

Market Monitor Report

MC

09.25.2025

IMM

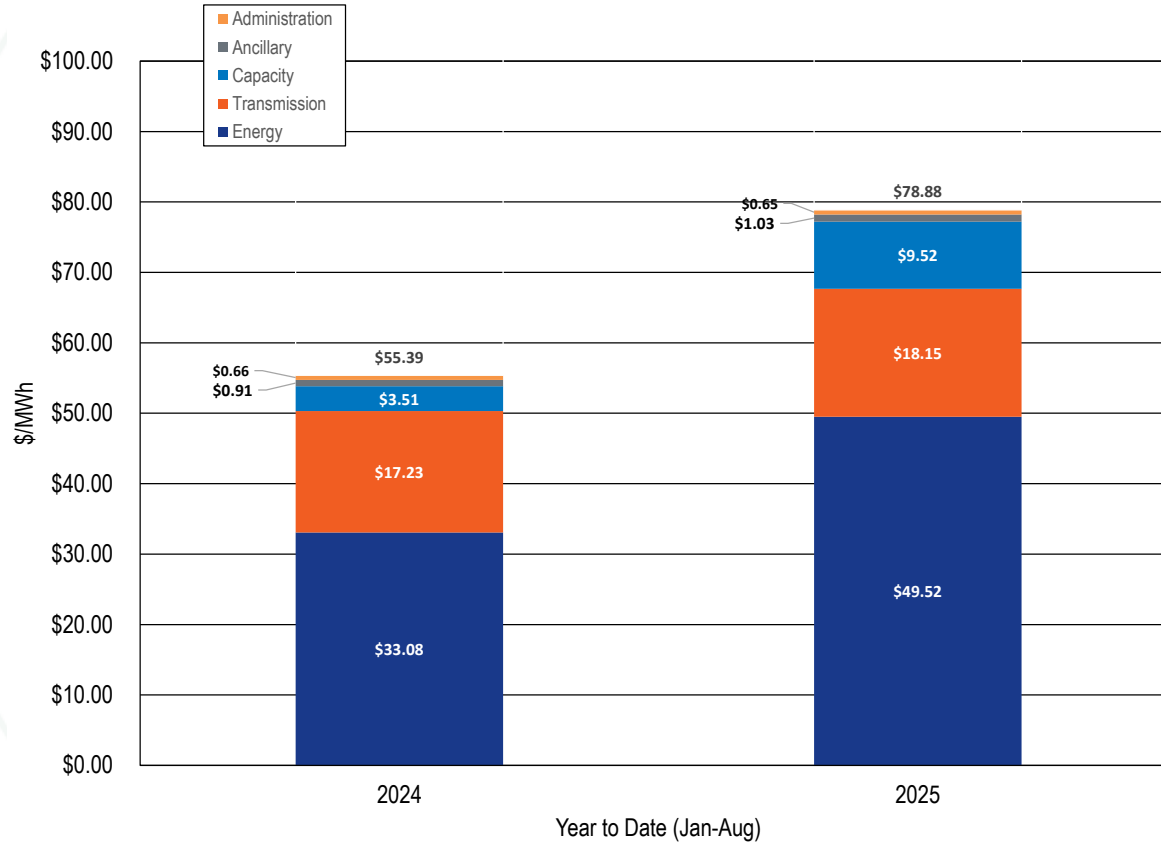


Monitoring Analytics

YEAR TO DATE UPDATE



Total Cost of Wholesale Power



Total Cost of Wholesale Power – 2024/2025 YTD

Category	2024 (Jan-Aug) \$/MWh	2024 (Jan-Aug) (\$ Millions)	2024 (Jan-Aug) Percent of Total	2025 (Jan-Aug) \$/MWh	2025 (Jan-Aug) (\$ Millions)	2025 (Jan-Aug) Percent of Total	Percent Change
Energy	\$33.08	\$17,728	59.7%	\$49.52	\$27,247	62.8%	49.7%
Day Ahead Energy	\$33.80	\$18,116	61.0%	\$50.30	\$27,678	63.8%	48.8%
Balancing Energy	\$0.63	\$338	1.1%	\$1.08	\$594	1.4%	71.5%
ARR Credits	(\$1.23)	(\$657)	(2.2%)	(\$1.77)	(\$972)	(2.2%)	44.0%
Self Scheduled FTR Credits	(\$0.53)	(\$285)	(1.0%)	(\$1.30)	(\$717)	(1.7%)	144.9%
Balancing Congestion	\$0.41	\$220	0.7%	\$0.62	\$343	0.8%	52.3%
Emergency Energy	\$0.00	\$0	0.0%	\$0.01	\$6	0.0%	0.0%
Inadvertent Energy	\$0.02	\$9	0.0%	(\$0.01)	(\$5)	(0.0%)	(158.9%)
Load Response - Energy	\$0.01	\$6	0.0%	\$0.04	\$20	0.0%	239.8%
Emergency Load Response	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Energy Uplift (Operating Reserves)	\$0.38	\$206	0.7%	\$1.17	\$643	1.5%	204.0%
Marginal Loss Surplus Allocation	(\$0.47)	(\$254)	(0.9%)	(\$0.71)	(\$391)	(0.9%)	49.8%
Market to Market Payments	\$0.06	\$31	0.1%	\$0.09	\$47	0.1%	45.8%
Capacity	\$3.51	\$1,883	6.3%	\$9.52	\$5,240	12.1%	171.1%
Capacity (Capacity Market and FRR)	\$3.41	\$1,826	6.2%	\$9.43	\$5,190	12.0%	176.8%
Capacity Part V (RMR)	\$0.09	\$48	0.2%	\$0.06	\$32	0.1%	(35.5%)
Load Response - Capacity	\$0.02	\$8	0.0%	\$0.03	\$18	0.0%	119.5%
Transmission	\$17.23	\$9,236	31.1%	\$18.15	\$9,989	23.0%	5.3%
Transmission Service Charges	\$14.63	\$7,839	26.4%	\$15.41	\$8,481	19.5%	5.4%
Transmission Enhancement Cost Recovery	\$2.51	\$1,348	4.5%	\$2.65	\$1,456	3.4%	5.2%
Transmission Owner (Schedule 1A)	\$0.09	\$50	0.2%	\$0.10	\$52	0.1%	2.7%
Transmission Seams Elimination Cost Assignment (SECA)	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Transmission Facility Charges	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Ancillary	\$0.91	\$487	1.6%	\$1.03	\$568	1.3%	13.7%
Reactive	\$0.48	\$255	0.9%	\$0.45	\$246	0.6%	(6.1%)
Regulation	\$0.23	\$122	0.4%	\$0.30	\$164	0.4%	30.6%
Black Start	\$0.09	\$49	0.2%	\$0.07	\$36	0.1%	(28.4%)
Synchronized Reserves	\$0.10	\$53	0.2%	\$0.19	\$107	0.2%	98.0%
Secondary Reserves	\$0.00	\$2	0.0%	\$0.01	\$6	0.0%	265.9%
Non-Synchronized Reserves	\$0.01	\$7	0.0%	\$0.02	\$10	0.0%	44.7%
Day Ahead Scheduling Reserve (DASR)	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Administration	\$0.66	\$352	1.2%	\$0.65	\$360	0.8%	(0.4%)
PJM Administrative Fees	\$0.61	\$325	1.1%	\$0.61	\$334	0.8%	0.1%
NERC/RFC	\$0.04	\$23	0.1%	\$0.04	\$23	0.1%	1.0%
RTO Startup and Expansion	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Other	\$0.01	\$4	0.0%	\$0.00	\$2	0.0%	(43.5%)
Total Price	\$55.39	\$29,685	100.0%	\$78.88	\$43,405	100.0%	42.4%
Total Day Ahead Load	529,686			542,511			2.4%
Total Balancing Load	(6,239)			(7,763)			24.4%
Total Real Time Load	535,925			550,274			2.7%
Total Cost (\$ Billions)	\$29.69			\$43.40			46.2%

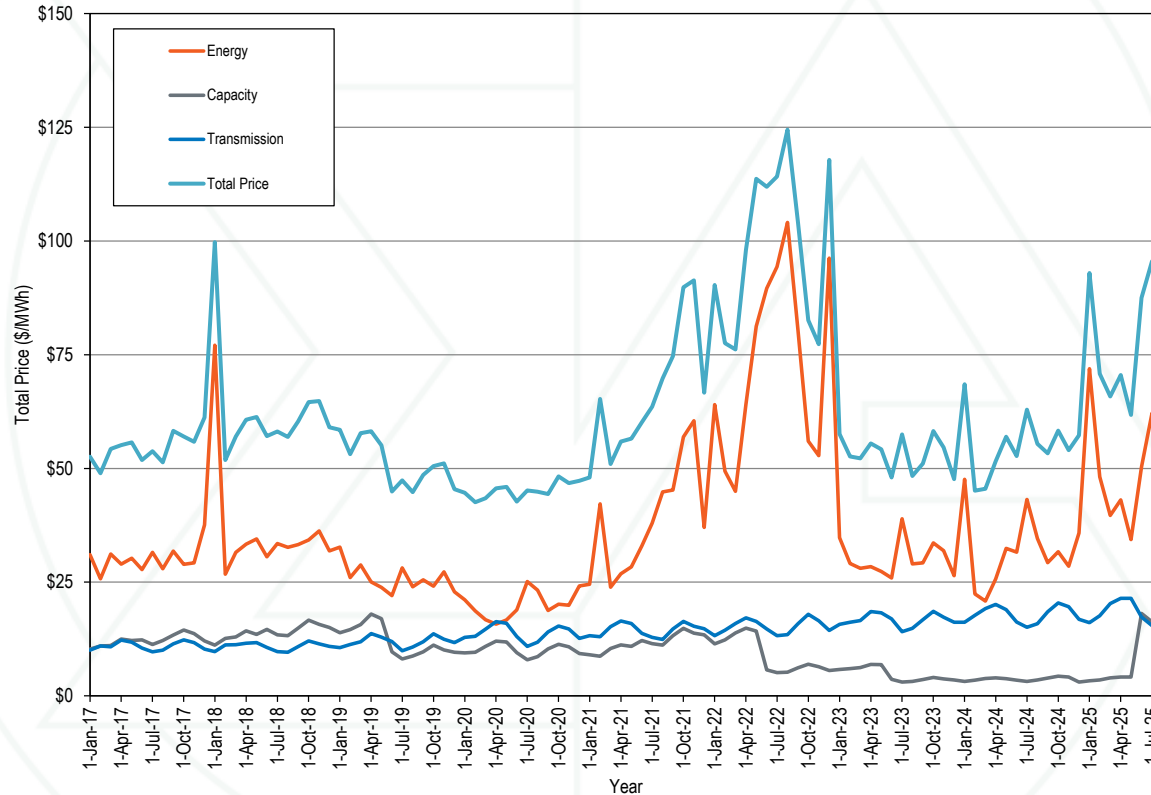
Total Cost of Wholesale Power – 2025 Monthly

