

Market Monitor Report

MC

12.17.2025

IMM

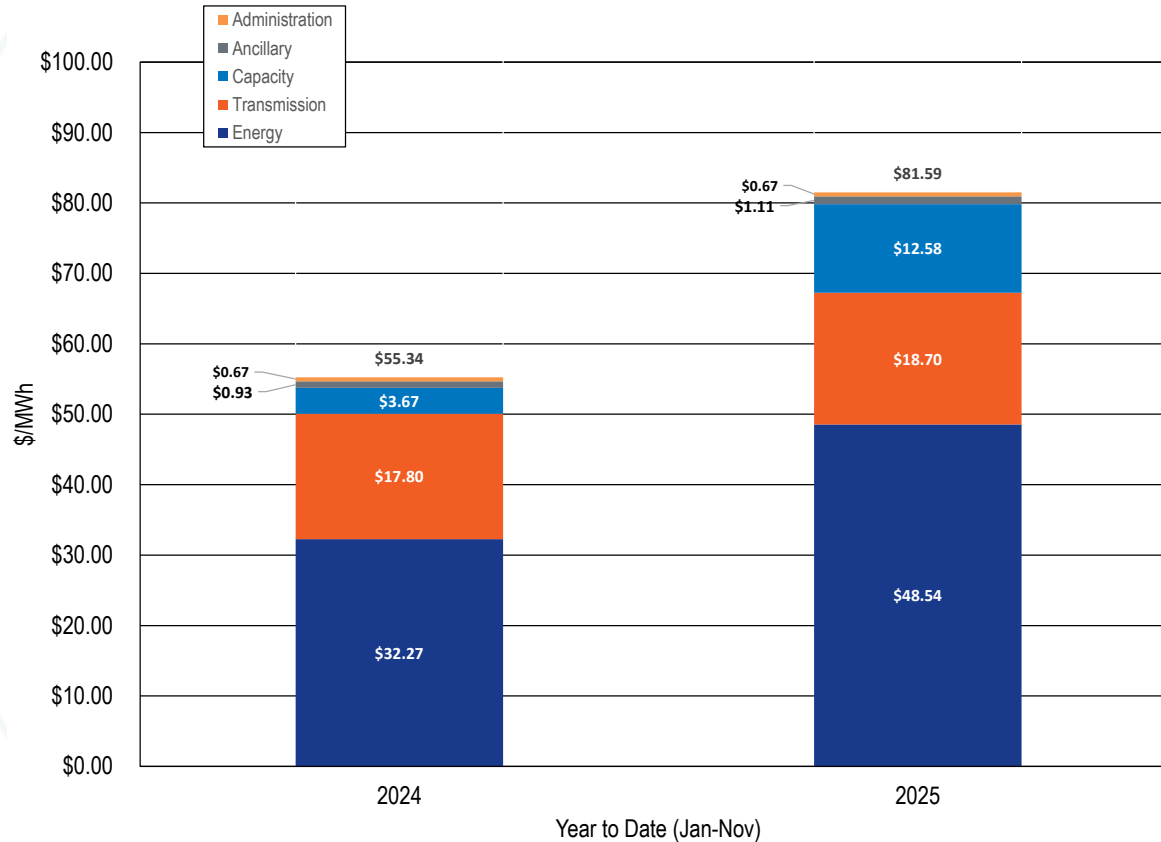


Monitoring Analytics

YEAR TO DATE UPDATE



Total Cost of Wholesale Power



Total Cost of Wholesale Power – 2024/2025 YTD

Category	2024 (Jan-Nov) \$/MWh	2024 (Jan-Nov) (\$ Millions)	2024 (Jan-Nov) Percent of Total	2025 (Jan-Nov) \$/MWh	2025 (Jan-Nov) (\$ Millions)	2025 (Jan-Nov) Percent of Total	Percent Change
Energy	\$32.27	\$23,037	58.3%	\$48.54	\$35,706	59.5%	50.4%
Day Ahead Energy	\$33.13	\$23,650	59.9%	\$49.43	\$36,357	60.6%	49.2%
Balancing Energy	\$0.55	\$392	1.0%	\$1.01	\$743	1.2%	84.0%
ARR Credits	(\$1.25)	(\$890)	(2.3%)	(\$1.62)	(\$1,193)	(2.0%)	30.1%
Self Scheduled FTR Credits	(\$0.52)	(\$368)	(0.9%)	(\$1.32)	(\$973)	(1.6%)	156.5%
Balancing Congestion	\$0.38	\$273	0.7%	\$0.58	\$428	0.7%	52.0%
Emergency Energy	\$0.00	\$0	0.0%	\$0.01	\$6	0.0%	0.0%
Inadvertent Energy	\$0.01	\$10	0.0%	(\$0.01)	(\$9)	(0.0%)	(185.6%)
Load Response - Energy	\$0.01	\$11	0.0%	\$0.03	\$24	0.0%	117.4%
Emergency Load Response	\$0.00	\$0	0.0%	\$0.08	\$61	0.1%	0.0%
Energy Uplift (Operating Reserves)	\$0.34	\$245	0.6%	\$0.97	\$713	1.2%	182.9%
Marginal Loss Surplus Allocation	(\$0.45)	(\$319)	(0.8%)	(\$0.71)	(\$524)	(0.9%)	59.5%
Market to Market Payments	\$0.05	\$34	0.1%	\$0.10	\$72	0.1%	105.2%
Capacity	\$3.67	\$2,619	6.6%	\$12.58	\$9,250	15.4%	242.8%
Capacity (Capacity Market and FRR)	\$3.57	\$2,546	6.4%	\$12.43	\$9,143	15.2%	248.5%
Capacity Part V (RMR)	\$0.09	\$65	0.2%	\$0.12	\$89	0.1%	33.1%
Load Response - Capacity	\$0.01	\$8	0.0%	\$0.02	\$18	0.0%	117.6%
Transmission	\$17.80	\$12,707	32.2%	\$18.70	\$13,755	22.9%	5.1%
Transmission Service Charges	\$15.11	\$10,787	27.3%	\$15.88	\$11,679	19.5%	5.1%
Transmission Enhancement Cost Recovery	\$2.60	\$1,854	4.7%	\$2.73	\$2,007	3.3%	5.0%
Transmission Owner (Schedule 1A)	\$0.09	\$66	0.2%	\$0.09	\$70	0.1%	3.0%
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	\$0.93	\$663	1.7%	\$1.11	\$813	1.4%	19.0%
Reactive	\$0.49	\$347	0.9%	\$0.45	\$330	0.5%	(7.7%)
Regulation	\$0.23	\$166	0.4%	\$0.37	\$275	0.5%	60.9%
Black Start	\$0.10	\$68	0.2%	\$0.06	\$47	0.1%	(32.8%)
Synchronized Reserves	\$0.10	\$71	0.2%	\$0.19	\$140	0.2%	92.9%
Secondary Reserves	\$0.00	\$2	0.0%	\$0.01	\$7	0.0%	214.9%
Non-Synchronized Reserves	\$0.01	\$9	0.0%	\$0.02	\$14	0.0%	47.7%
Day Ahead Scheduling Reserve (DASR)	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Administration	\$0.67	\$480	1.2%	\$0.67	\$492	0.8%	(0.5%)
PJM Administrative Fees	\$0.62	\$445	1.1%	\$0.62	\$458	0.8%	(0.2%)
NERC/RFC	\$0.04	\$30	0.1%	\$0.04	\$31	0.1%	1.0%
RTO Startup and Expansion	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Other	\$0.01	\$5	0.0%	\$0.00	\$3	0.0%	(37.0%)
Total Price	\$55.34	\$39,507	100.0%	\$81.59	\$60,017	100.0%	47.4%
Total Day Ahead Load (GWh)	706,806			726,048			2.7%
Total Balancing Load (GWh)	(7,130)			(9,540)			33.8%
Total Real Time Load (GWh)	713,936			735,588			3.0%
Total Cost (\$ Billions)	\$39.51			\$60.02			51.9%

Total Cost of Wholesale Power – 2025 Monthly

- **Monthly cost of capacity exceeded monthly cost of transmission in June through November, 2025.**
- **First time that capacity costs have exceeded transmission costs 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

- **For the period from January through May:**
 - Energy costs averaged 64.5 percent of the monthly total.
 - Capacity costs averaged 5.4 percent of the monthly total.
 - Transmission costs averaged 27.6 percent of the monthly total.
- **For the period from June through November:**
 - Energy costs averaged 54.0 percent of the monthly total.
 - Capacity costs averaged 22.6 percent of the monthly total.
 - Transmission costs averaged 21.3 percent of the monthly total.

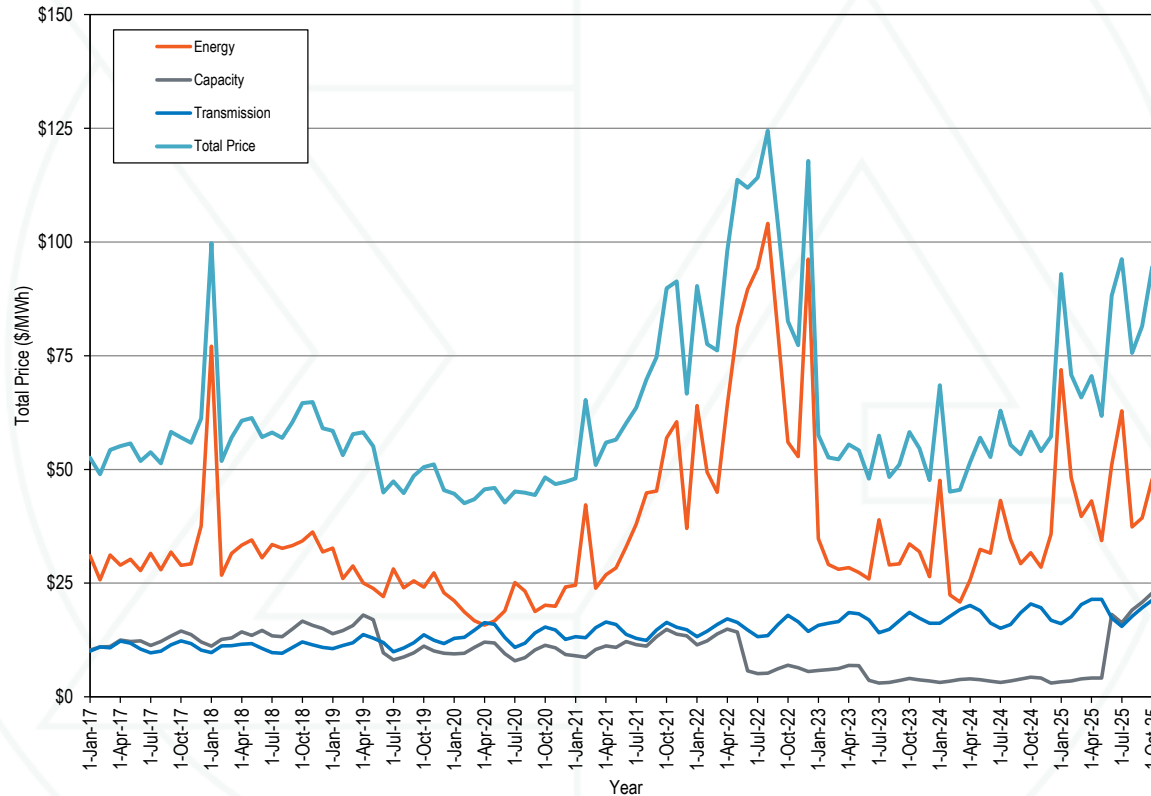
Total Cost of Wholesale Power – 2025 Monthly

