer for the hours it knows it has been committed for to any level (up to \$1,000/MWh).**
- **The level to which offers can be increased is limited only when units have market power and are offer capped as result. The level is limited by a unit's Fuel Cost Policy and the Cost Development Guidelines (Manual 15).**

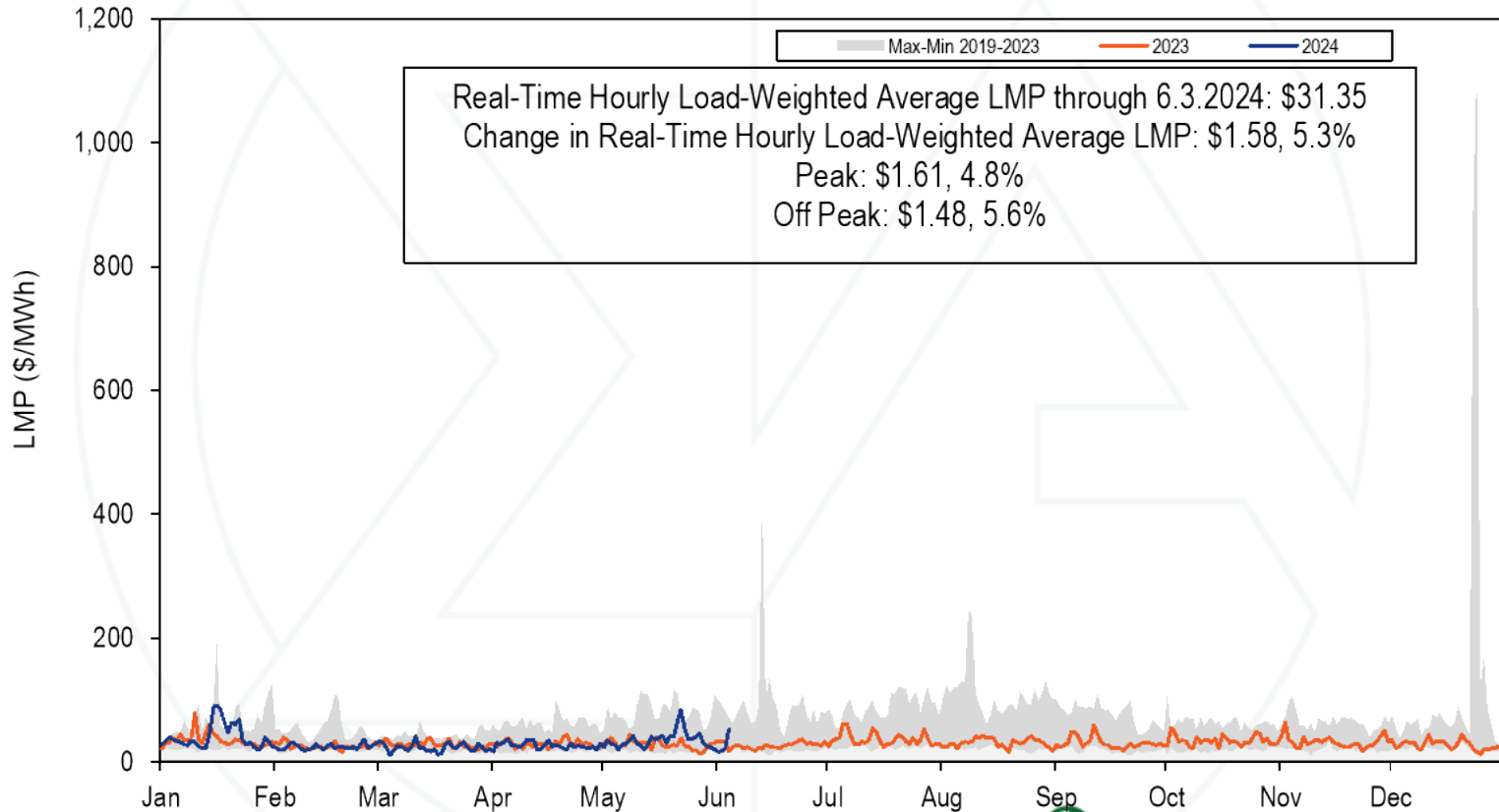
Committed Offer Issue – Conclusion

- **The IMM recommends that PJM apply the Committed Offer rules.**
 - **Uplift must be capped at the Committed Offer.**
 - **Resources committed on a price-based offers must not be able to increase such offer for the committed hours.**
- **PJM currently applies these rules in real time. PJM needs to apply these rules:**
 - **(Outside the Day-Ahead Market) before DAM when units are committed before the DAM deadline for the next day.**
 - **(Outside the Day-Ahead Market) in the next DAM when units are committed for hours that cross midnight.**
 - **In real time when units are committed for hours that cross midnight.**

2024 YTD PJM Real-Time Daily Load



2024 YTD PJM Real-Time Daily LMP



Fast Start Pricing: DLMP and PLMP

- **PJM implemented fast start pricing in both the day-ahead and real-time markets on September 1, 2021.**
- **The goal of fast start pricing is to allow inflexible resources to set prices based on the sum of their commitment costs per MWh and their marginal costs.**
- **The pricing run LMP (PLMP) is now the official settlement LMP in PJM, replacing the dispatch run LMP (DLMP)**