- **Monthly cost of capacity exceeded monthly cost of transmission in June, July and August, 2025.**
- **First time since transmission costs first exceeded capacity costs in 2019.**
- **Result of higher capacity market prices for 2025/2026 Delivery Year.**

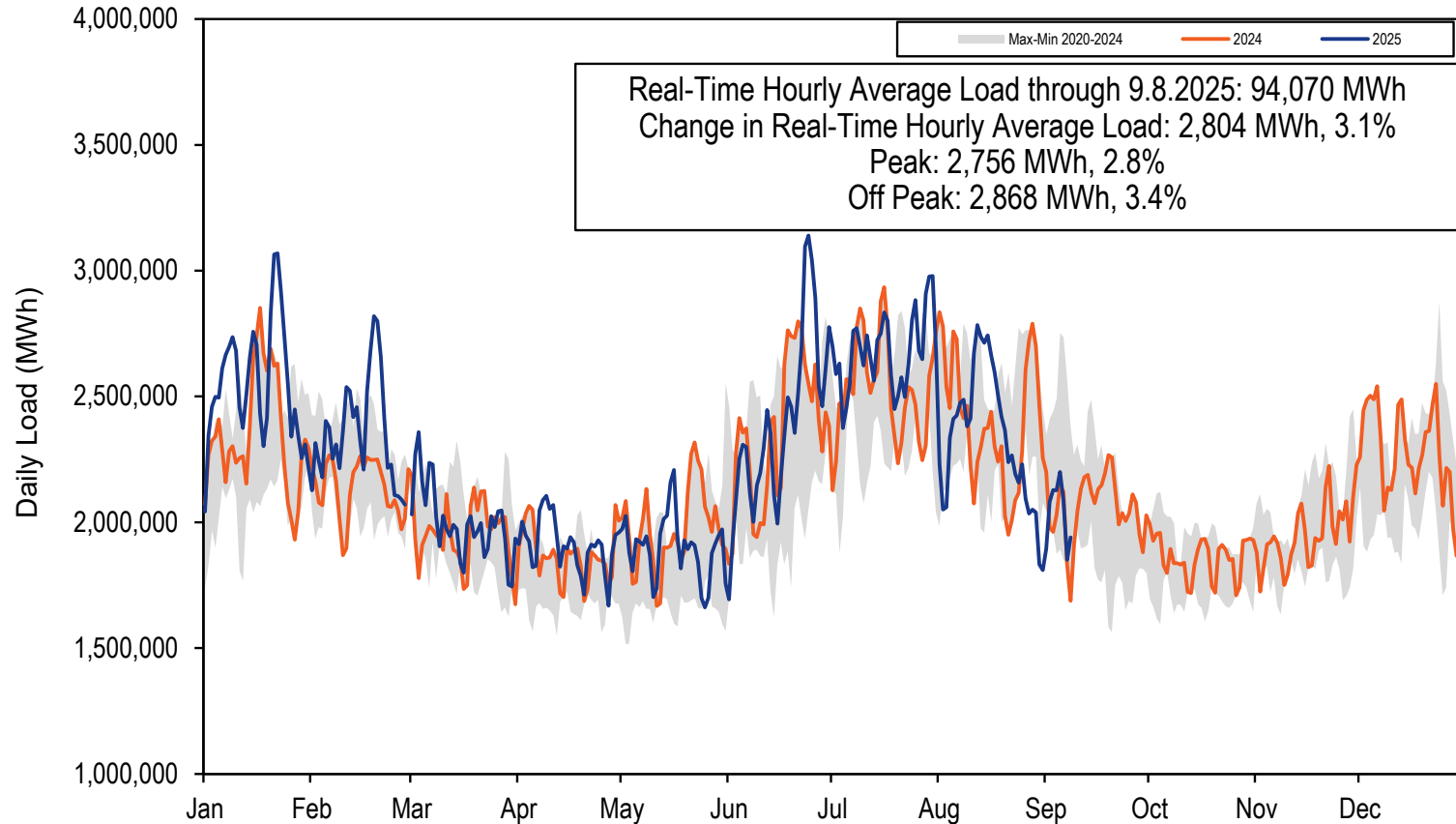
Total Cost of Wholesale Power – 2025 Monthly

Category	Jan \$/MWh	Feb \$/MWh	Mar \$/MWh	Apr \$/MWh	May \$/MWh	Jun \$/MWh	Jul \$/MWh	Aug \$/MWh
Energy	\$71.90	\$48.15	\$39.66	\$43.09	\$34.35	\$50.32	\$62.14	\$36.96
Day Ahead Energy	\$66.89	\$48.26	\$40.37	\$43.74	\$36.98	\$52.00	\$65.90	\$39.02
Balancing Energy	\$1.45	\$1.08	\$0.66	\$0.94	\$0.62	\$2.01	\$1.19	\$0.47
ARR Credits	(\$1.04)	(\$1.22)	(\$1.29)	(\$1.39)	(\$1.34)	(\$2.66)	(\$2.56)	(\$2.31)
Self Scheduled FTR Credits	(\$1.29)	(\$0.32)	(\$1.07)	(\$1.04)	(\$2.16)	(\$1.71)	(\$2.24)	(\$0.44)
Balancing Congestion	\$1.70	\$0.33	\$0.72	\$0.42	\$0.27	\$0.86	\$0.20	\$0.35
Emergency Energy	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.08	\$0.00	\$0.00
Inadvertent Energy	(\$0.01)	(\$0.01)	(\$0.02)	(\$0.02)	(\$0.03)	(\$0.01)	\$0.00	\$0.01
Load Response - Energy	\$0.01	\$0.00	\$0.09	\$0.04	\$0.10	\$0.00	\$0.04	\$0.03
Emergency Load Response	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.00	\$0.00	\$0.00
Energy Uplift (Operating Reserves)	\$5.07	\$0.53	\$0.56	\$0.71	\$0.33	\$0.52	\$0.58	\$0.37
Marginal Loss Surplus Allocation	(\$1.06)	(\$0.59)	(\$0.54)	(\$0.51)	(\$0.50)	(\$0.80)	(\$0.98)	(\$0.52)
Market to Market Payments	\$0.19	\$0.09	\$0.17	\$0.20	\$0.07	\$0.01	\$0.02	(\$0.02)
Capacity	\$3.33	\$3.49	\$3.96	\$4.14	\$4.16	\$18.12	\$16.30	\$18.85
Capacity (Capacity Market and FRR)	\$3.11	\$3.36	\$3.96	\$4.14	\$4.16	\$18.15	\$16.22	\$18.60
Capacity Part V (RMR)	\$0.23	\$0.13	\$0.00	\$0.00	\$0.00	(\$0.02)	\$0.08	\$0.00
Load Response - Capacity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.25
Transmission	\$16.11	\$17.60	\$20.28	\$21.43	\$21.44	\$17.33	\$15.47	\$17.69
Transmission Service Charges	\$13.73	\$14.74	\$17.24	\$18.16	\$18.24	\$14.70	\$13.18	\$15.08
Transmission Enhancement Cost Recovery	\$2.29	\$2.77	\$2.94	\$3.18	\$3.10	\$2.53	\$2.19	\$2.51
Transmission Owner (Schedule 1A)	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.10	\$0.10	\$0.10
Transmission Seams Elimination Cost Assignment (SECA)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Transmission Facility Charges	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ancillary	\$1.01	\$0.90	\$1.19	\$1.16	\$1.06	\$1.12	\$1.03	\$0.83
Reactive	\$0.39	\$0.47	\$0.50	\$0.54	\$0.52	\$0.42	\$0.37	\$0.42
Regulation	\$0.40	\$0.25	\$0.31	\$0.26	\$0.24	\$0.41	\$0.27	\$0.21
Black Start	\$0.07	\$0.08	\$0.09	\$0.08	\$0.08	\$0.05	\$0.04	\$0.05
Synchronized Reserves	\$0.14	\$0.09	\$0.25	\$0.25	\$0.19	\$0.21	\$0.30	\$0.12
Secondary Reserves	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.02	\$0.02	\$0.03
Non-Synchronized Reserves	\$0.01	\$0.01	\$0.03	\$0.03	\$0.02	\$0.00	\$0.03	\$0.01
Day Ahead Scheduling Reserve (DASR)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Administration	\$0.60	\$0.65	\$0.75	\$0.73	\$0.75	\$0.61	\$0.58	\$0.63
PJM Administrative Fees	\$0.56	\$0.61	\$0.70	\$0.68	\$0.70	\$0.56	\$0.53	\$0.58
NERC/RFC	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
RTO Startup and Expansion	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Other	\$0.00	\$0.00	\$0.00	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00
Total Price	\$92.96	\$70.80	\$65.82	\$70.55	\$61.77	\$87.49	\$95.52	\$74.95
Total Day Ahead Load	77,617	64,784	61,400	56,635	58,352	69,898	81,672	72,152
Total Balancing Load	(1,292)	(1,181)	(561)	(697)	(501)	(1,923)	(1,342)	(266)
Total Real Time Load	78,909	65,965	61,961	57,332	58,853	71,822	83,014	72,418
Total Cost (\$ Billions)	\$7.34	\$4.67	\$4.08	\$4.04	\$3.64	\$6.28	\$7.93	\$5.43