Category	Jan \$/MWh	Feb \$/MWh	Mar \$/MWh	Apr \$/MWh	May \$/MWh	Jun \$/MWh	Jul \$/MWh	Aug \$/MWh	Sep \$/MWh	Oct \$/MWh	Nov \$/MWh	Dec \$/MWh
Energy	\$71.90	\$48.15	\$39.66	\$43.09	\$34.35	\$51.03	\$62.87	\$37.38	\$39.35	\$47.87	\$47.64	
Day Ahead Energy	\$66.89	\$48.26	\$40.37	\$43.74	\$36.98	\$52.00	\$65.90	\$39.02	\$40.74	\$50.58	\$49.45	
Balancing Energy	\$1.45	\$1.08	\$0.66	\$0.94	\$0.62	\$2.01	\$1.19	\$0.47	\$0.87	\$0.82	\$0.72	
ARR Credits	(\$1.04)	(\$1.22)	(\$1.29)	(\$1.39)	(\$1.34)	(\$1.85)	(\$1.80)	(\$1.90)	(\$1.87)	(\$2.13)	(\$2.02)	
Self Scheduled FTR Credits	(\$1.29)	(\$0.32)	(\$1.07)	(\$1.04)	(\$2.16)	(\$1.71)	(\$2.24)	(\$0.44)	(\$1.18)	(\$2.15)	(\$0.84)	
Balancing Congestion	\$1.70	\$0.33	\$0.72	\$0.42	\$0.27	\$0.86	\$0.20	\$0.36	\$0.40	\$0.53	\$0.43	
Emergency Energy	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.08	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Inadvertent Energy	(\$0.01)	(\$0.01)	(\$0.02)	(\$0.02)	(\$0.03)	(\$0.01)	\$0.00	\$0.01	(\$0.02)	(\$0.02)	(\$0.01)	
Load Response - Energy	\$0.01	\$0.00	\$0.09	\$0.04	\$0.10	\$0.00	\$0.04	\$0.03	\$0.03	\$0.03	\$0.01	
Emergency Load Response	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.00	\$0.00	\$0.00	\$0.56	\$0.40	\$0.02	
Energy Uplift (Operating Reserves)	\$5.07	\$0.53	\$0.56	\$0.71	\$0.33	\$0.52	\$0.58	\$0.37	\$0.27	\$0.34	\$0.53	
Marginal Loss Surplus Allocation	(\$1.06)	(\$0.59)	(\$0.54)	(\$0.51)	(\$0.50)	(\$0.88)	(\$1.02)	(\$0.52)	(\$0.53)	(\$0.76)	(\$0.73)	
Market to Market Payments	\$0.19	\$0.09	\$0.17	\$0.20	\$0.06	\$0.01	\$0.02	(\$0.02)	\$0.09	\$0.24	\$0.09	
Capacity	\$3.33	\$3.49	\$3.96	\$4.14	\$4.16	\$18.12	\$16.30	\$19.07	\$20.82	\$22.84	\$21.06	
Capacity (Capacity Market and FRR)	\$3.11	\$3.36	\$3.96	\$4.14	\$4.16	\$18.15	\$16.22	\$18.60	\$20.54	\$22.45	\$21.06	
Capacity Part V (RMR)	\$0.23	\$0.13	\$0.00	\$0.00	\$0.00	(\$0.02)	\$0.08	\$0.23	\$0.27	\$0.39	\$0.00	
Load Response - Capacity	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.25	\$0.00	\$0.00	\$0.00	
Transmission	\$16.12	\$17.61	\$20.28	\$21.44	\$21.44	\$17.33	\$15.48	\$17.71	\$19.62	\$21.26	\$20.07	
Transmission Service Charges	\$13.73	\$14.74	\$17.24	\$18.16	\$18.24	\$14.70	\$13.18	\$15.09	\$16.65	\$18.13	\$17.01	
Transmission Enhancement Cost Recovery	\$2.29	\$2.77	\$2.95	\$3.19	\$3.11	\$2.54	\$2.20	\$2.52	\$2.87	\$3.04	\$2.96	
Transmission Owner (Schedule 1A)	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.10	\$0.10	\$0.10	\$0.10	\$0.09	\$0.09	
Transmission Seams Elimination Cost Assignment (SECA)	\$0.00	\$0.00	\$0.00	\$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	\$0.00	\$0.00	\$0.00	
Ancillary	\$1.01	\$0.90	\$1.19	\$1.15	\$1.06	\$1.11	\$1.02	\$0.82	\$1.02	\$1.81	\$1.24	
Reactive	\$0.39	\$0.47	\$0.50	\$0.53	\$0.51	\$0.42	\$0.36	\$0.41	\$0.47	\$0.48	\$0.47	
Regulation	\$0.40	\$0.25	\$0.31	\$0.26	\$0.24	\$0.41	\$0.27	\$0.21	\$0.29	\$1.01	\$0.51	
Black Start	\$0.07	\$0.08	\$0.09	\$0.08	\$0.08	\$0.05	\$0.04	\$0.05	\$0.06	\$0.06	\$0.06	
Synchronized Reserves	\$0.14	\$0.09	\$0.25	\$0.25	\$0.19	\$0.21	\$0.30	\$0.12	\$0.17	\$0.20	\$0.17	
Secondary Reserves	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.02	\$0.02	\$0.01	\$0.02	\$0.01	
Non-Synchronized Reserves	\$0.01	\$0.01	\$0.03	\$0.03	\$0.02	\$0.00	\$0.03	\$0.01	\$0.02	\$0.03	\$0.02	
Day Ahead Scheduling Reserve (DASR)	\$0.00	\$0.00	\$0.00	\$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	\$0.69	\$0.73	\$0.72	
PJM Administrative Fees	\$0.56	\$0.61	\$0.70	\$0.68	\$0.70	\$0.56	\$0.53	\$0.58	\$0.64	\$0.69	\$0.68	
NERC/RFC	\$0.04	\$0.04	\$0.04	\$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	\$0.00	\$0.00	\$0.00	
Other	\$0.00	\$0.00	\$0.00	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.00	
Total Price	\$92.96	\$70.80	\$65.82	\$70.55	\$61.76	\$88.20	\$96.24	\$75.60	\$81.50	\$94.52	\$90.73	
Total Day Ahead Load (GWh)	77,617	64,784	61,400	56,635	58,352	69,898	81,672	72,152	62,679	59,624	61,234	
Total Balancing Load (GWh)	(1,292)	(1,181)	(561)	(697)	(501)	(1,923)	(1,342)	(266)	(765)	(356)	(656)	
Total Real Time Load (GWh)	78,909	65,965	61,961	57,332	58,853	71,822	83,014	72,418	63,444	59,980	61,890	
Total Cost (\$ Billions)	\$7.34	\$4.67	\$4.08	\$4.04	\$3.63	\$6.33	\$7.99	\$5.47	\$5.17	\$5.67	\$5.62	

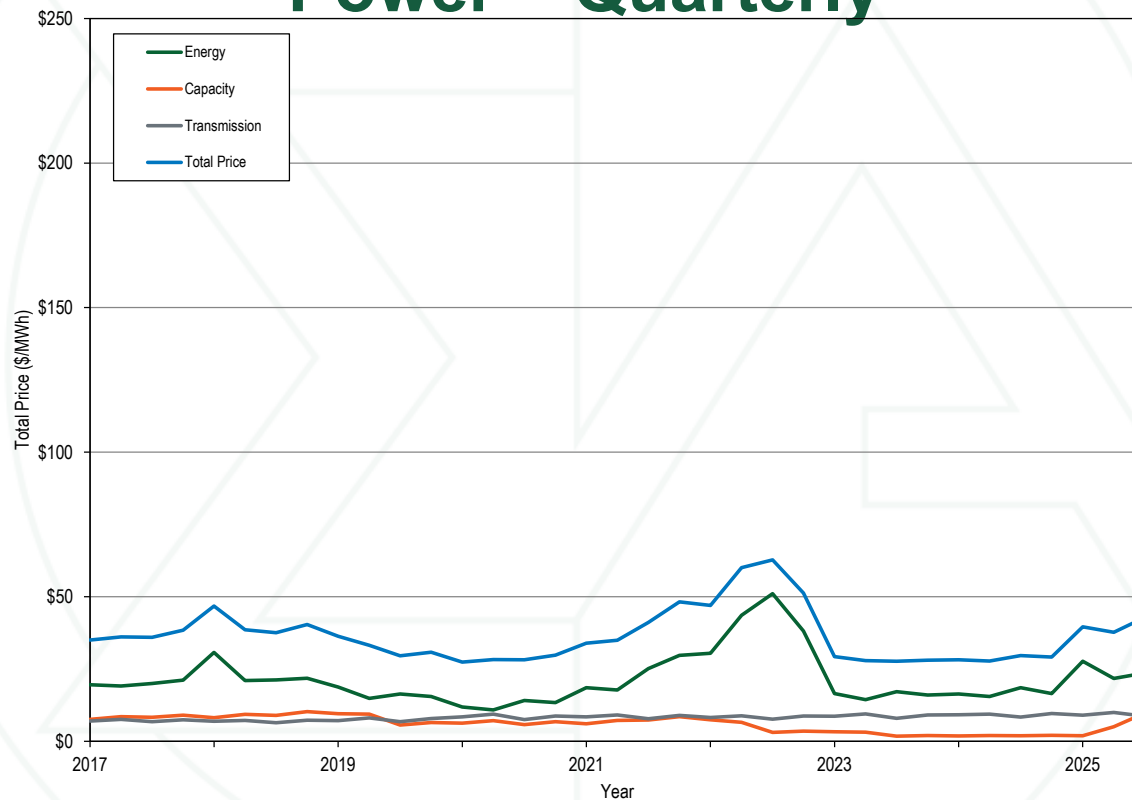
Total Cost of Wholesale Power – 2025 Monthly