Fast Start Pricing: DLMP and PLMP

- **Fast start pricing employs a new LMP calculation called the pricing run.**
- **The pricing run calculates LMP using the same optimal power flow algorithm as the dispatch run while simultaneously reducing (“relaxing” or ignoring) the economic minimum and maximum output MW constraints for all eligible fast start units.**

Fast Start Pricing: DLMP and PLMP

- **The price signal no longer equals the short run marginal cost and therefore no longer provides the correct signal for efficient behavior for market participants making decisions on the margin.**
- **The differences between the actual LMP (DLMP) and the fast start LMP(PLMP) distort the incentive for market participants to behave competitively and to follow PJM's dispatch instructions.**

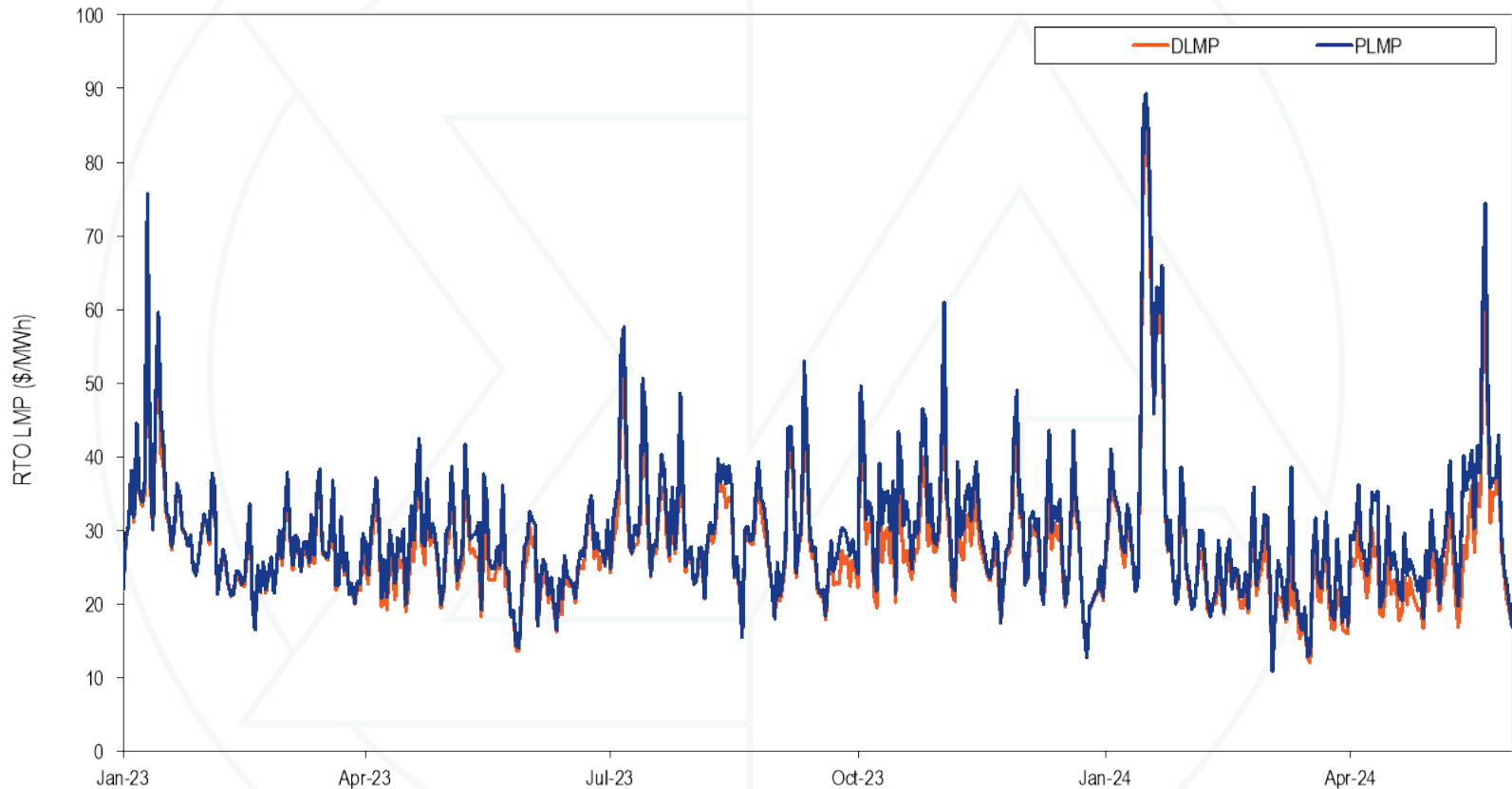
Fast Start Pricing: DLMP and PLMP

- **PJM also uses the pricing run for capping the system marginal price at \$3,700 per MWh.**
 - **This was last used during Winter Storm Elliott.**
 - **The cap applies to the marginal energy component of LMP, but the congestion and loss components of LMP can exceed the cap.**
- **PJM uses a lower default transmission constraint penalty factor in the pricing run in the day-ahead market.**
 - **\$30,000 per MWh in the dispatch run**
 - **\$2,000 per MWh in the pricing run**