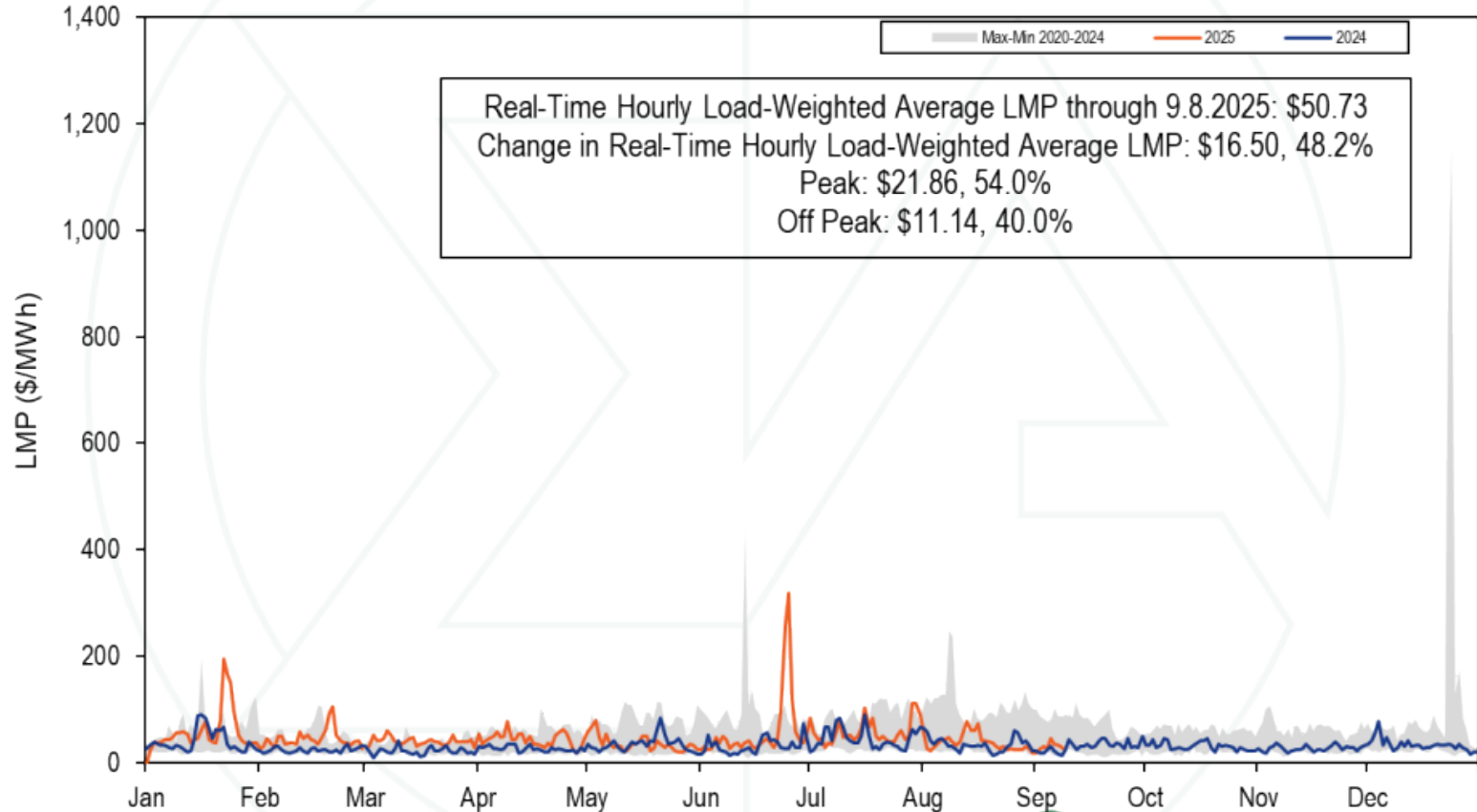
Total Cost of Wholesale Power – 2025 Monthly



2025 YTD PJM Real-Time Daily Load



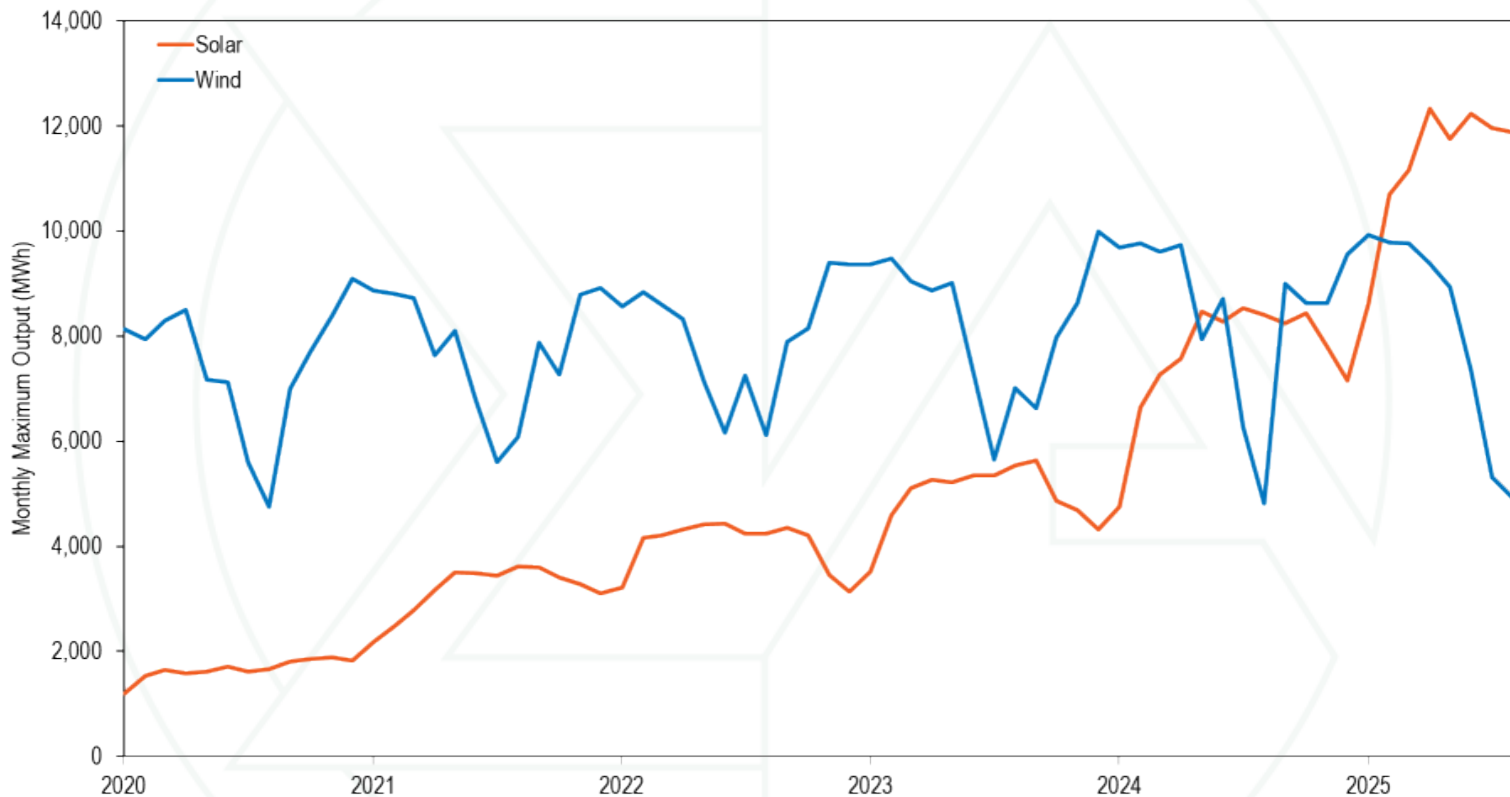
2025 YTD PJM Real-Time Daily LMP



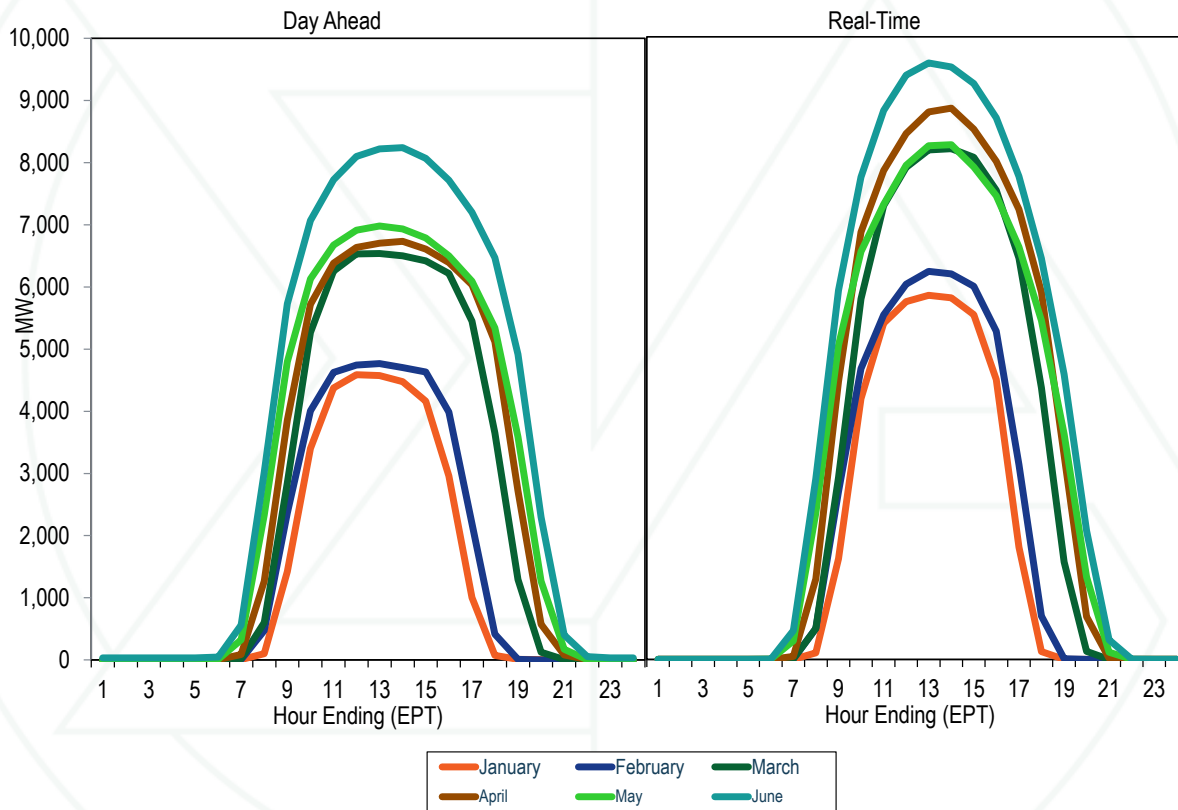
Annual Maximum Hourly Solar and Wind Output