Category	Jan % of Total	Feb % of Total	Mar % of Total	Apr % of Total	May % of Total	Jun % of Total	Jul % of Total	Aug % of Total	Sep % of Total	Oct % of Total	Nov % of Total	Dec % of Total
Energy	77.3%	68.0%	60.3%	61.1%	55.6%	57.9%	65.3%	49.4%	48.3%	50.6%	52.5%	
Day Ahead Energy	72.0%	68.2%	61.3%	62.0%	59.9%	59.0%	68.5%	51.6%	50.0%	53.5%	54.5%	
Balancing Energy	1.6%	1.5%	1.0%	1.3%	1.0%	2.3%	1.2%	0.6%	1.1%	0.9%	0.8%	
ARR Credits	-1.1%	-1.7%	-2.0%	-2.0%	-2.0%	-2.1%	-1.9%	-2.5%	-2.3%	-2.3%	-2.2%	
Self Scheduled FTR Credits	-1.4%	-0.5%	-1.6%	-1.5%	-3.5%	-1.9%	-2.3%	-0.6%	-1.4%	-2.3%	-0.9%	
Balancing Congestion	1.8%	0.5%	1.1%	0.6%	0.4%	1.0%	0.2%	0.5%	0.5%	0.6%	0.5%	
Emergency Energy	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
Inadvertent Energy	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Load Response - Energy	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Emergency Load Response	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.4%	0.0%	
Energy Uplift (Operating Reserves)	5.5%	0.7%	0.9%	1.0%	0.5%	0.6%	0.6%	0.5%	0.3%	0.4%	0.6%	
Marginal Loss Surplus Allocation	-1.1%	-0.8%	-0.8%	-0.7%	-0.8%	-1.0%	-1.1%	-0.7%	-0.7%	-0.8%	-0.8%	
Market to Market Payments	0.2%	0.1%	0.3%	0.3%	0.1%	0.0%	0.0%	0.0%	0.1%	0.3%	0.1%	
Capacity	3.6%	4.9%	6.0%	5.9%	6.7%	20.5%	16.9%	25.2%	25.5%	24.2%	23.2%	
Capacity (Capacity Market and FRR)	3.3%	4.7%	6.0%	5.9%	6.7%	20.6%	16.9%	24.6%	25.2%	23.8%	23.2%	
Capacity Part V (RMR)	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.3%	0.4%	0.0%	
Load Response - Capacity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	
Transmission	17.3%	24.9%	30.8%	30.4%	34.7%	19.6%	16.1%	23.4%	24.1%	22.5%	22.1%	
Transmission Service Charges	14.8%	20.8%	26.2%	25.7%	29.5%	16.7%	13.7%	20.0%	20.4%	19.2%	18.7%	
Transmission Enhancement Cost Recovery	2.5%	3.9%	4.5%	4.5%	5.0%	2.9%	2.3%	3.3%	3.5%	3.2%	3.3%	
Transmission Owner (Schedule 1A)	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	
Transmission Seams Elimination Cost Assignment (SECA)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Transmission Facility Charges	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Ancillary	1.1%	1.3%	1.8%	1.6%	1.7%	1.3%	1.1%	1.1%	1.3%	1.9%	1.4%	
Reactive	0.4%	0.7%	0.8%	0.8%	0.8%	0.5%	0.4%	0.5%	0.6%	0.5%	0.5%	
Regulation	0.4%	0.4%	0.5%	0.4%	0.4%	0.5%	0.4%	0.3%	0.4%	1.1%	0.6%	
Black Start	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	
Synchronized Reserves	0.2%	0.1%	0.4%	0.4%	0.3%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	
Secondary Reserves	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Non-Synchronized Reserves	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Day Ahead Scheduling Reserve (DASR)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Administration	0.6%	0.9%	1.1%	1.0%	1.2%	0.7%	0.6%	0.8%	0.8%	0.8%	0.8%	
PJM Administrative Fees	0.6%	0.9%	1.1%	1.0%	1.1%	0.6%	0.6%	0.8%	0.8%	0.7%	0.7%	
NERC/RFC	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	
RTO Startup and Expansion	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Total Price	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

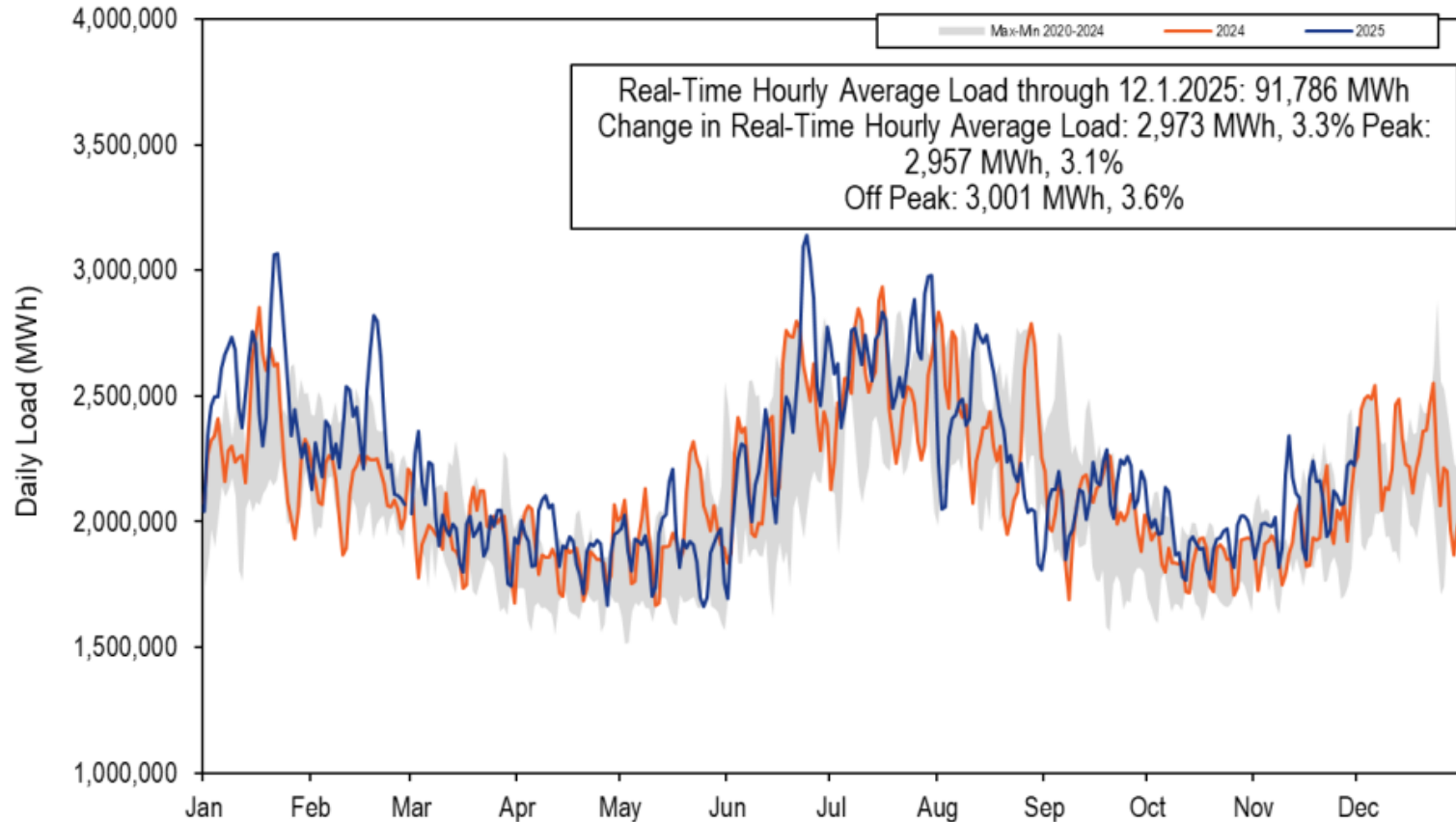
Total Cost of Wholesale Power – 2025 Monthly