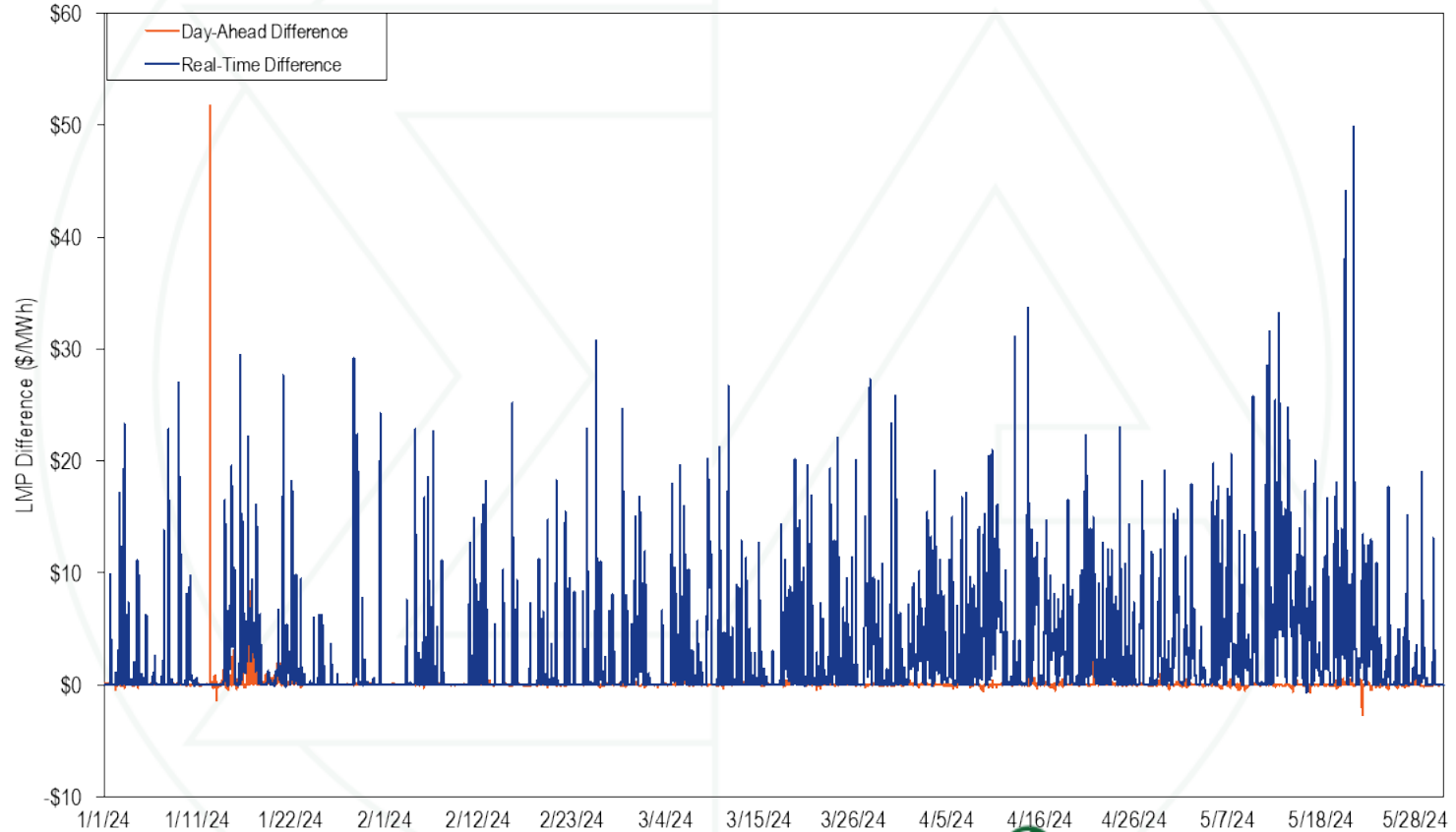
Monthly Average Load-Weighted DLMP and PLMP

Year	Month	Day-Ahead Load-Weighted Average				Real-Time Load-Weighted Average			
		DLMP	PLMP	Difference	Percent Difference	DLMP	PLMP	Difference	Percent Difference
2023	Jan	\$36.53	\$36.58	\$0.05	0.1%	\$34.66	\$35.75	\$1.09	3.1%
2023	Feb	\$31.16	\$31.22	\$0.06	0.2%	\$25.47	\$26.04	\$0.57	2.2%
2023	Mar	\$28.39	\$28.41	\$0.02	0.1%	\$27.58	\$28.42	\$0.85	3.1%
2023	Apr	\$29.81	\$29.81	(\$0.00)	(0.0%)	\$27.09	\$29.32	\$2.22	8.2%
2023	May	\$28.86	\$28.80	(\$0.05)	(0.2%)	\$25.91	\$28.44	\$2.53	9.7%
2023	Jun	\$27.82	\$27.82	(\$0.00)	(0.0%)	\$25.69	\$27.29	\$1.60	6.2%
2023	Jul	\$40.46	\$40.56	\$0.10	0.3%	\$34.34	\$37.21	\$2.87	8.4%
2023	Aug	\$30.49	\$30.54	\$0.05	0.2%	\$29.77	\$31.33	\$1.55	5.2%
2023	Sep	\$30.82	\$30.91	\$0.09	0.3%	\$29.33	\$31.55	\$2.22	7.6%
2023	Oct	\$35.03	\$35.05	\$0.02	0.1%	\$30.66	\$34.92	\$4.26	13.9%
2023	Nov	\$33.32	\$33.40	\$0.08	0.2%	\$30.00	\$32.94	\$2.94	9.8%
2023	Dec	\$29.89	\$29.94	\$0.05	0.2%	\$26.37	\$27.97	\$1.59	6.0%
2023	Jan - May	\$31.89	\$31.93	\$0.04	0.1%	\$29.11	\$31.08	\$1.97	6.8%
2023		\$32.16	\$32.20	\$0.04	0.1%	\$29.13	\$31.10	\$1.97	6.8%
2024	Jan	\$48.45	\$48.65	\$0.20	0.4%	\$40.82	\$42.78	\$1.95	4.8%
2024	Feb	\$23.67	\$23.70	\$0.03	0.1%	\$23.20	\$24.86	\$1.66	7.2%
2024	Mar	\$21.89	\$21.93	\$0.04	0.2%	\$20.30	\$23.15	\$2.85	14.0%
2024	Apr	\$26.73	\$26.75	\$0.02	0.1%	\$23.29	\$27.17	\$3.87	16.6%
2024	May	\$32.92	\$32.90	(\$0.02)	(0.1%)	\$31.70	\$36.16	\$4.46	14.1%
2024	Jan - May	\$31.38	\$31.44	\$0.06	0.2%	\$28.42	\$31.33	\$2.90	10.2%