Year	Solar Maximum Hourly Output				Wind Maximum Hourly Output			
	Maximum Hourly MWh	Change	Percent Change	Solar Percent of All Generation For The Year	Maximum Hourly MWh	Change	Percent Change	Wind Percent of All Generation For The Year
2020	1,879			0.4%	9,095			3.3%
2021	3,617	1,739	92.5%	0.9%	8,911	(184)	(2.0%)	3.3%
2022	4,429	812	22.4%	1.1%	9,402	491	5.5%	3.8%
2023	5,630	1,201	27.1%	1.4%	9,993	592	6.3%	3.5%
2024	8,532	2,901	51.5%	2.1%	9,768	(226)	(2.3%)	3.7%
2025	12,325	3,794	44.5%	3.1%	9,929	161	1.7%	3.6%

Monthly Maximum Solar and Wind Hourly Output



Average hourly solar MW: DA and RT



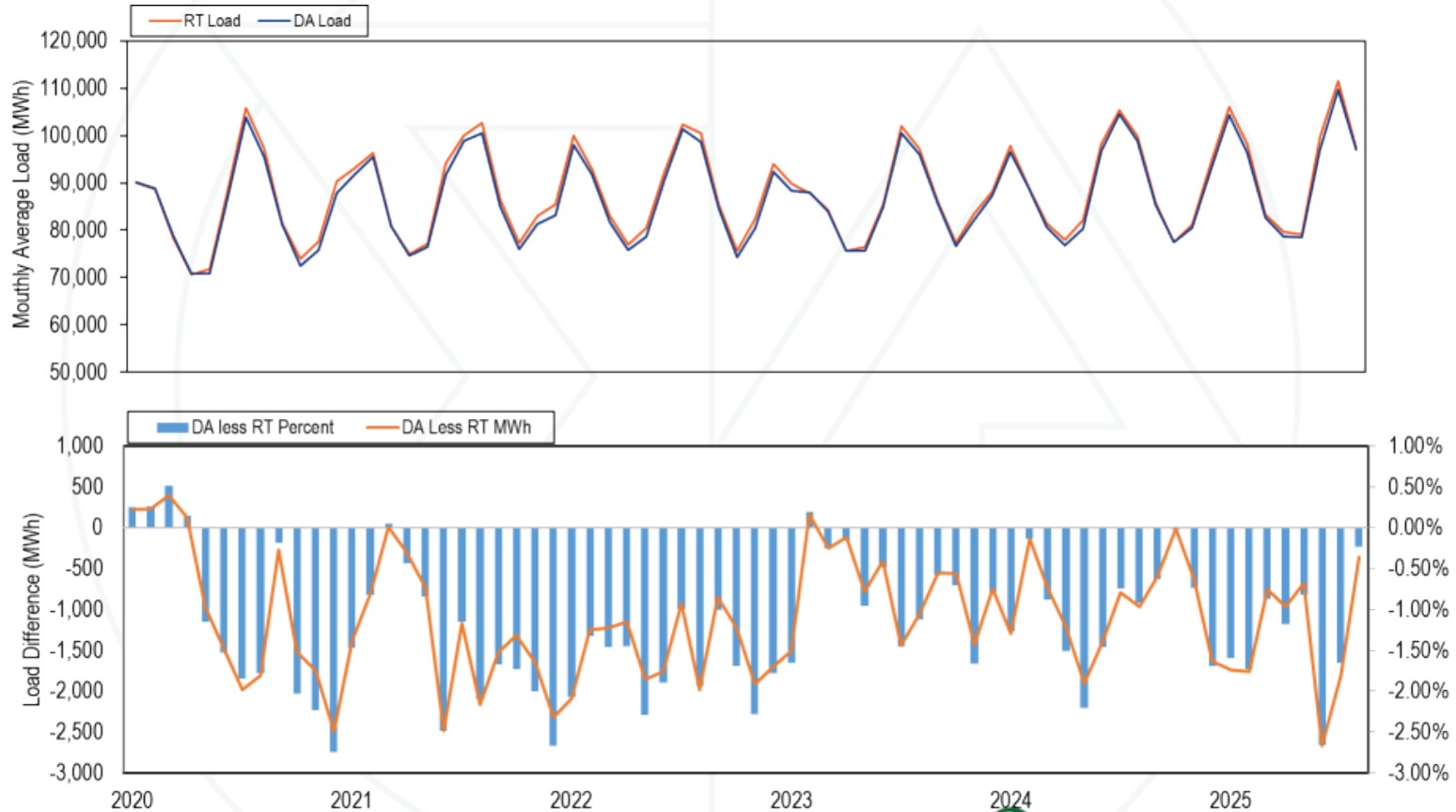
Average hourly wind MW: DA and RT



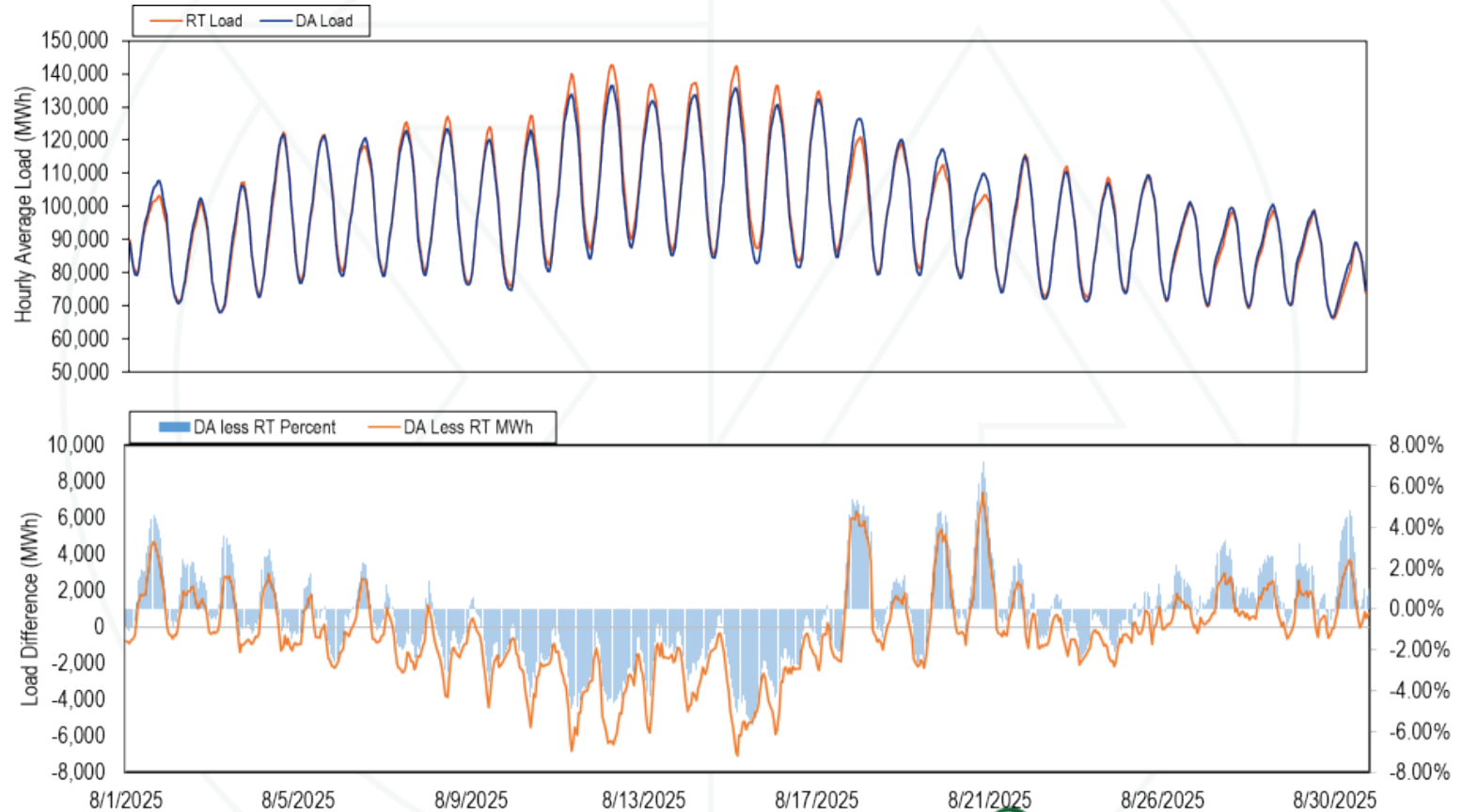
Real-Time Load-Weighted Average LMP

	2024				2025			
	Off Peak	On Peak	Difference	Percent Difference	Off Peak	On Peak	Difference	Percent Difference
Jan	\$38.50	\$47.10	\$8.60	22.3%	\$55.29	\$70.54	\$15.25	27.6%
Feb	\$24.49	\$25.23	\$0.74	3.0%	\$43.75	\$54.12	\$10.37	23.7%
Mar	\$21.64	\$24.79	\$3.15	14.6%	\$38.89	\$45.68	\$6.79	17.5%
Apr	\$23.99	\$30.03	\$6.04	25.2%	\$38.15	\$52.08	\$13.93	36.5%
May	\$28.99	\$42.74	\$13.75	47.4%	\$27.32	\$45.53	\$18.21	66.7%
Jun	\$26.66	\$40.04	\$13.38	50.2%	\$39.62	\$94.51	\$54.89	138.5%
Jul	\$32.20	\$60.78	\$28.58	88.7%	\$39.08	\$77.77	\$38.68	99.0%
Aug	\$26.71	\$44.99	\$18.28	68.5%	\$29.15	\$49.92	\$20.77	71.2%
Sep	\$24.53	\$39.42	\$14.89	60.7%				
Oct	\$26.60	\$36.49	\$9.89	37.2%				
Nov	\$23.80	\$33.18	\$9.38	39.4%				
Dec	\$31.60	\$38.70	\$7.10	22.5%				