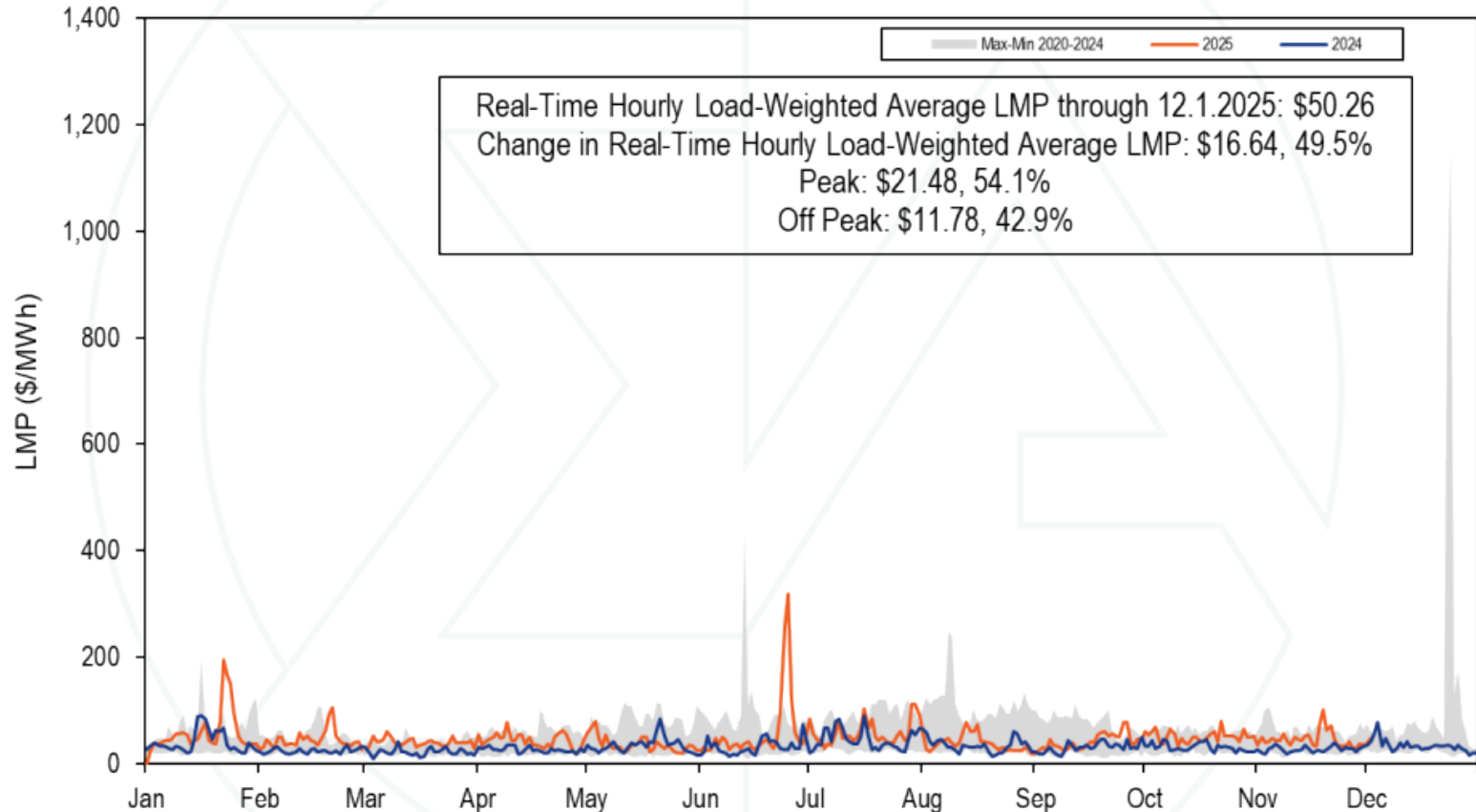
Inflation Adjusted Total Cost of Wholesale Power – Quarterly



2025 YTD PJM Real-Time Daily Load



2025 YTD PJM Real-Time Daily LMP

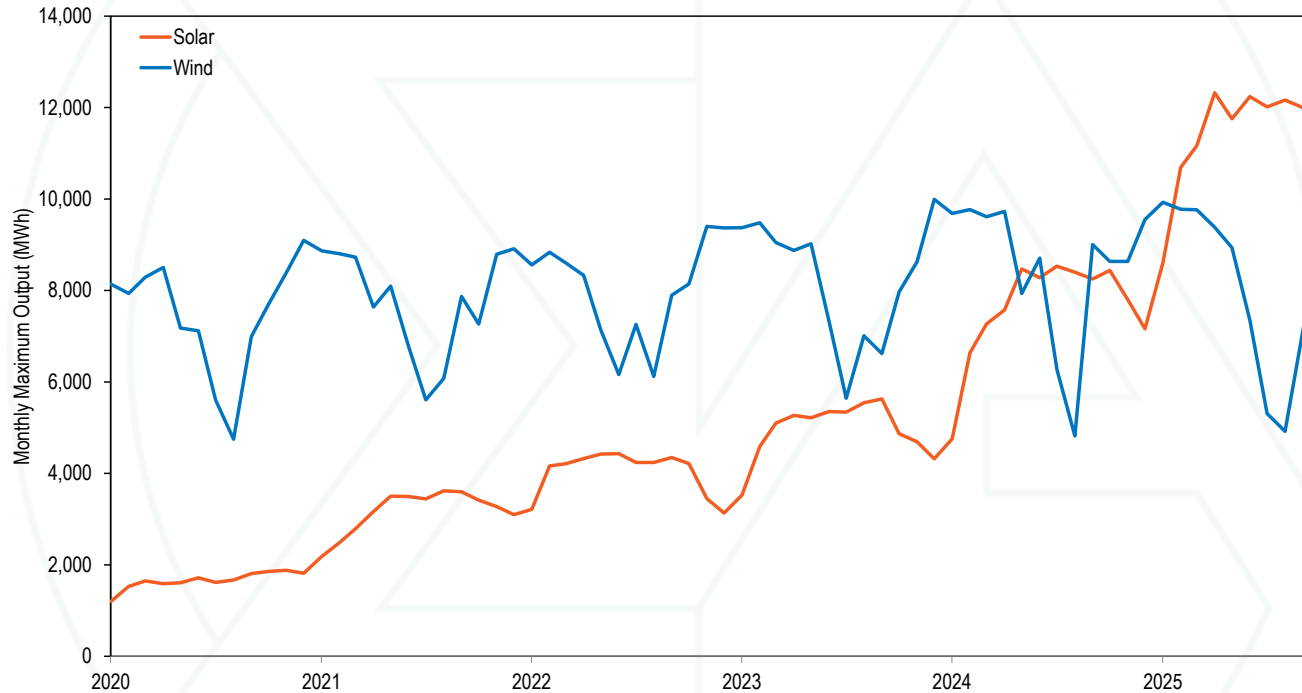


Annual Maximum Hourly Solar and Wind Output

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%	3.0%	10,058	290	3.0%	3.6%



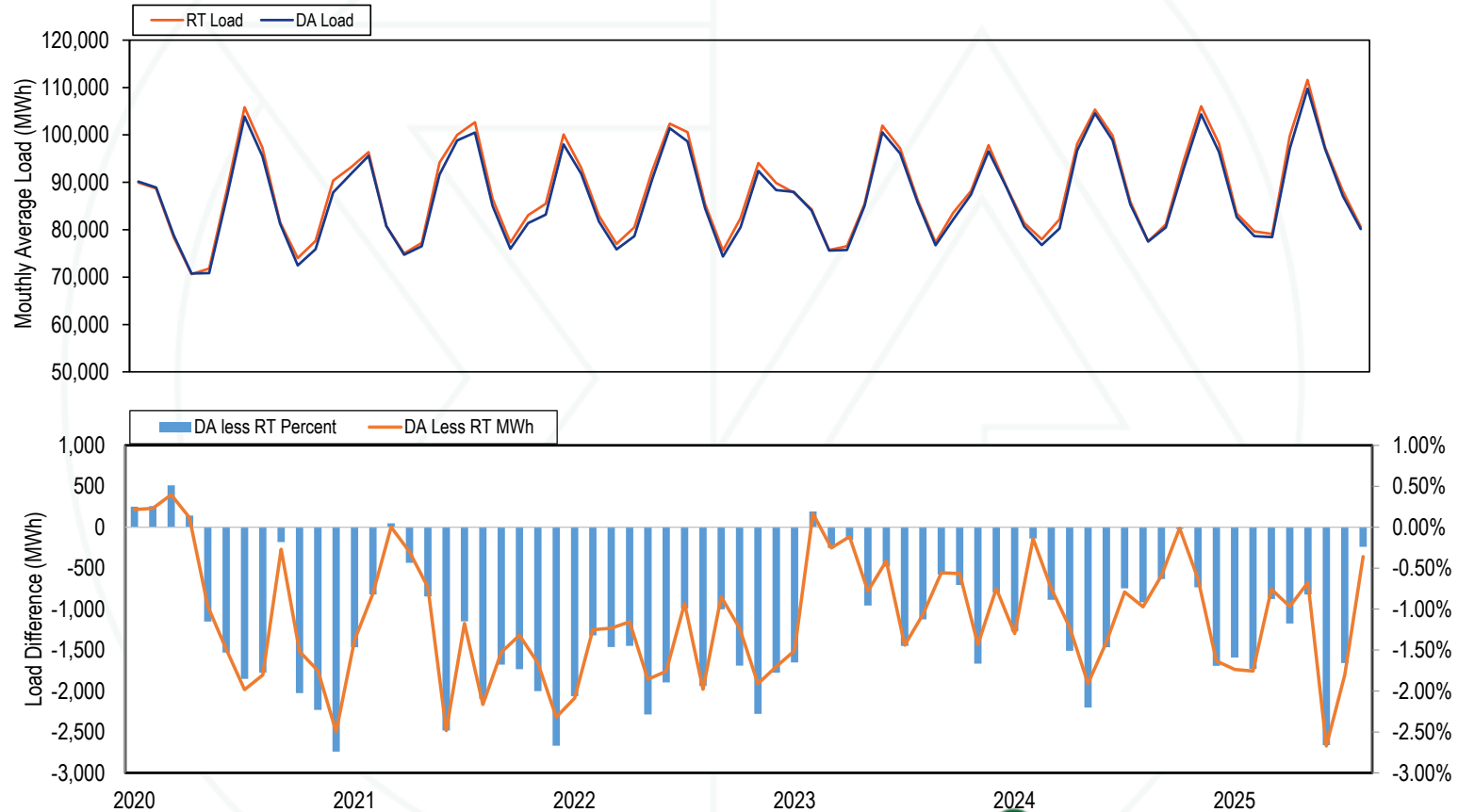
Maximum Solar and Wind Hourly Output by Month