Daily Average Real-Time DLMP and PLMP



Hourly Difference: PLMP – DLMP



Fast Start Units as a Percent of Marginal Units

Year	Month	Dispatch Run				Pricing Run			
		CT	Diesel	Wind	All Fast Start Units	CT	Diesel	Wind	All Fast Start Units
2023	Jan	1.6%	0.5%	0.1%	2.1%	6.2%	2.8%	0.0%	9.0%
2023	Feb	0.9%	0.2%	0.0%	1.1%	3.1%	0.6%	0.0%	3.7%
2023	Mar	0.8%	0.4%	0.1%	1.2%	3.0%	0.7%	0.1%	3.8%
2023	Apr	2.5%	0.4%	0.2%	3.2%	8.1%	0.8%	0.2%	9.1%
2023	May	1.0%	0.3%	0.1%	1.3%	4.8%	0.7%	0.1%	5.6%
2023	Jun	0.5%	0.2%	0.0%	0.7%	2.5%	0.5%	0.0%	3.0%
2023	Jul	1.4%	0.9%	0.0%	2.4%	8.6%	1.6%	0.0%	10.3%
2023	Aug	0.9%	1.5%	0.0%	2.4%	5.1%	2.3%	0.0%	7.4%
2023	Sep	0.4%	0.8%	0.1%	1.3%	5.1%	1.4%	0.1%	6.6%
2023	Oct	1.4%	0.3%	0.0%	1.7%	6.9%	0.8%	0.0%	7.7%
2023	Nov	4.0%	0.6%	0.0%	4.5%	11.4%	1.4%	0.0%	12.8%
2023	Dec	1.4%	0.7%	0.0%	2.2%	7.2%	2.0%	0.0%	9.3%
2023	Jan-May	1.4%	0.4%	0.1%	1.8%	5.0%	1.1%	0.1%	6.2%
2023		1.4%	0.6%	0.0%	2.0%	6.0%	1.3%	0.0%	7.4%
2024	Jan	0.7%	0.6%	0.0%	1.3%	3.5%	1.1%	0.0%	4.7%
2024	Feb	0.4%	0.1%	0.1%	0.5%	2.2%	0.1%	0.1%	2.4%
2024	Mar	0.7%	0.2%	1.2%	2.1%	4.1%	0.8%	1.3%	6.2%
2024	Apr	1.5%	0.2%	0.2%	1.9%	6.5%	0.7%	0.1%	7.3%
2024	May	0.7%	0.2%	0.2%	1.0%	5.2%	0.6%	0.1%	5.9%
2024	Jan-May	0.8%	0.3%	0.3%	1.4%	4.3%	0.7%	0.3%	5.3%



Fast Start Impacts: Zone Average Differences

Zone	2024 Jan - May							
	Day-Ahead				Real-Time			
	Average DLMP	Average PLMP	Difference	Percent Difference	Average DLMP	Average PLMP	Difference	Percent Difference
ACEC	\$24.41	\$24.44	\$0.03	0.1%	\$22.52	\$23.95	\$1.43	6.3%
AEP	\$30.57	\$30.61	\$0.04	0.1%	\$27.80	\$29.96	\$2.17	7.8%
APS	\$31.63	\$31.67	\$0.04	0.1%	\$28.56	\$30.82	\$2.27	7.9%
ATSI	\$30.46	\$30.50	\$0.04	0.1%	\$27.85	\$29.96	\$2.12	7.6%
BGE	\$37.27	\$37.31	\$0.04	0.1%	\$33.21	\$35.95	\$2.75	8.3%
COMED	\$25.89	\$25.94	\$0.05	0.2%	\$23.30	\$25.17	\$1.87	8.0%
DAY	\$31.98	\$32.02	\$0.04	0.1%	\$28.99	\$31.26	\$2.27	7.8%
DUKE	\$31.24	\$31.28	\$0.04	0.1%	\$28.33	\$30.53	\$2.20	7.8%
DOM	\$35.71	\$35.74	\$0.03	0.1%	\$33.16	\$35.63	\$2.47	7.4%
DPL	\$26.60	\$26.62	\$0.02	0.1%	\$24.34	\$26.56	\$2.22	9.1%
DUQ	\$30.43	\$30.46	\$0.04	0.1%	\$28.07	\$30.19	\$2.13	7.6%
EKPC	\$30.50	\$30.54	\$0.04	0.1%	\$28.06	\$30.23	\$2.17	7.7%
JCPLC	\$25.11	\$25.14	\$0.03	0.1%	\$23.15	\$24.67	\$1.51	6.5%
MEC	\$27.74	\$27.77	\$0.03	0.1%	\$25.01	\$26.86	\$1.85	7.4%
OVEC	\$29.91	\$29.95	\$0.04	0.1%	\$27.24	\$29.36	\$2.12	7.8%
PECO	\$23.43	\$23.46	\$0.03	0.1%	\$21.72	\$23.05	\$1.33	6.1%
PE	\$30.60	\$30.62	\$0.02	0.1%	\$27.89	\$30.00	\$2.11	7.6%
PEPCO	\$35.64	\$35.67	\$0.04	0.1%	\$31.85	\$34.41	\$2.56	8.0%
PPL	\$25.35	\$25.39	\$0.03	0.1%	\$23.17	\$24.81	\$1.64	7.1%
PSEG	\$25.33	\$25.36	\$0.03	0.1%	\$23.51	\$25.04	\$1.53	6.5%
REC	\$27.22	\$27.25	\$0.03	0.1%	\$25.21	\$26.84	\$1.62	6.4%