DA vs RT Load Bidding Difference History



DA vs RT Hourly Load Bidding Difference, August 2025



FAST START



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**

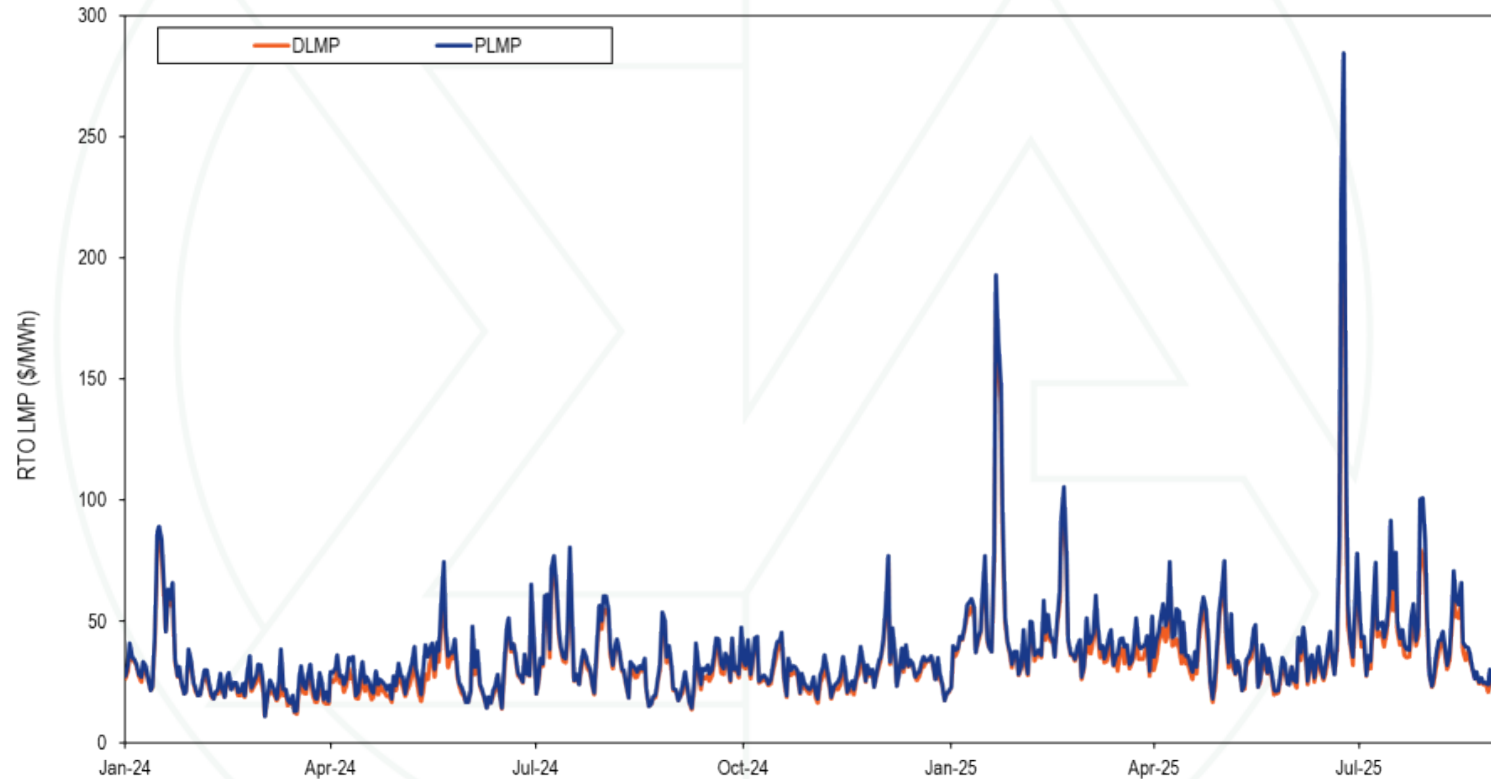
Monthly Average Load-Weighted DLMP and PLMP

Year	Month	Day-Ahead Load-Weighted				Real-Time Load-Weighted Average			
		DLMP	PLMP	Difference	Percent Difference	DLMP	PLMP	Difference	Percent Difference
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	Jun	\$32.59	\$32.62	\$0.03	0.1%	\$31.95	\$33.35	\$1.40	4.4%
2024	Jul	\$44.51	\$44.69	\$0.18	0.4%	\$44.12	\$47.17	\$3.04	6.9%
2024	Aug	\$36.34	\$36.31	(\$0.03)	(0.1%)	\$34.37	\$36.29	\$1.92	5.6%
2024	Sep	\$30.63	\$30.77	\$0.14	0.4%	\$29.32	\$31.81	\$2.48	8.5%
2024	Oct	\$33.18	\$33.26	\$0.08	0.2%	\$29.85	\$31.87	\$2.02	6.8%
2024	Nov	\$29.78	\$29.82	\$0.04	0.1%	\$25.70	\$28.26	\$2.55	9.9%
2024	Dec	\$36.98	\$37.05	\$0.06	0.2%	\$33.62	\$34.98	\$1.36	4.0%
2024	Jan-Aug	\$36.95	\$37.08	\$0.12	0.3%	\$32.71	\$34.53	\$1.82	5.6%
2024		\$33.72	\$33.79	\$0.07	0.2%	\$31.31	\$33.74	\$2.43	7.7%
2025	Jan	\$67.53	\$67.74	\$0.21	0.3%	\$59.93	\$62.87	\$2.94	4.9%
2025	Feb	\$48.85	\$49.02	\$0.16	0.3%	\$46.27	\$48.90	\$2.62	5.7%
2025	Mar	\$40.76	\$40.74	(\$0.03)	(0.1%)	\$37.82	\$42.11	\$4.30	11.4%
2025	Apr	\$44.36	\$44.35	(\$0.01)	(0.0%)	\$40.07	\$45.42	\$5.35	13.4%
2025	May	\$37.56	\$37.40	(\$0.16)	(0.4%)	\$33.98	\$36.34	\$2.36	6.9%
2025	Jun	\$53.01	\$53.14	\$0.13	0.2%	\$62.53	\$68.13	\$5.60	9.0%
2025	Jul	\$66.56	\$66.76	\$0.20	0.3%	\$52.41	\$59.38	\$6.97	13.3%
2025	Aug	\$39.24	\$39.27	\$0.03	0.1%	\$35.97	\$39.52	\$3.55	9.9%
2025	Jan-Aug	\$59.01	\$59.20	\$0.19	0.3%	\$53.71	\$56.51	\$2.80	5.2%