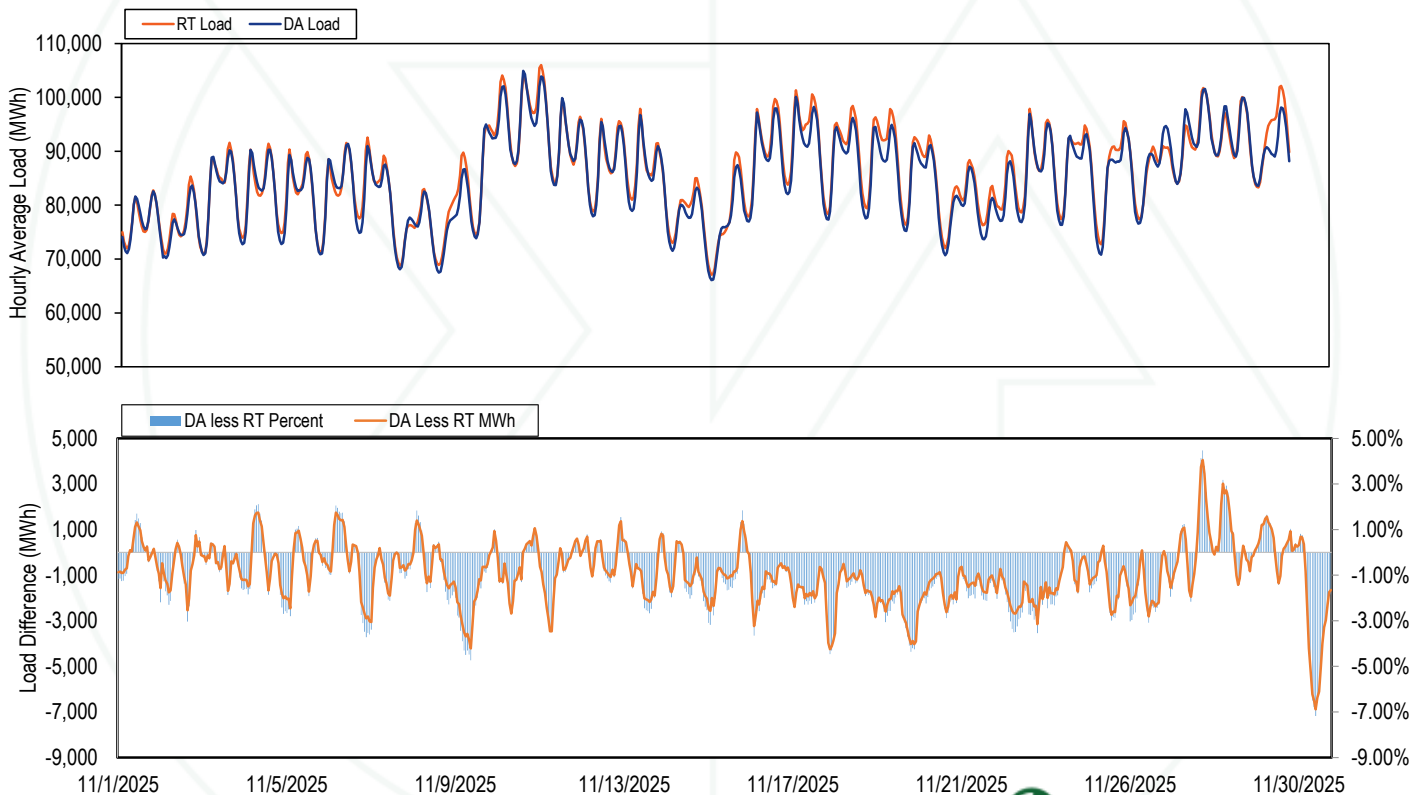
Real-Time Load-Weighted Average LMP

	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%	\$34.41	\$52.55	\$18.14	52.7%
Oct	\$26.60	\$36.49	\$9.89	37.2%	\$41.55	\$59.43	\$17.88	43.0%
Nov	\$23.80	\$33.18	\$9.38	39.4%	\$40.52	\$55.12	\$14.59	36.0%
Dec	\$31.60	\$38.70	\$7.10	22.5%				

DA vs RT Load Bidding Difference History



DA vs RT Hourly Load Bidding Difference, November 2025



DEMAND RESPONSE TESTING PERFORMANCE



Netting of DR Testing Results

- **When describing overall test performance, PJM nets the over and under performance of all resources.**
- **Netting overstates the performance and capability of the underlying resources.**
- **A resource that tests short of its RPM commitment is subject to a penalty.**
 - **That penalty is offset neither by the over performance of the provider's other resources nor that of other provider's resources.**

Netting Overstates Capability

- **During an actual dispatch event, a resource is only required to perform up to its RPM commitment to avoid penalties.**
- **While a resource may demonstrate excess capability during testing, there is no obligation for that capability to be provided during an actual event.**

Declining DR Test Performance

- **Testing shortfalls increased dramatically beginning with the 2023/2024 Delivery Year.**
- **The testing shortfall for the 2024/2025 Delivery Year increased by 134 percent compared to the 2023/2024 Delivery Year.**
- **Total Load Management Test Compliance penalties were 15.5 percent of total DR capacity revenues in the 2024/2025 Delivery Year.**

Test Penalties by Delivery Year

Delivery Year	Shortfall MW UCAP	Weighted Rate per MW	Total Penalty	Percent of Total Revenues
2021/2022	23.1	\$176.79	\$1,487,430	0.2%
2022/2023	7.1	\$97.07	\$250,346	0.1%
2023/2024	391.4	\$56.45	\$8,087,631	7.0%
2024/2025	933.4	\$53.50	\$18,225,318	15.5%

Netting Masks Underlying Performance

- **Test results for the 2024/2025 Delivery Year, when netted, demonstrate an overall capability of 103 percent of the RPM commitment.**
- **Underlying this are 933 MW UCAP of testing deficiencies assessed to individual resources.**

CSP vs EDC Program Performance

- **Testing results for the 2024/2025 Delivery Year showed a marked difference in performance between CSP and EDC or utility-operated programs.**
- **The overall over performance of the EDC program resources offset the overall under performance of non-utility providers in the 2024/2025 Delivery Year.**
- **This disparity in testing performance was mirrored in operational performance during the Summer 2025 DR dispatch events.**

2024/2025 Performance: CSP vs EDC Providers

Provider Type	RPM Commitment	Test Performance	
	MW UCAP	MW UCAP	Percent
CSP	6,782.6	6,396.5	94%
EDC	920.4	1,540.8	167%
Overall	7,703.1	7,937.3	103%

Timing of Penalty Charges

- **The load management test failure charge is assessed in the August monthly bill, issued in September, after the conclusion of the delivery year.**
- **Planned demand resource positions in RPM have a collateral requirement only until the start of the delivery year when a MW quantity of customers are registered in DRHUB sufficient to cover the RPM zonal MW quantity committed.**

Potential Credit Risks

- **Following the delivery year, at the time the testing penalty is levied, these resources are no longer collateralized.**
- **Providers assessed test failure penalties are nonetheless subject to retroactive disgorgement of revenues proportional to the shortfall quantity plus the higher of 20 percent of their weighted daily revenue rate, or \$20/MW-day.**
- **The ex-post nature of the load management test penalty, coupled with a high test failure rate, creates the potential for credit issues.**

ARR/FTR OFFSETS



ARR and self scheduled FTR total congestion offset (\$M): 2011/2012 - 2025/2026 planning periods

Planning Period	Revenue								Pre 2017/2018 (Without Balancing)		2017/2018 (With Balancing)		Post 2017/2018 (With Balancing and Surplus)		Effective Offset	
	Unadjusted			Balancing +		Surplus Revenue		Post 2017/2018 Rules	Total		Current		New		Cumulative	
	ARR Credits	SS FTR Credits	Day Ahead Congestion	M2M Congestion	Total Congestion	Pre 2017/2018 Rules	Surplus Revenue 2017/2018 Rules		ARR/FTR Offset	Percent Offset	Revenue Received	Percent Offset	Revenue Received	New Offset	Revenue	Offset
2011/2012	\$515.6	\$310.0	\$1,025.4	(\$275.7)	\$749.7	(\$50.6)	\$35.6	\$113.9	\$775.0	103.4%	\$585.5	78.1%	\$663.8	88.5%	\$775.0	103.4%
2012/2013	\$356.4	\$268.4	\$904.7	(\$379.9)	\$524.8	(\$94.0)	\$18.4	\$62.1	\$530.7	101.1%	\$263.2	50.2%	\$306.9	58.5%	\$530.7	101.1%
2013/2014	\$339.4	\$626.6	\$2,231.3	(\$360.6)	\$1,870.6	(\$139.4)	(\$49.0)	(\$49.0)	\$826.5	44.2%	\$556.3	29.7%	\$556.3	29.7%	\$826.5	44.2%
2014/2015	\$487.4	\$348.1	\$1,625.9	(\$268.3)	\$1,357.6	\$36.7	\$111.2	\$400.6	\$872.2	64.2%	\$678.4	50.0%	\$967.8	71.3%	\$872.2	64.2%
2015/2016	\$641.8	\$209.2	\$1,098.7	(\$147.6)	\$951.1	\$9.2	\$42.1	\$188.9	\$860.2	90.4%	\$745.5	78.4%	\$892.3	93.8%	\$860.2	90.4%
2016/2017	\$648.1	\$149.9	\$885.7	(\$104.8)	\$780.8	\$15.1	\$36.5	\$179.0	\$813.1	104.1%	\$729.6	93.4%	\$872.1	111.7%	\$813.1	104.1%
2017/2018	\$429.6	\$212.3	\$1,322.1	(\$129.5)	\$1,192.6	\$52.3	\$80.4	\$370.7	\$694.2	58.2%	\$592.8	49.7%	\$883.1	74.1%	\$592.8	49.7%
2018/2019	\$531.6	\$130.1	\$832.7	(\$152.6)	\$680.0	(\$5.8)	\$16.2	\$112.2	\$655.87	96.4%	\$525.3	77.2%	\$621.3	91.4%	\$621.3	91.4%
2019/2020	\$547.6	\$91.9	\$612.1	(\$169.4)	\$442.7	(\$1.6)	\$21.6	\$157.8	\$637.9	144.1%	\$491.7	111.1%	\$627.9	141.8%	\$627.9	141.8%
2020/2021	\$392.7	\$179.9	\$899.6	(\$256.2)	\$643.4	(\$43.2)	(\$0.0)	(\$0.0)	\$529.31	82.3%	\$316.4	49.2%	\$316.4	49.2%	\$316.4	49.2%
2021/2022	\$469.7	\$500.5	\$2,069.2	(\$457.4)	\$1,611.8	(\$104.6)	(\$2.9)	(\$2.9)	\$865.6	53.7%	\$509.9	31.6%	\$509.9	31.6%	\$509.9	31.6%
2022/2023	\$998.7	\$630.0	\$2,223.5	(\$526.5)	\$1,697.1	(\$80.6)	\$65.1	\$235.2	\$1,548.2	91.2%	\$1,167.4	68.8%	\$1,337.5	78.8%	\$1,337.5	78.8%
2023/2024	\$912.1	\$371.4	\$1,618.9	(\$327.0)	\$1,291.9	(\$44.1)	\$24.6	\$117.2	\$1,239.4	95.9%	\$981.2	76.0%	\$1,073.7	83.1%	\$1,073.7	83.1%
2024/2025	\$954.7	\$658.0	\$2,494.8	(\$475.5)	\$2,019.4	(\$124.2)	(\$9.6)	(\$9.6)	\$1,488.6	73.7%	\$1,127.7	55.8%	\$1,127.7	55.8%	\$1,127.7	55.8%
2025/2026*	\$415.9	\$413.1	\$1,460.9	(\$136.4)	\$1,324.6	\$16.8	\$59.8	\$189.6	\$845.8	63.9%	\$752.4	56.8%	\$882.2	66.6%	\$882.2	66.6%
Total	\$8,641.2	\$5,099.5	\$21,305.4	(\$4,167.3)	\$17,138.1	(\$558.1)	\$449.9	\$2,065.7	\$13,182.7	76.9%	\$10,023.3	58.5%	\$11,639.0	67.9%	\$11,767.2	68.7%