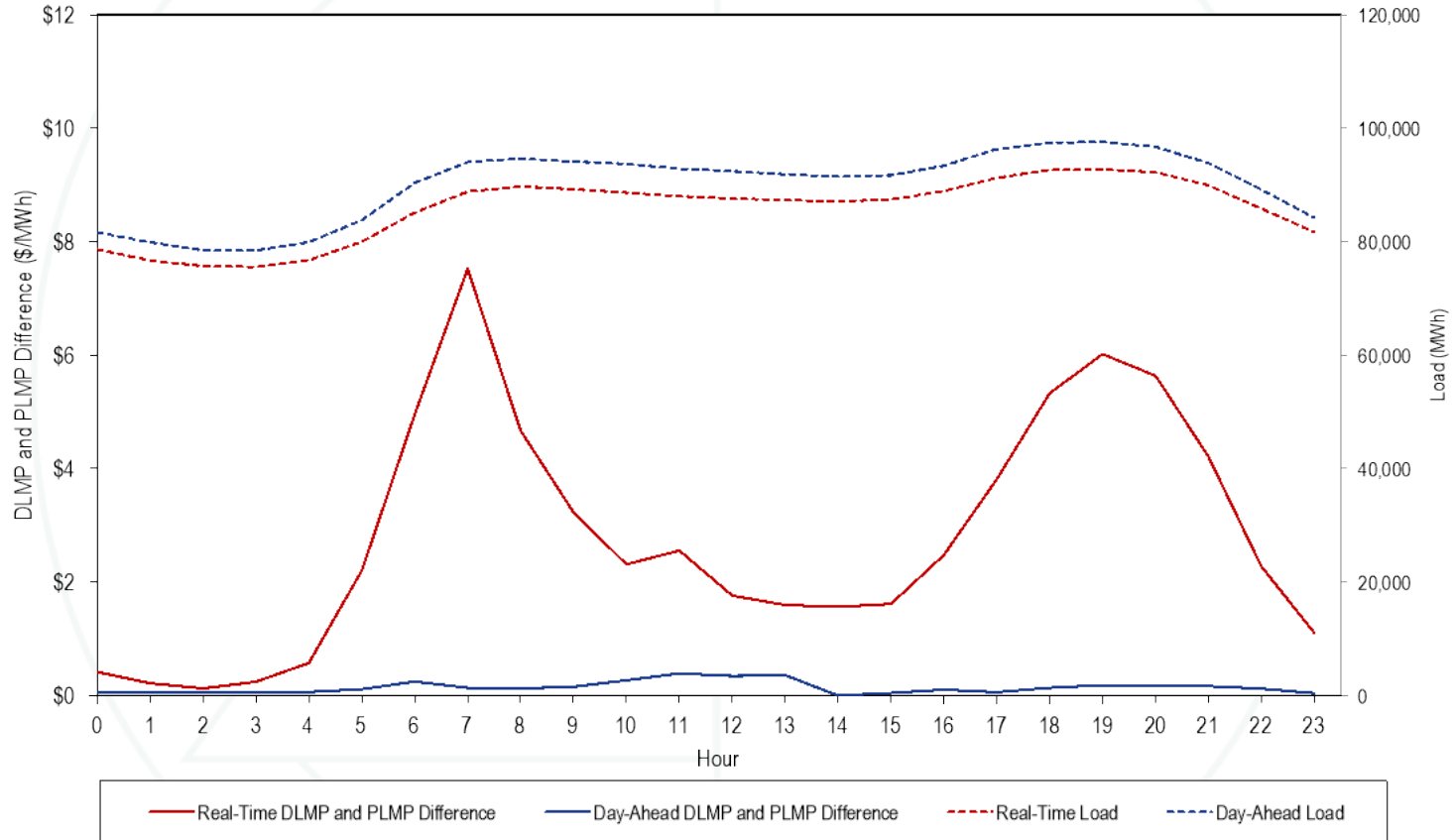
Fast Start Impacts: Hub Average Differences