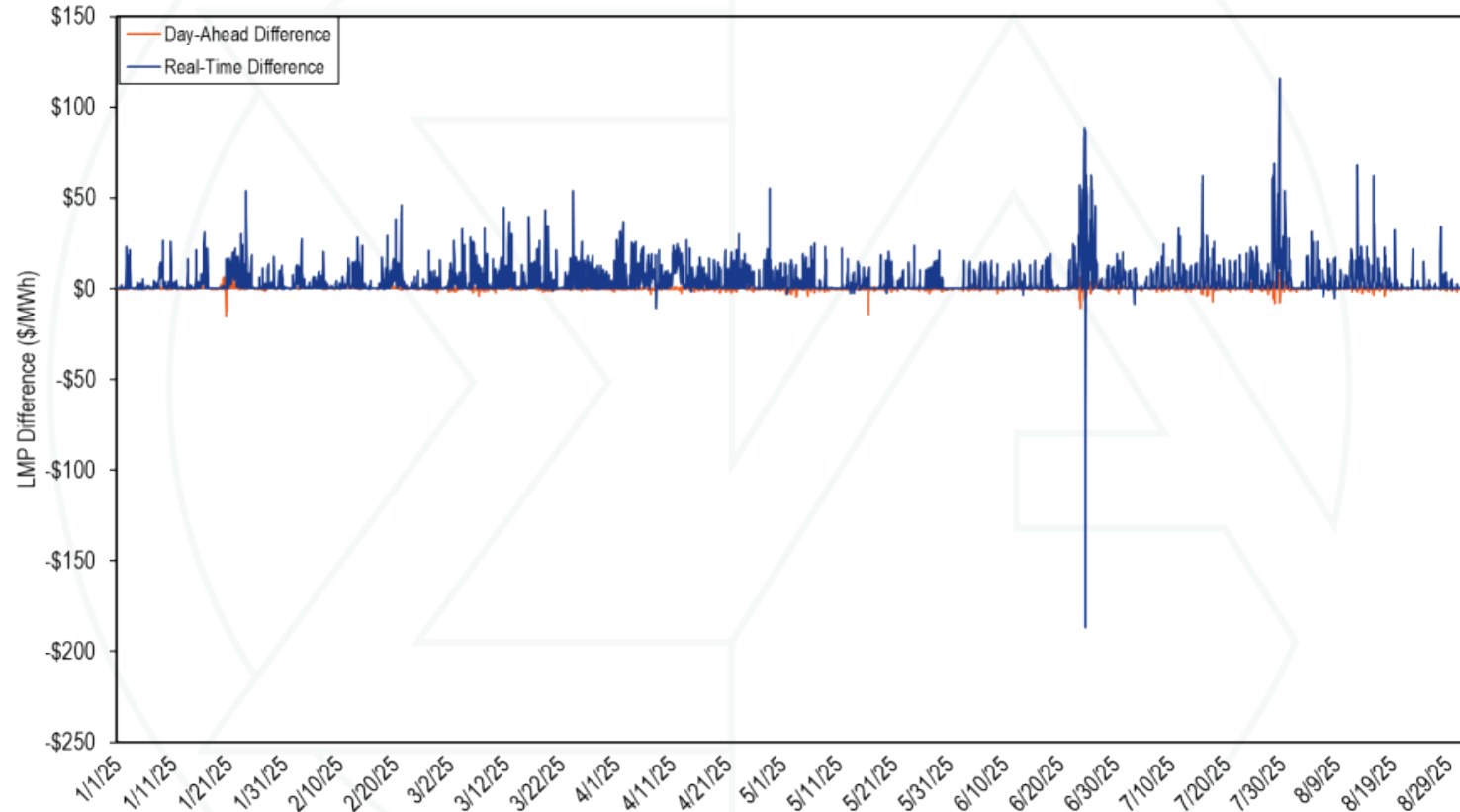
Real Time Fast Start Impact

Month	2022 (In Millions)	2023 (In Millions)	2024 (In Millions)	2025 (In Millions)
Jan	196.33	72.89	142.06	232.11
Feb	52.11	33.74	103.17	173.03
Mar	106.74	53.11	172.59	266.16
Apr	195.22	121.28	217.50	306.90
May	247.03	143.80	272.73	138.96
Jun	429.42	98.31	98.74	402.22
Jul	643.44	217.56	238.39	578.75
Aug	602.88	112.21	142.81	257.33
Sep	259.08	137.94	153.65	
Oct	204.26	239.25	116.28	
Nov	122.77	152.91	149.38	
Dec	(99.68)	104.53	95.35	
Total	2,959.60	1,487.52	1,902.66	

Daily Average Real-Time DLMP and PLMP



Hourly Difference: PLMP – DLMP



Fast Start Units as a Percent of Marginal Units

Dispatch Run							Pricing Run				
Year	Month	CT	Diesel	Wind	Solar	All Fast Start Units	CT	Diesel	Wind	Solar	All Fast Start Units
2024	Jan	0.7%	0.6%	0.0%	0.0%	1.3%	3.5%	1.1%	0.0%	0.0%	4.7%
2024	Feb	0.4%	0.1%	0.1%	0.0%	0.5%	2.2%	0.1%	0.1%	0.0%	2.4%
2024	Mar	0.7%	0.2%	1.2%	0.0%	2.1%	4.1%	0.8%	1.3%	0.0%	6.2%
2024	Apr	1.5%	0.2%	0.2%	0.0%	1.9%	6.5%	0.7%	0.1%	0.0%	7.3%
2024	May	0.6%	0.2%	0.1%	0.0%	1.0%	5.1%	0.6%	0.1%	0.0%	5.8%
2024	Jun	0.5%	0.3%	0.1%	0.0%	0.8%	3.5%	0.4%	0.1%	0.0%	4.0%
2024	Jul	0.8%	0.5%	0.0%	0.1%	1.4%	7.4%	1.0%	0.0%	0.1%	8.5%
2024	Aug	0.6%	0.5%	0.0%	0.0%	1.1%	5.0%	1.0%	0.0%	0.0%	6.0%
2024	Sep	1.0%	0.1%	0.0%	0.0%	1.1%	7.1%	0.4%	0.0%	0.0%	7.6%
2024	Oct	1.2%	0.1%	0.0%	0.0%	1.3%	6.4%	1.3%	0.0%	0.0%	7.7%
2024	Nov	1.0%	0.2%	0.0%	0.1%	1.4%	6.2%	0.6%	0.0%	0.1%	7.0%
2024	Dec	0.5%	0.2%	0.0%	0.0%	0.7%	2.2%	0.6%	0.0%	0.0%	2.9%
2024	Jan-Aug	0.7%	0.3%	0.2%	0.0%	1.3%	4.7%	0.7%	0.2%	0.0%	5.6%
2024		0.8%	0.3%	0.2%	0.0%	1.2%	4.9%	0.7%	0.2%	0.0%	5.8%
2025	Jan	0.8%	0.6%	0.1%	0.0%	1.5%	4.5%	2.1%	0.1%	0.0%	6.8%
2025	Feb	1.5%	0.1%	0.4%	0.0%	2.0%	3.7%	0.6%	0.3%	0.0%	4.6%
2025	Mar	0.5%	4.5%	0.1%	0.2%	5.2%	3.4%	5.0%	0.1%	0.2%	8.6%
2025	Apr	1.9%	1.8%	0.3%	0.1%	4.1%	7.1%	2.2%	0.3%	0.1%	9.7%
2025	May	0.6%	0.3%	0.0%	0.0%	1.0%	3.9%	1.5%	0.0%	0.0%	5.4%
2025	Jun	1.4%	0.2%	0.0%	0.0%	1.6%	6.2%	0.8%	0.0%	0.0%	7.0%
2025	Jul	2.6%	0.6%	0.0%	0.0%	3.2%	11.2%	1.5%	0.0%	0.0%	12.8%
2025	Aug	2.2%	0.5%	0.0%	0.0%	2.7%	7.8%	1.1%	0.0%	0.0%	8.9%
2025	Jan-Aug	1.4%	1.1%	0.1%	0.0%	2.7%	6.0%	1.9%	0.1%	0.0%	8.0%

Fast Start Impacts: Zone Average Differences

2025 Jan-Aug								
Zone	Day-Ahead				Real-Time			
	Average DLMP	Average PLMP	Difference	Percent Difference	Average DLMP	Average PLMP	Difference	Percent Difference
ACEC	\$33.44	\$33.50	\$0.06	0.2%	\$31.11	\$33.33	\$2.22	7.1%
AEP	\$36.73	\$36.78	\$0.06	0.2%	\$34.01	\$36.90	\$2.89	8.5%
APS	\$37.80	\$37.87	\$0.06	0.2%	\$34.88	\$37.87	\$2.99	8.6%
ATSI	\$37.01	\$37.02	\$0.01	0.0%	\$33.75	\$36.58	\$2.83	8.4%
BGE	\$46.13	\$46.21	\$0.08	0.2%	\$42.07	\$45.64	\$3.57	8.5%
COMED	\$29.78	\$29.86	\$0.08	0.3%	\$27.07	\$29.45	\$2.38	8.8%
DAY	\$37.86	\$37.92	\$0.06	0.2%	\$34.60	\$37.58	\$2.98	8.6%
DUKE	\$36.43	\$36.49	\$0.06	0.2%	\$33.19	\$36.04	\$2.85	8.6%
DOM	\$45.35	\$45.40	\$0.04	0.1%	\$42.03	\$45.25	\$3.22	7.7%
DPL	\$37.20	\$37.30	\$0.10	0.3%	\$33.57	\$36.71	\$3.14	9.4%
DUQ	\$36.00	\$36.04	\$0.04	0.1%	\$33.31	\$36.09	\$2.78	8.4%
EKPC	\$35.89	\$35.95	\$0.06	0.2%	\$33.27	\$36.10	\$2.84	8.5%
JCPLC	\$33.54	\$33.60	\$0.07	0.2%	\$31.26	\$33.53	\$2.27	7.2%
MEC	\$35.18	\$35.25	\$0.06	0.2%	\$32.05	\$34.53	\$2.48	7.8%
OVEC	\$35.03	\$35.08	\$0.06	0.2%	\$31.90	\$34.64	\$2.74	8.6%
PECO	\$32.75	\$32.82	\$0.06	0.2%	\$30.46	\$32.59	\$2.13	7.0%
PE	\$38.40	\$38.44	\$0.04	0.1%	\$35.14	\$37.91	\$2.77	7.9%
PEPCO	\$44.75	\$44.82	\$0.07	0.2%	\$40.91	\$44.27	\$3.37	8.2%
PPL	\$32.36	\$32.43	\$0.07	0.2%	\$29.82	\$32.12	\$2.30	7.7%
PSEG	\$33.74	\$33.81	\$0.07	0.2%	\$31.77	\$34.07	\$2.31	7.3%
REC	\$36.62	\$36.69	\$0.07	0.2%	\$34.18	\$36.63	\$2.45	7.2%