*First four months of the 2025/2026 planning period

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**

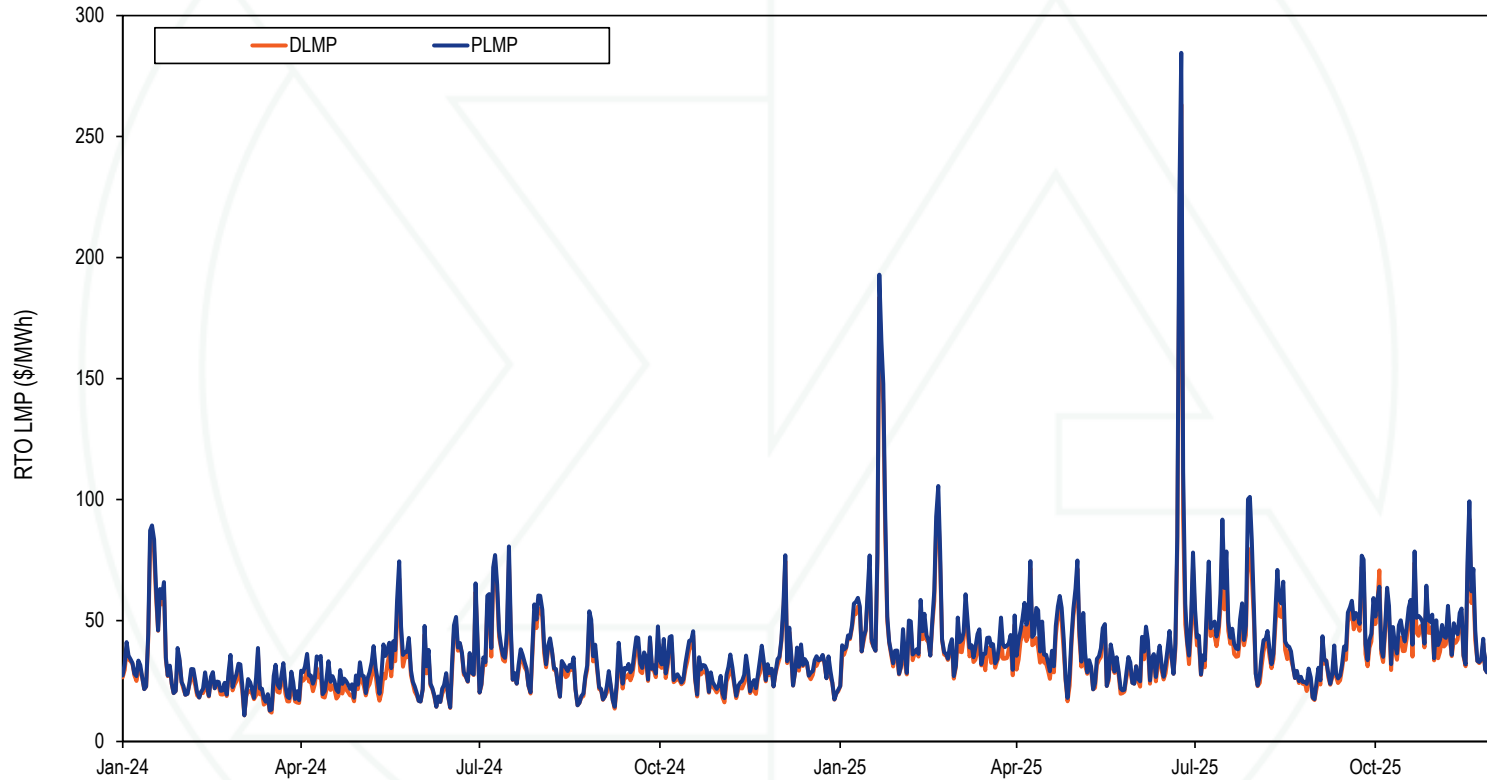
Monthly Average Load-Weighted DLMP and PLMP

Year	Month	Day-Ahead Load-Weighted Average				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-Nov	\$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	Sep	\$41.26	\$41.24	(\$0.02)	(0.0%)	\$40.49	\$43.71	\$3.22	7.9%
2025	Oct	\$50.56	\$50.73	\$0.17	0.3%	\$47.32	\$51.01	\$3.69	7.8%
2025	Nov	\$49.70	\$49.85	\$0.15	0.3%	\$43.82	\$47.08	\$3.26	7.4%
2025	Jan-Nov	\$59.01	\$59.20	\$0.19	0.3%	\$53.71	\$56.51	\$2.80	5.2%

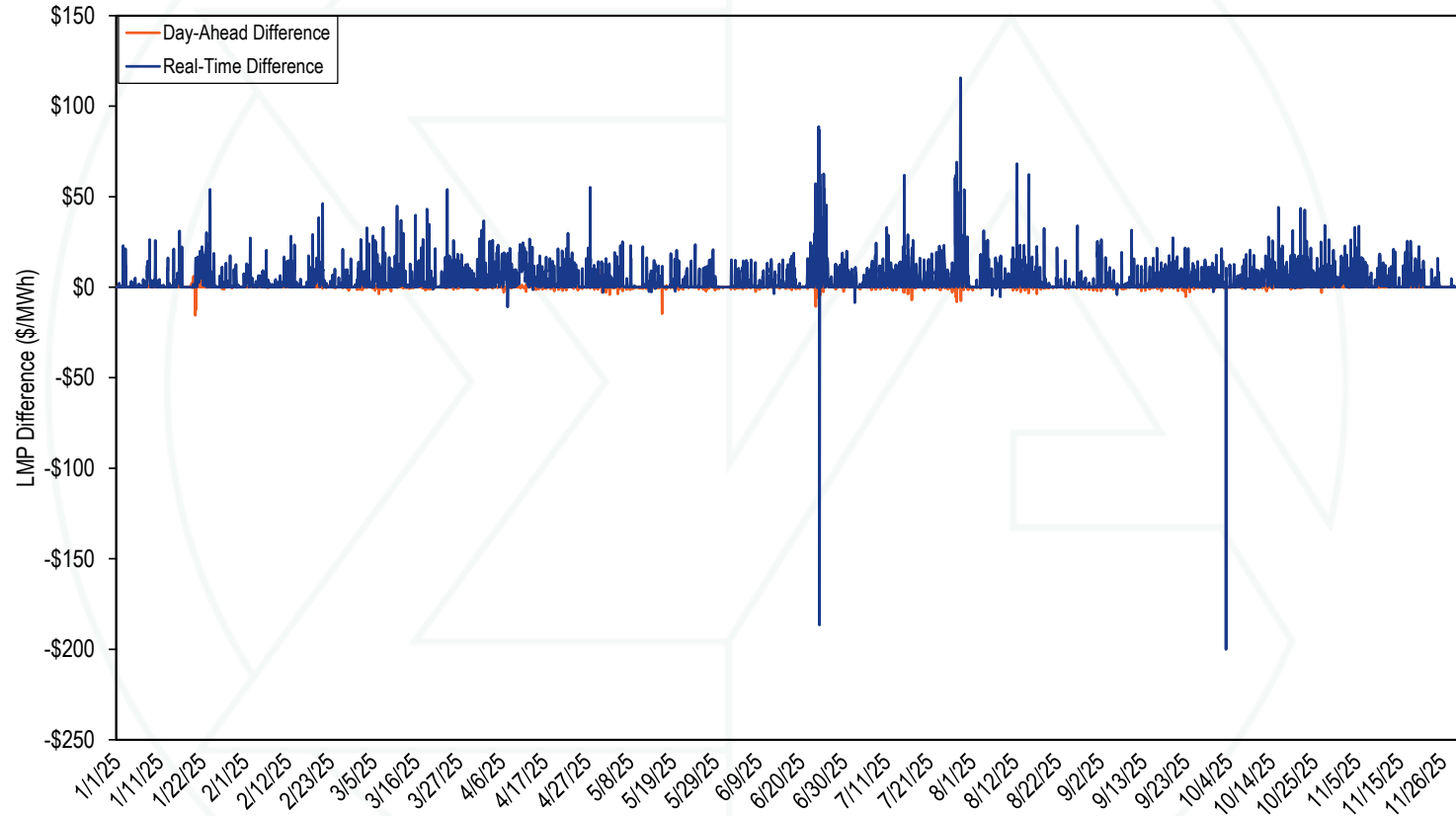
Real-Time Fast Start Impact

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	\$95.35
Oct	\$204.26	\$239.25	\$116.28	\$221.30
Nov	\$122.77	\$152.91	\$149.38	\$201.99
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-Nov	0.8%	0.3%	0.2%	0.0%	1.3%	5.2%	0.7%	0.2%	0.0%	6.1%
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	Sep	1.2%	0.4%	0.0%	0.0%	1.6%	5.7%	1.2%	0.0%	0.0%	6.9%
2025	Oct	1.4%	0.3%	0.2%	0.0%	1.8%	4.8%	0.6%	0.2%	0.0%	5.6%
2025	Nov	0.8%	0.5%	0.7%	0.0%	2.0%	4.3%	1.4%	0.6%	0.0%	6.3%
2025	Jan-Nov	1.3%	0.9%	0.2%	0.0%	2.4%	5.7%	1.6%	0.1%	0.0%	7.5%