Hub	2024 Jan - May							
	Average DLMP	Day-Ahead			Average DLMP	Real-Time		
		Average PLMP	Difference	Percent Difference		Average PLMP	Difference	Percent Difference
AEP GEN HUB	\$29.61	\$29.63	\$0.02	0.1%	\$26.84	\$28.95	\$2.10	7.8%
AEP-DAYTON HUB	\$30.27	\$30.29	\$0.02	0.1%	\$27.38	\$29.52	\$2.14	7.8%
ATSI GEN HUB	\$30.07	\$30.09	\$0.02	0.1%	\$27.32	\$29.41	\$2.09	7.6%
CHICAGO GEN HUB	\$25.45	\$25.51	\$0.06	0.2%	\$22.77	\$24.62	\$1.85	8.1%
CHICAGO HUB	\$26.06	\$26.07	\$0.01	0.0%	\$23.39	\$25.26	\$1.87	8.0%
DOMINION HUB	\$33.41	\$33.43	\$0.02	0.0%	\$30.40	\$32.75	\$2.36	7.8%
EASTERN HUB	\$27.10	\$27.10	\$0.01	0.0%	\$24.63	\$26.88	\$2.25	9.1%
N ILLINOIS HUB	\$25.81	\$25.88	\$0.07	0.3%	\$23.30	\$25.18	\$1.88	8.0%
NEW JERSEY HUB	\$25.09	\$25.10	\$0.02	0.1%	\$23.20	\$24.70	\$1.50	6.5%
OHIO HUB	\$30.22	\$30.24	\$0.02	0.1%	\$27.33	\$29.46	\$2.13	7.8%
WEST INT HUB	\$31.38	\$31.40	\$0.02	0.1%	\$28.49	\$30.70	\$2.21	7.7%
WESTERN HUB	\$32.70	\$32.71	\$0.01	0.0%	\$29.34	\$31.68	\$2.34	8.0%

Zonal Real-Time PLMP-DLMP Difference Frequency

Zone	2024 Jan - May										
	< (\$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%	0.0%	0.8%	50.1%	39.9%	6.0%	3.0%	0.1%	0.0%	0.0%	
ACEC	0.0%	0.0%	5.2%	50.4%	38.2%	3.9%	2.2%	0.1%	0.0%	0.0%	
AEP	0.0%	0.0%	1.5%	50.3%	38.3%	6.2%	3.5%	0.1%	0.0%	0.0%	
APS	0.0%	0.0%	1.0%	50.2%	38.7%	6.1%	3.8%	0.1%	0.0%	0.0%	
ATSI	0.0%	0.1%	2.1%	50.1%	38.2%	5.9%	3.4%	0.1%	0.0%	0.0%	
BGE	0.0%	0.1%	1.8%	50.1%	36.1%	6.5%	4.9%	0.5%	0.0%	0.0%	
COMED	0.0%	0.0%	3.9%	50.8%	37.3%	5.1%	2.7%	0.1%	0.0%	0.0%	
DAY	0.0%	0.0%	1.6%	50.3%	37.7%	6.3%	3.9%	0.2%	0.0%	0.0%	
DUKE	0.0%	0.0%	1.6%	50.3%	38.2%	6.2%	3.6%	0.1%	0.0%	0.0%	
DOM	0.0%	0.1%	1.7%	50.2%	36.9%	6.4%	4.4%	0.3%	0.0%	0.0%	
DPL	0.0%	0.2%	8.5%	50.3%	34.7%	3.8%	2.3%	0.1%	0.0%	0.0%	
DUQ	0.1%	0.1%	2.0%	50.2%	38.4%	5.8%	3.3%	0.1%	0.0%	0.0%	
EKPC	0.0%	0.0%	1.5%	50.2%	38.4%	6.2%	3.4%	0.1%	0.0%	0.0%	
JCPLC	0.0%	0.0%	2.2%	50.3%	41.3%	3.9%	2.2%	0.1%	0.0%	0.0%	
MEC	0.0%	0.2%	2.5%	50.2%	39.3%	5.0%	2.7%	0.1%	0.0%	0.0%	
OVEC	0.0%	0.1%	1.7%	50.3%	38.3%	6.1%	3.4%	0.1%	0.0%	0.0%	
PECO	0.0%	0.1%	7.5%	50.3%	36.0%	3.7%	2.3%	0.1%	0.0%	0.0%	
PE	0.0%	0.0%	1.1%	50.1%	39.7%	5.9%	3.1%	0.1%	0.0%	0.0%	
PEPCO	0.0%	0.1%	1.6%	50.2%	36.6%	6.5%	4.6%	0.4%	0.0%	0.0%	
PPL	0.0%	0.1%	2.7%	50.2%	40.5%	4.3%	2.2%	0.1%	0.0%	0.0%	
PSEG	0.0%	0.0%	2.2%	50.3%	41.2%	3.9%	2.3%	0.1%	0.0%	0.0%	
REC	0.0%	0.1%	1.9%	50.1%	41.4%	4.1%	2.4%	0.1%	0.0%	0.0%	