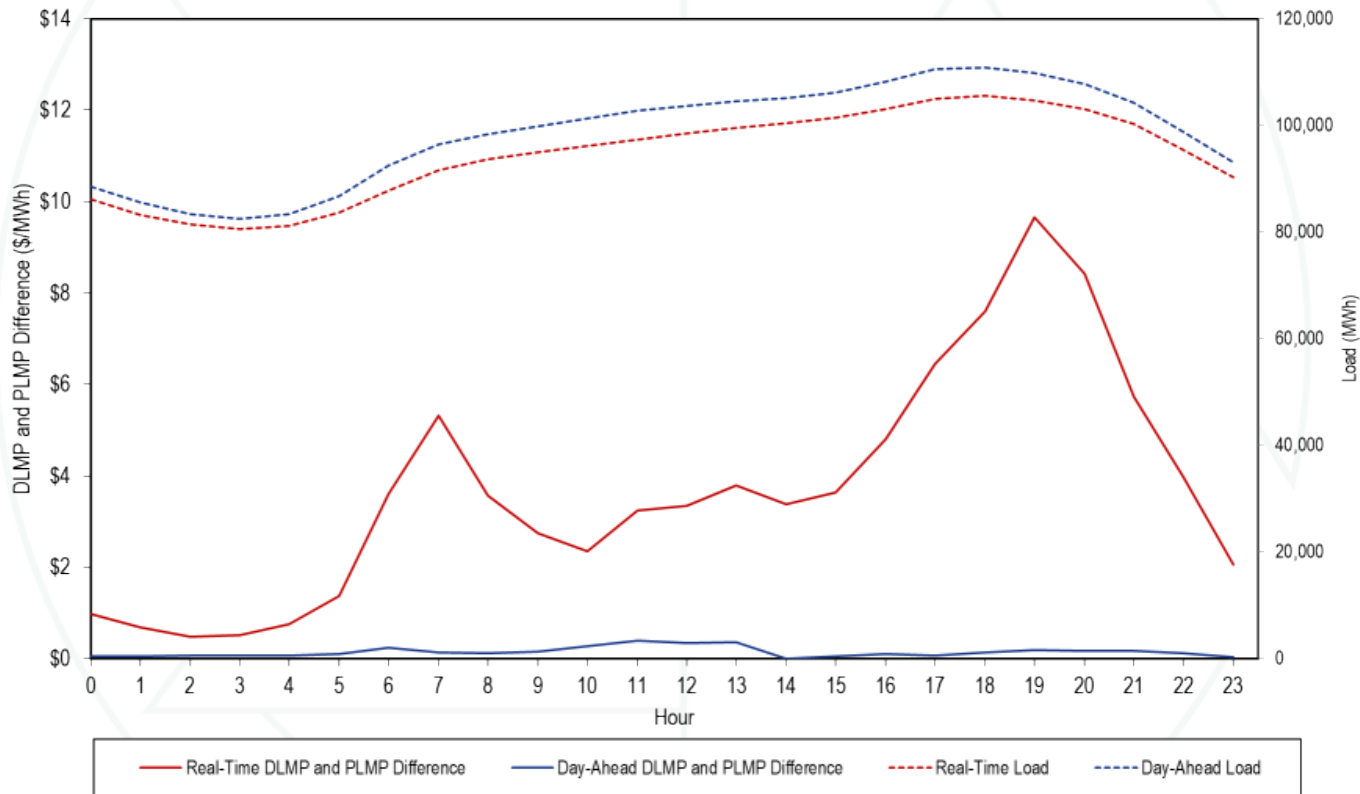
Fast Start Impacts: Hub Average Differences

Hub	2025 Jan-Aug							
	Average DLMP	Day-Ahead			Average DLMP	Real-Time		
		Average PLMP	Difference	Percent Difference		Average PLMP	Difference	Percent Difference
AEP GEN HUB	\$34.93	\$34.97	\$0.04	0.1%	\$31.85	\$34.60	\$2.76	8.7%
AEP-DAYTON HUB	\$36.19	\$36.23	\$0.04	0.1%	\$33.04	\$35.86	\$2.83	8.6%
ATSI GEN HUB	\$36.43	\$36.43	\$0.01	0.0%	\$32.94	\$35.70	\$2.76	8.4%
CHICAGO GEN HUB	\$29.03	\$29.11	\$0.08	0.3%	\$26.06	\$28.48	\$2.42	9.3%
CHICAGO HUB	\$29.97	\$30.01	\$0.04	0.1%	\$27.16	\$29.54	\$2.38	8.8%
DOMINION HUB	\$40.09	\$40.12	\$0.03	0.1%	\$37.07	\$40.17	\$3.10	8.4%
EASTERN HUB	\$37.05	\$37.12	\$0.06	0.2%	\$33.34	\$36.44	\$3.09	9.3%
N ILLINOIS HUB	\$29.71	\$29.80	\$0.09	0.3%	\$27.10	\$29.48	\$2.38	8.8%
NEW JERSEY HUB	\$33.62	\$33.66	\$0.04	0.1%	\$31.45	\$33.73	\$2.28	7.2%
OHIO HUB	\$36.22	\$36.25	\$0.04	0.1%	\$33.08	\$35.90	\$2.83	8.5%
WEST INT HUB	\$37.82	\$37.83	\$0.01	0.0%	\$34.80	\$37.71	\$2.91	8.4%
WESTERN HUB	\$39.61	\$39.65	\$0.03	0.1%	\$36.17	\$39.17	\$3.00	8.3%

Zonal Real-Time PLMP-DLMP Difference Frequency

2025 Jan-Aug										
Zone	< (\$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%	1.0%	45.4%	41.8%	7.5%	3.6%	0.6%	0.1%	0.0%
ACEC	0.0%	0.0%	4.9%	45.5%	39.9%	5.8%	3.0%	0.6%	0.2%	0.0%
AEP	0.0%	0.0%	1.4%	45.5%	41.0%	7.6%	3.7%	0.7%	0.1%	0.0%
APS	0.0%	0.0%	1.0%	45.4%	41.1%	7.5%	4.0%	0.7%	0.1%	0.0%
ATSI	0.0%	0.0%	1.4%	45.4%	41.2%	7.4%	3.7%	0.7%	0.1%	0.0%
BGE	0.0%	0.1%	2.4%	45.3%	38.2%	7.7%	4.8%	1.1%	0.3%	0.0%
COMED	0.2%	0.1%	5.7%	46.4%	37.4%	6.4%	3.0%	0.6%	0.1%	0.0%
DAY	0.0%	0.1%	1.6%	45.5%	40.6%	7.5%	3.8%	0.7%	0.1%	0.0%
DUKE	0.0%	0.1%	1.7%	45.6%	40.8%	7.5%	3.6%	0.7%	0.1%	0.0%
DOM	0.1%	0.3%	2.2%	45.4%	39.0%	7.4%	4.5%	1.0%	0.2%	0.0%
DPL	0.0%	0.2%	6.9%	45.5%	37.0%	5.6%	3.0%	1.1%	0.8%	0.0%
DUQ	0.0%	0.0%	1.5%	45.4%	41.4%	7.3%	3.5%	0.7%	0.1%	0.0%
EKPC	0.0%	0.0%	1.6%	45.5%	41.1%	7.5%	3.5%	0.7%	0.1%	0.0%
JCPLC	0.0%	0.0%	3.0%	45.5%	41.8%	5.9%	3.0%	0.6%	0.1%	0.0%
MEC	0.0%	0.1%	2.7%	45.4%	41.2%	6.5%	3.3%	0.7%	0.1%	0.0%
OVEC	0.0%	0.2%	1.9%	45.5%	41.0%	7.2%	3.4%	0.7%	0.1%	0.0%
PECO	0.0%	0.1%	6.2%	45.5%	38.8%	5.7%	2.9%	0.6%	0.1%	0.0%
PE	0.0%	0.1%	1.8%	45.2%	40.9%	7.4%	3.8%	0.6%	0.1%	0.0%
PEPCO	0.0%	0.1%	2.3%	45.4%	38.6%	7.6%	4.6%	1.0%	0.2%	0.0%
PPL	0.0%	0.0%	2.8%	45.4%	42.1%	5.9%	3.1%	0.6%	0.1%	0.0%
PSEG	0.0%	0.0%	2.7%	45.5%	42.0%	6.0%	3.0%	0.6%	0.1%	0.0%
REC	0.0%	0.1%	2.8%	45.3%	41.2%	6.5%	3.3%	0.7%	0.1%	0.0%

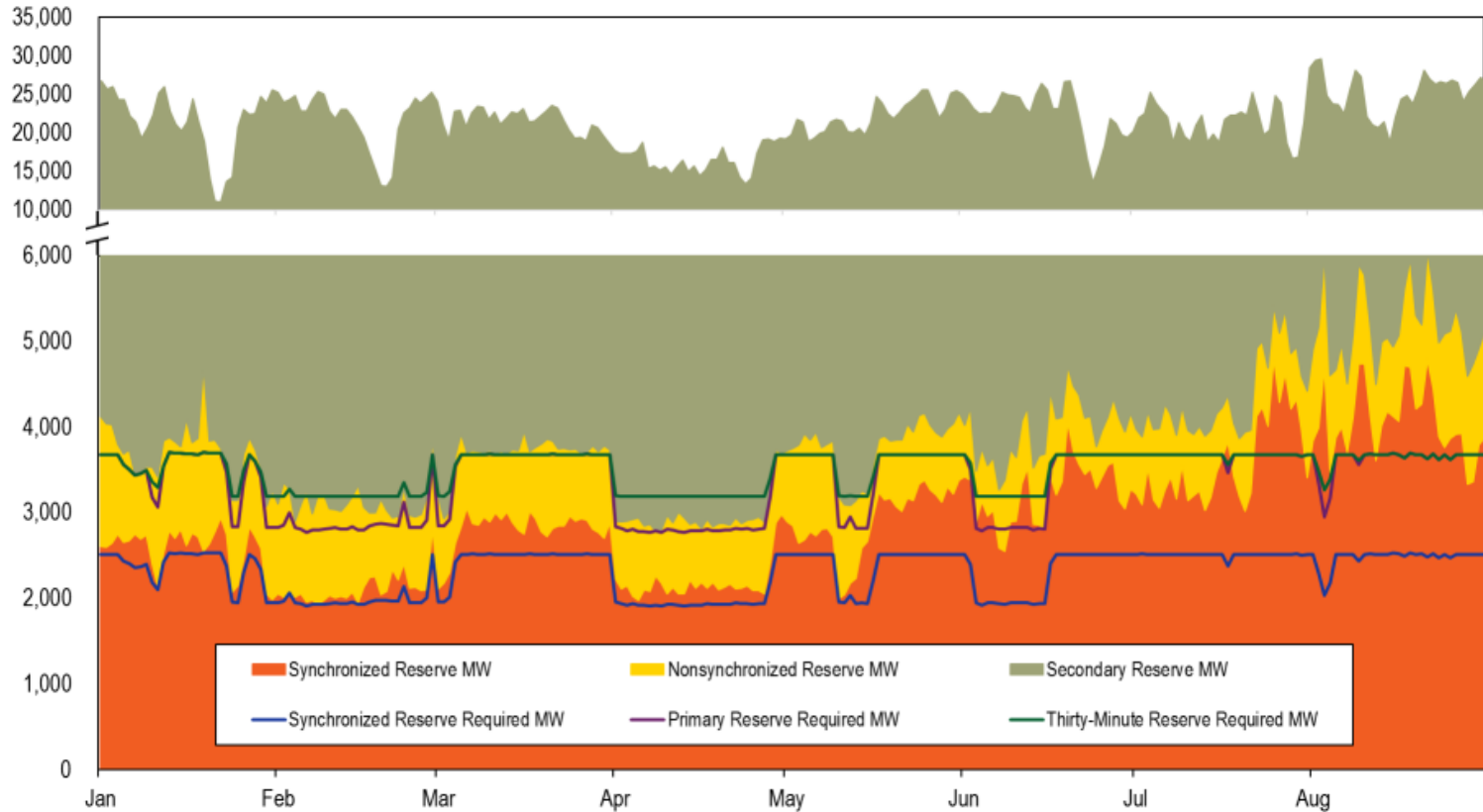
Hourly Average Load and PLMP – DLMP Delta Year to Date