Fast Start Impacts: Zone Average Differences

2025 Jan-Nov								
Zone	Day-Ahead				Real-Time			
	Average DLMP	Average PLMP	Difference	Percent Difference	Average DLMP	Average PLMP	Difference	Percent Difference
ACEC	\$33.65	\$33.72	\$0.07	0.2%	\$31.23	\$33.46	\$2.23	7.1%
AEP	\$37.89	\$37.95	\$0.06	0.2%	\$34.97	\$37.90	\$2.93	8.4%
APS	\$39.04	\$39.11	\$0.07	0.2%	\$35.96	\$39.01	\$3.05	8.5%
ATSI	\$38.07	\$38.09	\$0.02	0.1%	\$34.64	\$37.51	\$2.87	8.3%
BGE	\$47.85	\$47.94	\$0.09	0.2%	\$43.73	\$47.40	\$3.67	8.4%
COMED	\$30.60	\$30.68	\$0.08	0.3%	\$27.92	\$30.36	\$2.44	8.7%
DAY	\$38.98	\$39.05	\$0.07	0.2%	\$35.58	\$38.60	\$3.02	8.5%
DUKE	\$37.63	\$37.70	\$0.07	0.2%	\$34.26	\$37.16	\$2.90	8.5%
DOM	\$47.68	\$47.73	\$0.05	0.1%	\$44.52	\$47.83	\$3.31	7.4%
DPL	\$37.09	\$37.19	\$0.10	0.3%	\$33.51	\$36.56	\$3.05	9.1%
DUQ	\$37.07	\$37.13	\$0.05	0.1%	\$34.16	\$36.99	\$2.83	8.3%
EKPC	\$37.02	\$37.08	\$0.07	0.2%	\$34.19	\$37.07	\$2.88	8.4%
JCPLC	\$33.75	\$33.81	\$0.07	0.2%	\$31.37	\$33.64	\$2.27	7.2%
MEC	\$35.21	\$35.28	\$0.07	0.2%	\$32.17	\$34.64	\$2.48	7.7%
OVEC	\$36.28	\$36.34	\$0.06	0.2%	\$33.02	\$35.81	\$2.79	8.5%
PECO	\$33.04	\$33.10	\$0.07	0.2%	\$30.70	\$32.86	\$2.16	7.0%
PE	\$39.21	\$39.25	\$0.04	0.1%	\$35.66	\$38.45	\$2.79	7.8%
PEPCO	\$46.26	\$46.34	\$0.08	0.2%	\$42.40	\$45.86	\$3.46	8.2%
PPL	\$32.47	\$32.54	\$0.07	0.2%	\$29.92	\$32.22	\$2.30	7.7%
PSEG	\$33.98	\$34.06	\$0.07	0.2%	\$31.89	\$34.20	\$2.31	7.2%
REC	\$36.88	\$36.95	\$0.07	0.2%	\$34.32	\$36.78	\$2.45	7.1%

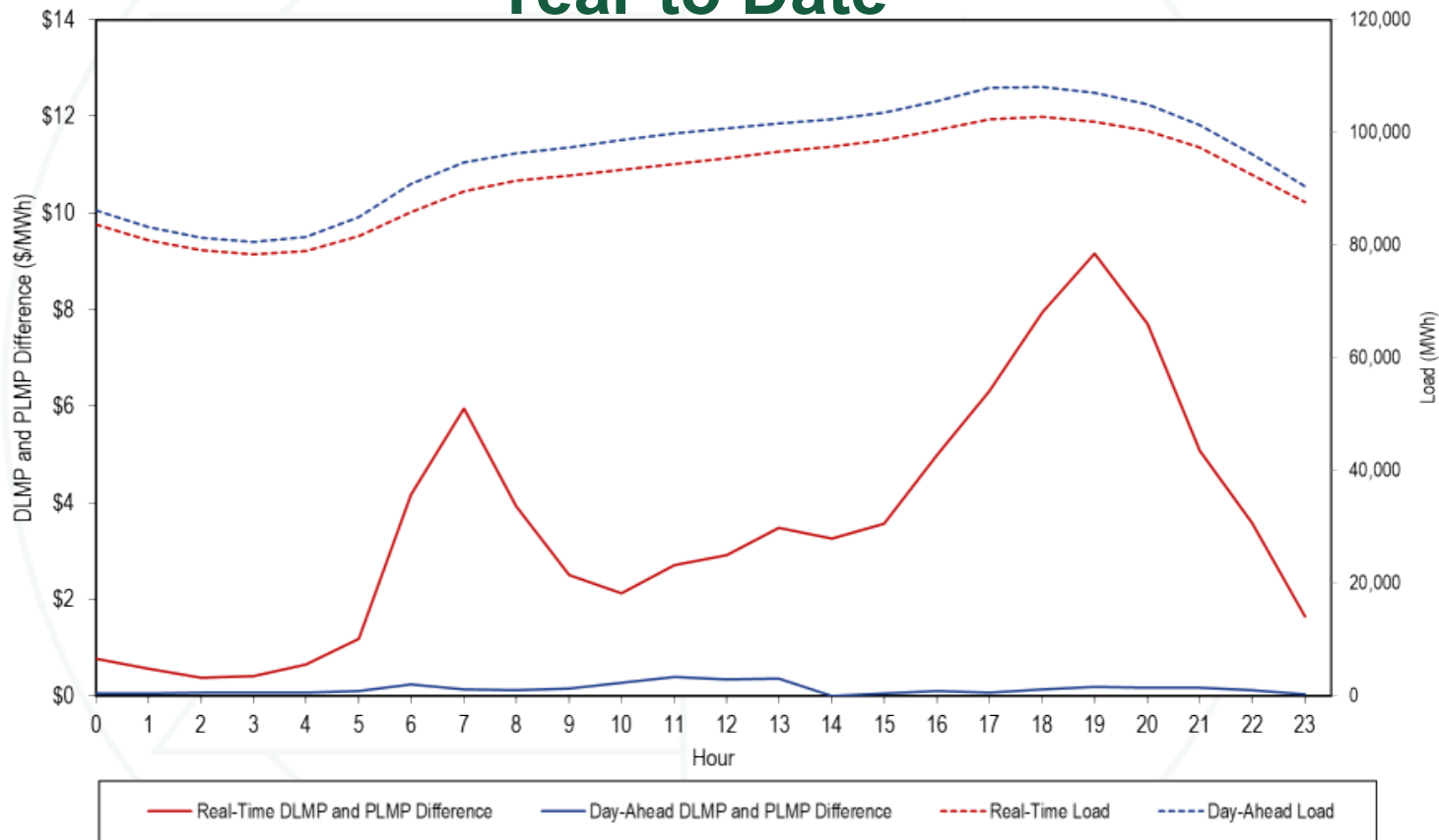
Fast Start Impacts: Hub Average Differences

Hub	2025 Jan-Nov							
	Day-Ahead				Real-Time			
	Average DLMP	Average PLMP	Difference	Percent Difference	Average DLMP	Average PLMP	Difference	Percent Difference
AEP GEN HUB	\$35.65	\$35.69	\$0.04	0.1%	\$32.59	\$35.38	\$2.80	8.6%
AEP-DAYTON HUB	\$36.93	\$36.97	\$0.04	0.1%	\$33.78	\$36.65	\$2.87	8.5%
ATSI GEN HUB	\$37.01	\$37.03	\$0.01	0.0%	\$33.55	\$36.34	\$2.79	8.3%
CHICAGO GEN HUB	\$29.56	\$29.64	\$0.08	0.3%	\$26.61	\$29.06	\$2.46	9.2%
CHICAGO HUB	\$30.51	\$30.55	\$0.04	0.1%	\$27.70	\$30.14	\$2.43	8.8%
DOMINION HUB	\$40.93	\$40.97	\$0.04	0.1%	\$37.92	\$41.07	\$3.15	8.3%
EASTERN HUB	\$36.66	\$36.72	\$0.06	0.2%	\$33.07	\$36.08	\$3.02	9.1%
N ILLINOIS HUB	\$30.25	\$30.34	\$0.09	0.3%	\$27.62	\$30.05	\$2.43	8.8%
NEW JERSEY HUB	\$33.46	\$33.51	\$0.04	0.1%	\$31.32	\$33.58	\$2.27	7.2%
OHIO HUB	\$36.96	\$37.00	\$0.04	0.1%	\$33.83	\$36.69	\$2.87	8.5%
WEST INT HUB	\$38.55	\$38.57	\$0.02	0.0%	\$35.51	\$38.47	\$2.96	8.3%
WESTERN HUB	\$40.23	\$40.26	\$0.04	0.1%	\$36.74	\$39.78	\$3.04	8.3%

Zonal Real-Time PLMP-DLMP Difference Frequency

2025 Jan-Nov										
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%	0.1%	1.0%	44.7%	42.6%	7.5%	3.4%	0.6%	0.1%	0.0%
ACEC	0.0%	0.0%	5.1%	45.0%	40.8%	5.7%	2.7%	0.5%	0.1%	0.0%
AEP	0.0%	0.0%	1.5%	44.9%	41.7%	7.6%	3.6%	0.6%	0.1%	0.0%
APS	0.0%	0.0%	1.1%	44.9%	41.9%	7.5%	3.8%	0.7%	0.1%	0.0%
ATSI	0.0%	0.0%	1.5%	44.8%	42.0%	7.4%	3.5%	0.6%	0.1%	0.0%
BGE	0.0%	0.1%	2.7%	44.7%	38.5%	7.8%	4.8%	1.1%	0.3%	0.0%
COMED	0.1%	0.1%	5.3%	45.8%	38.6%	6.5%	2.9%	0.6%	0.1%	0.0%
DAY	0.0%	0.1%	1.6%	44.9%	41.4%	7.6%	3.6%	0.7%	0.1%	0.0%
DUKE	0.0%	0.1%	1.7%	45.0%	41.6%	7.4%	3.4%	0.6%	0.1%	0.0%
DOM	0.1%	0.3%	2.3%	44.8%	39.5%	7.4%	4.4%	1.0%	0.2%	0.0%
DPL	0.0%	0.1%	6.5%	44.9%	38.6%	5.5%	2.7%	0.9%	0.6%	0.0%
DUQ	0.0%	0.0%	1.5%	44.8%	42.2%	7.3%	3.4%	0.6%	0.1%	0.0%
EKPC	0.0%	0.0%	1.7%	44.9%	41.8%	7.5%	3.4%	0.6%	0.1%	0.0%
JCPLC	0.0%	0.0%	3.5%	45.0%	42.4%	5.8%	2.7%	0.5%	0.1%	0.0%
MEC	0.0%	0.2%	3.9%	44.8%	41.0%	6.3%	3.1%	0.6%	0.1%	0.0%
OVEC	0.0%	0.2%	1.8%	45.0%	41.7%	7.3%	3.3%	0.6%	0.1%	0.0%
PECO	0.0%	0.1%	6.0%	44.9%	40.1%	5.6%	2.6%	0.6%	0.1%	0.0%
PE	0.0%	0.1%	2.0%	44.6%	41.7%	7.3%	3.5%	0.6%	0.1%	0.0%
PEPCO	0.0%	0.1%	2.5%	44.9%	39.1%	7.7%	4.5%	1.0%	0.2%	0.0%
PPL	0.0%	0.1%	3.8%	44.8%	41.9%	5.8%	2.8%	0.5%	0.1%	0.0%
PSEG	0.0%	0.0%	3.1%	45.0%	42.6%	5.8%	2.8%	0.6%	0.1%	0.0%
REC	0.0%	0.1%	3.1%	44.7%	42.0%	6.4%	3.0%	0.6%	0.1%	0.0%