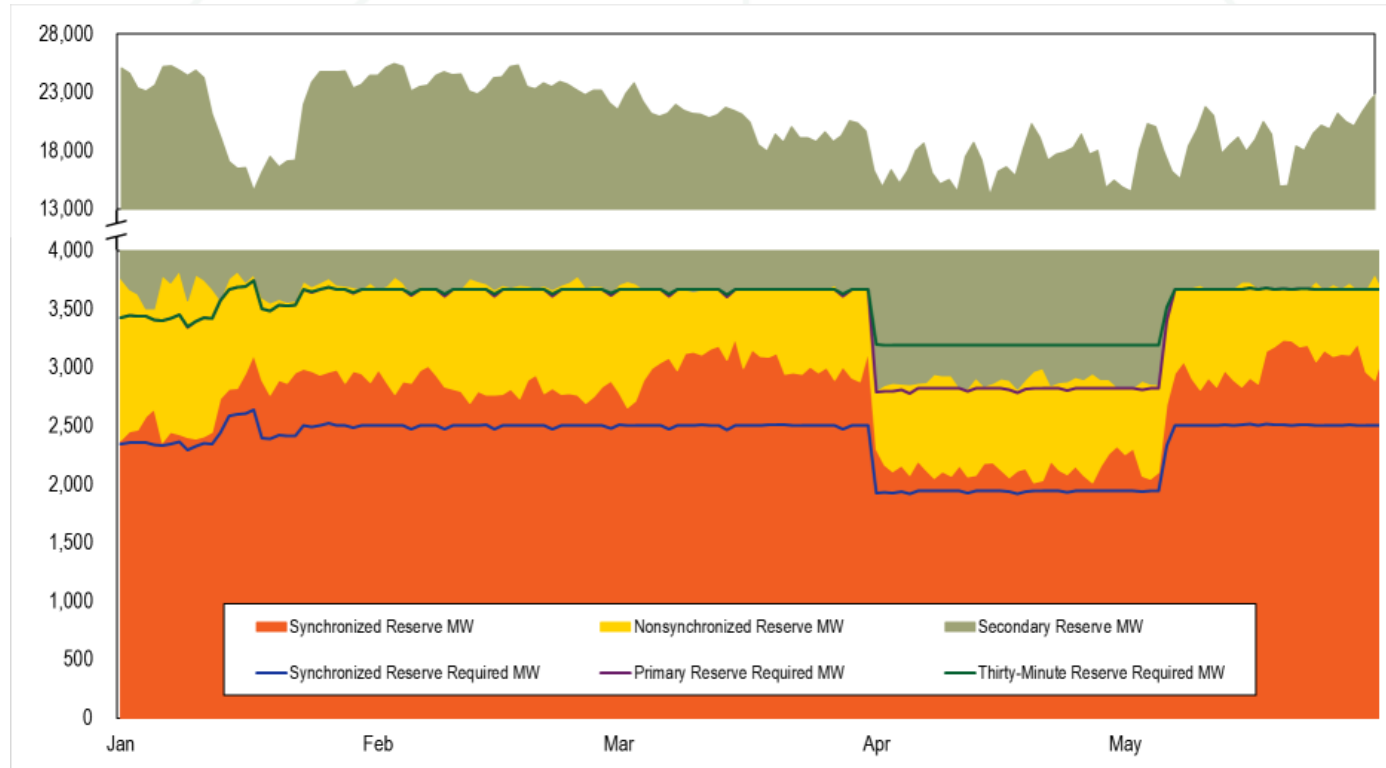
Hourly Average Load and LMP Difference



Real-Time Load-Weighted Average LMP

	2023				2024			
	Off Peak	On Peak	Difference	Percent Difference	Off Peak	On Peak	Difference	Percent Difference
Jan	\$33.20	\$38.53	\$5.32	16.0%	\$38.50	\$47.10	\$8.60	22.3%
Feb	\$23.45	\$28.67	\$5.22	22.3%	\$24.49	\$25.23	\$0.74	3.0%
Mar	\$26.96	\$29.78	\$2.82	10.5%	\$21.64	\$24.79	\$3.15	14.6%
Apr	\$24.08	\$35.00	\$10.92	45.4%	\$23.99	\$30.03	\$6.04	25.2%
May	\$22.65	\$33.84	\$11.19	49.4%	\$28.99	\$42.74	\$13.75	47.4%
Jun	\$21.64	\$32.16	\$10.52	48.6%				
Jul	\$26.86	\$48.04	\$21.18	78.9%				
Aug	\$26.60	\$35.30	\$8.70	32.7%				
Sep	\$24.76	\$38.65	\$13.88	56.1%				
Oct	\$26.41	\$42.58	\$16.17	61.2%				
Nov	\$29.45	\$36.48	\$7.02	23.9%				
Dec	\$23.70	\$32.88	\$9.18	38.7%				

Real-Time Reserves and Requirements



Decreased requirements in April are due to a smaller unit being the contingency.

Day-Ahead & Real-Time RTO Reserve MW

Year	Month	Synchronized Reserve MW		Nonsynchronized Reserve MW		Total Primary Reserve MW		Secondary Reserve MW		Total Thirty-Minute Reserve MW	
		DA	RT	DA	RT	DA	RT	DA	RT	DA	RT
2024	Jan	2,757	2,732	1,229	950	3,987	3,682	15,051	18,087	19,038	21,769
2024	Feb	2,769	2,827	1,215	868	3,983	3,694	15,323	20,219	19,306	23,914
2024	Mar	2,913	3,007	773	663	3,686	3,669	13,423	16,852	17,108	20,521
2024	Apr	2,880	2,130	867	753	3,747	2,884	11,066	14,035	14,813	16,919
2024	May	2,974	2,874	795	674	3,769	3,549	11,877	15,238	15,645	18,787