RESERVES



Real-Time Average Cleared Reserves and Requirements



Day-Ahead & Real-Time RTO Average Reserve MW

Year	Month	Average Synchronized Reserve MW		Average Nonsynchronized Reserve MW		Average Total Primary Reserve MW		Average Secondary Reserve MW		Average Total Thirty-Minute Reserve MW	
		DA	RT	DA	RT	DA	RT	DA	RT	DA	RT
2025	Jan	2,637	2,582	1,313	1,130	3,950	3,712	13,079	17,602	17,028	21,313
2025	Feb	2,180	2,111	1,220	1,013	3,400	3,124	13,024	18,628	16,424	21,752
2025	Mar	2,824	2,802	932	881	3,756	3,683	11,763	17,934	15,519	21,617
2025	Apr	2,171	2,183	809	776	2,981	2,959	8,536	13,507	11,517	16,466
2025	May	2,636	2,894	1,021	864	3,657	3,758	11,589	18,348	15,246	22,107
2025	Jun	2,686	3,223	953	734	3,639	3,957	12,801	18,589	16,440	22,546
2025	Jul	3,020	3,581	823	747	3,843	4,327	11,687	16,947	15,529	21,275
2025	Aug	2,903	4,068	1,016	1,096	3,918	5,165	12,462	19,947	16,380	25,112

Day-Ahead & Real-Time MAD Average Reserve MW

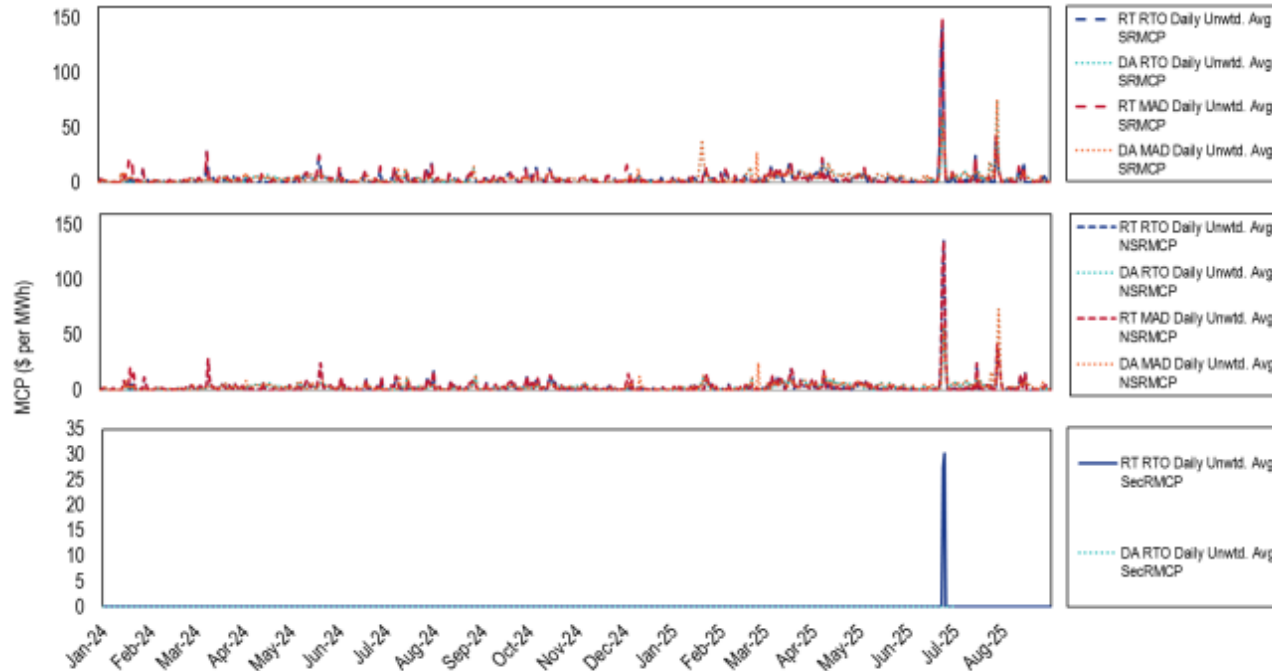
Year	Month	Average Synchronized Reserve MW		Average Nonsynchronized Reserve MW		Average Total Primary Reserve MW		Average Secondary Reserve MW		Average Total Thirty-Minute Reserve MW	
		DA	RT	DA	RT	DA	RT	DA	RT	DA	RT
2025	Jan	2,004	1,985	985	925	2,989	2,909	NA	NA	NA	NA
2025	Feb	1,968	1,971	890	839	2,858	2,810	NA	NA	NA	NA
2025	Mar	2,034	1,966	657	667	2,690	2,633	NA	NA	NA	NA
2025	Apr	1,838	1,783	524	599	2,362	2,382	NA	NA	NA	NA
2025	May	1,819	1,833	592	619	2,411	2,451	NA	NA	NA	NA
2025	Jun	2,036	2,040	575	613	2,611	2,653	NA	NA	NA	NA
2025	Jul	2,068	2,038	525	621	2,593	2,659	NA	NA	NA	NA
2025	Aug	2,043	2,073	601	738	2,644	2,811	NA	NA	NA	NA

Total Reserve Settlements by Month

Year	Month	Total Day-Ahead Credits			Total Balancing MCP Credits			Total LOC Credits		
		SR	NSR	SecR	SR	NSR	SecR	SR	NSR	SecR
2025	Jan	\$9,766,427	\$1,310,758	\$0	(\$93,903)	(\$807,014)	\$0	\$1,086,575	\$185,652	\$244,917
2025	Feb	\$5,437,781	\$698,931	\$0	(\$126,526)	(\$300,892)	\$0	\$779,549	\$96,940	\$142,489
2025	Mar	\$15,181,061	\$2,079,574	\$0	(\$1,464,818)	(\$470,698)	\$0	\$2,047,513	\$289,300	\$132,092
2025	Apr	\$13,256,012	\$1,984,502	\$0	(\$345,197)	(\$247,956)	\$0	\$1,268,537	\$91,497	\$135,335
2025	May	\$10,685,430	\$1,340,915	\$0	(\$13,056)	(\$142,473)	\$0	\$786,719	\$64,502	\$468,635
2025	Jun	\$15,012,782	\$2,457,199	\$0	(\$4,322,960)	(\$2,281,783)	(\$955,512)	\$4,654,509	\$102,701	\$2,262,656
2025	Jul	\$22,507,389	\$3,413,482	\$0	(\$307,453)	(\$954,968)	\$0	\$2,566,431	\$121,292	\$1,760,281
2025	Aug	\$7,390,714	\$1,266,236	\$0	\$21,293	(\$425,763)	\$0	\$1,016,152	\$67,415	\$1,826,056
Year	Month	Total Shortfall Charges			Total Credits					
		SR	NSR	SecR	SR	NSR	SecR			
2025	Jan	\$0	NA	\$0	\$10,759,099	\$689,396	\$244,917			
2025	Feb	\$118,146	NA	\$0	\$5,972,658	\$494,978	\$142,489			
2025	Mar	\$0	NA	\$0	\$15,763,757	\$1,898,176	\$132,092			
2025	Apr	\$0	NA	\$0	\$14,179,353	\$1,828,043	\$135,335			
2025	May	\$0	NA	\$0	\$11,459,093	\$1,262,944	\$468,635			
2025	Jun	\$0	NA	\$0	\$15,344,332	\$278,116	\$1,307,144			
2025	Jul	\$76,684	NA	\$0	\$24,689,682	\$2,579,806	\$1,760,281			
2025	Aug	\$0	NA	\$0	\$8,428,158	\$907,888	\$1,826,056			

- Only February and July had spin events that lasted at least 10 minutes, so only February and July had synchronized reserve shortfall charges.
- Total credits were higher in June due to dozens of intervals of shortage pricing.
- Greater sum of day-ahead credits in July correspond with higher prices during hot weather alerts and maximum emergency generation alerts.

Reserve Prices: January 2024 through August 2025



- Many intervals of shortage pricing seen in June 2025 heatwave
- Higher day-ahead prices on July 24, July 25, July 28, and July 29 correspond with maximum emergency generation alerts and hot weather alerts.

Monitoring Analytics, LLC

2621 Van Buren Avenue

Suite 160

Eagleview, PA

19403

(610) 271-8050

MA@monitoringanalytics.com

www.MonitoringAnalytics.com