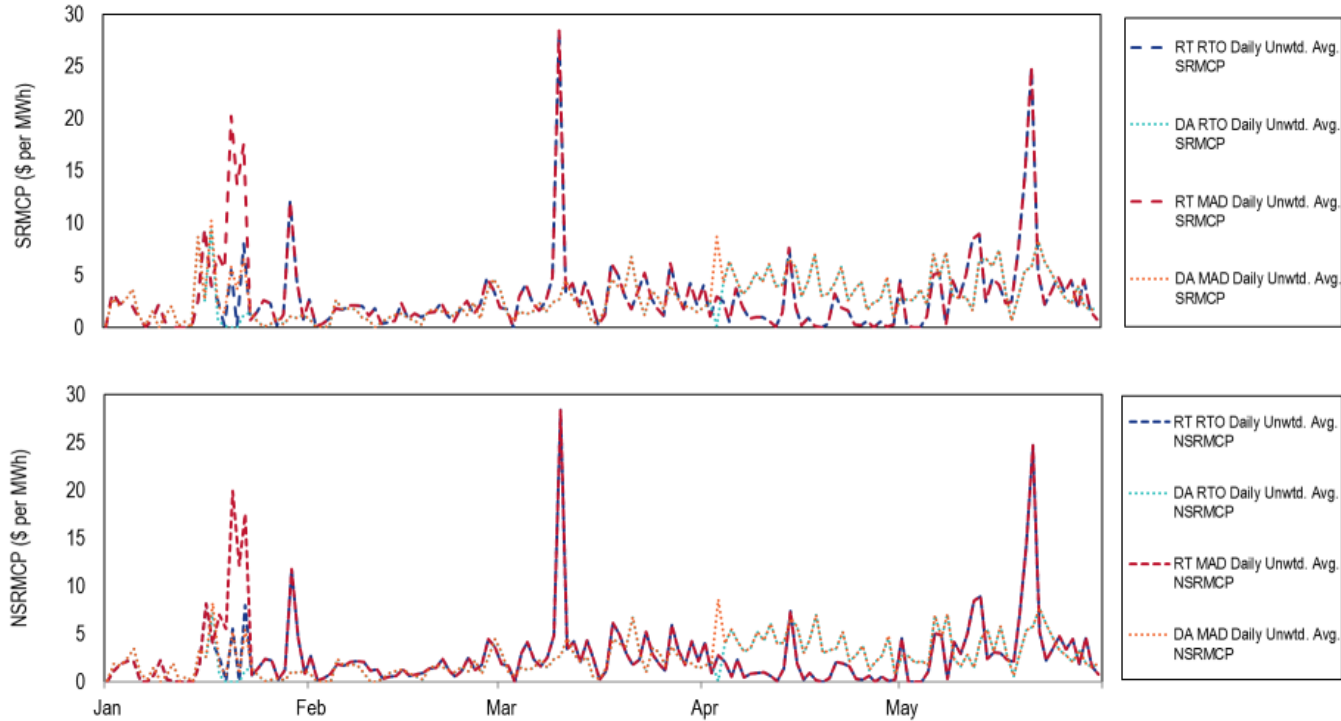
Day-Ahead & Real-Time MAD Reserve MW

Year	Month	Synchronized Reserve MW		Nonsynchronized Reserve MW		Total Primary Reserve MW		Secondary Reserve MW		Total Thirty-Minute Reserve MW	
		DA	RT	DA	RT	DA	RT	DA	RT	DA	RT
2024	Jan	1,995	2,008	936	754	2,932	2,762	NA	NA	NA	NA
2024	Feb	1,959	1,992	932	707	2,891	2,699	NA	NA	NA	NA
2024	Mar	1,999	2,024	622	578	2,621	2,602	NA	NA	NA	NA
2024	Apr	1,770	1,724	645	633	2,414	2,357	NA	NA	NA	NA
2024	May	1,985	1,968	683	606	2,668	2,574	NA	NA	NA	NA

Reserve Settlements by Month

Product	Year	Month	Total Day-Ahead Credits	Total Balancing MCP Credits	Total LOC Credits	Total Shortfall Charges	Total Credits
Synchronized Reserve	2024	Jan	\$4,327,646	(\$426,107)	\$1,137,709	\$0	\$5,039,248
	2024	Feb	\$2,894,089	(\$98)	\$535,088	\$19,515	\$3,409,565
	2024	Mar	\$5,929,373	(\$301,997)	\$1,073,709	\$0	\$6,701,085
	2024	Apr	\$9,018,149	(\$907,004)	\$594,642	\$0	\$8,705,787
	2024	May	\$9,477,497	(\$169,439)	\$1,259,217	\$0	\$10,567,275
Nonsynchronized Reserve	2024	Jan	\$549,761	(\$805,570)	\$246,452	NA	(\$9,357)
	2024	Feb	\$406,207	(\$224,889)	\$144,292	NA	\$325,610
	2024	Mar	\$906,413	(\$487,638)	\$265,668	NA	\$684,443
	2024	Apr	\$1,854,995	(\$145,415)	\$81,949	NA	\$1,791,529
	2024	May	\$1,236,498	(\$653,931)	\$575,091	NA	\$1,157,657
Secondary Reserve	2024	Jan	\$0	\$0	\$159,892	\$0	\$159,892
	2024	Feb	\$0	\$0	\$98,365	\$0	\$98,365
	2024	Mar	\$0	\$0	\$130,711	\$0	\$130,711
	2024	Apr	\$0	\$0	\$96,599	\$0	\$96,599
	2024	May	\$0	\$0	\$291,530	\$0	\$291,530

Reserve Prices



- Higher prices during winter storms and during intervals of shortage in March and May.

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