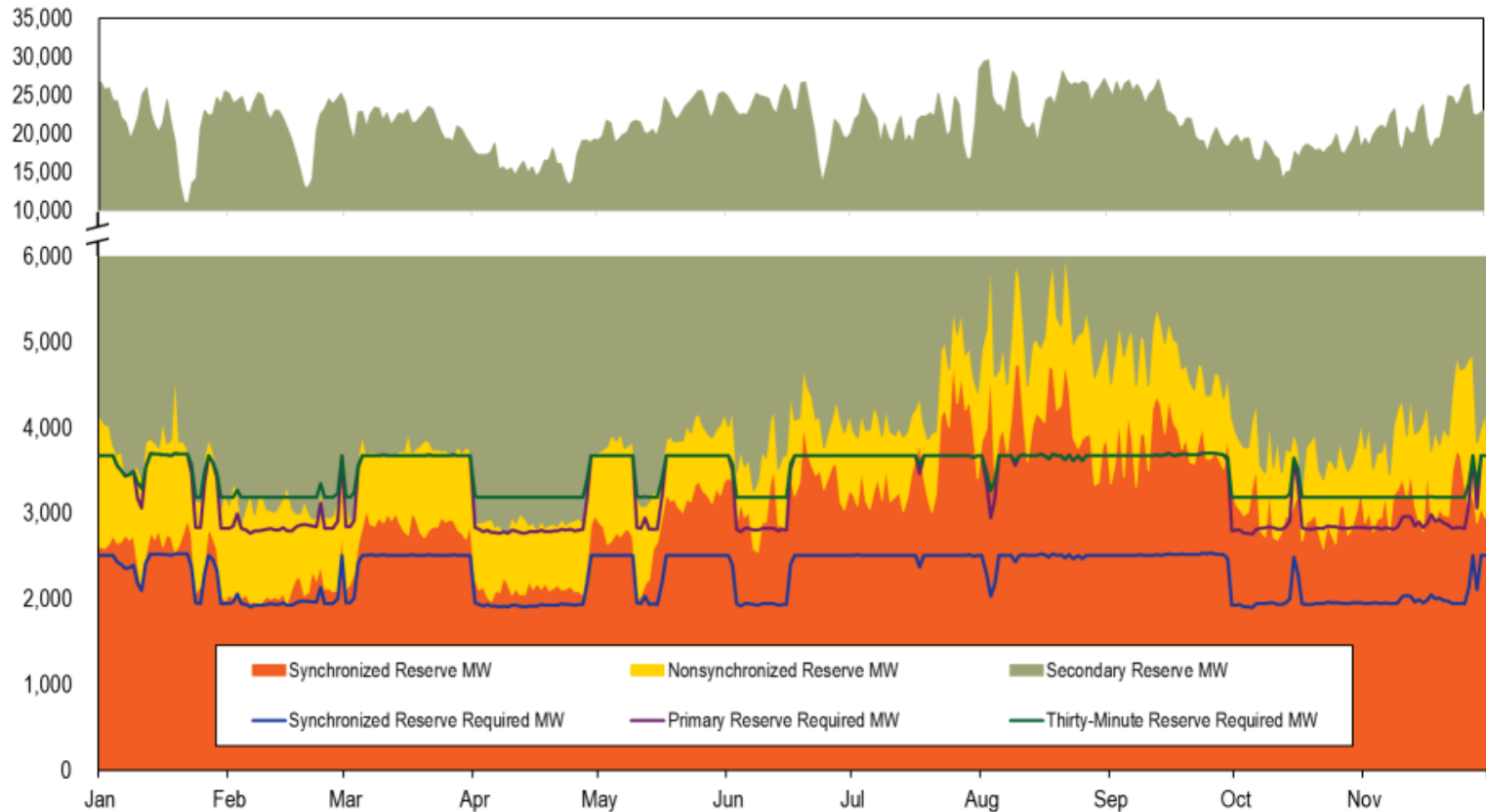
Hourly Average Load and PLMP – DLMP Delta Year to Date



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
2025	Sep	2,997	3,815	912	981	3,909	4,795	11,392	18,112	15,301	22,907
2025	Oct	2,319	2,952	627	789	2,946	3,741	9,098	14,211	12,044	17,953
2025	Nov	2,306	3,130	967	971	3,273	4,102	10,796	17,406	14,068	21,507

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
2025	Sep	1,956	2,089	696	771	2,651	2,860	NA	NA	NA	NA
2025	Oct	2,012	1,930	538	691	2,550	2,620	NA	NA	NA	NA
2025	Nov	2,156	1,972	721	714	2,877	2,686	NA	NA	NA	NA

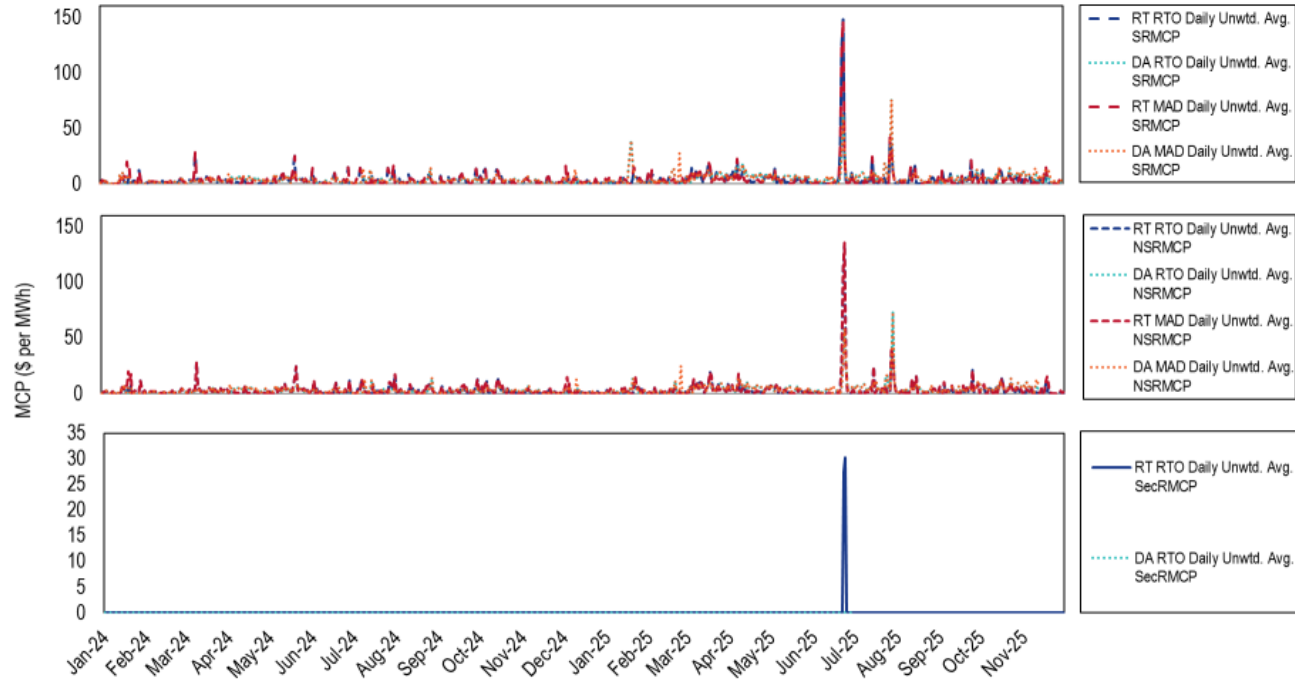
Total Reserve Settlements by Month

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	\$243,258
2025	Feb	\$5,437,781	\$698,931	\$0	(\$126,526)	(\$300,892)	\$0	\$779,549	\$96,940	\$133,463
2025	Mar	\$15,181,061	\$2,079,574	\$0	(\$1,464,818)	(\$470,698)	\$0	\$2,047,513	\$289,300	\$126,843
2025	Apr	\$13,256,012	\$1,984,502	\$0	(\$345,197)	(\$247,956)	\$0	\$1,268,522	\$91,497	\$135,333
2025	May	\$10,685,430	\$1,340,915	\$0	(\$13,743)	(\$151,404)	\$0	\$786,811	\$64,475	\$420,010
2025	Jun	\$15,012,782	\$2,457,199	\$0	(\$4,327,200)	(\$2,282,555)	(\$986,243)	\$4,657,382	\$102,702	\$1,825,703
2025	Jul	\$22,507,389	\$3,413,482	\$0	(\$310,371)	(\$958,506)	\$0	\$2,566,238	\$121,292	\$1,274,869
2025	Aug	\$7,390,714	\$1,266,236	\$0	\$20,554	(\$425,763)	\$0	\$1,016,281	\$67,415	\$1,150,779
2025	Sep	\$10,131,551	\$1,261,458	\$0	(\$840,026)	(\$283,100)	\$0	\$1,576,176	\$163,072	\$850,947
2025	Oct	\$11,138,947	\$1,708,180	\$0	(\$485,436)	\$132,540	\$0	\$1,527,077	\$61,983	\$929,807
2025	Nov	\$9,137,073	\$1,411,665	\$0	(\$11,596)	(\$124,998)	\$0	\$1,376,621	\$71,961	\$691,986

Year	Month	Total Shortfall Charges			Total Credits		
		SR	NSR	SecR	SR	NSR	SecR
2025	Jan	\$0	NA	\$0	\$10,759,099	\$689,396	\$243,258
2025	Feb	\$118,146	NA	\$0	\$5,972,657	\$494,978	\$133,463
2025	Mar	\$0	NA	\$0	\$15,763,757	\$1,898,176	\$126,843
2025	Apr	\$0	NA	\$0	\$14,179,338	\$1,828,043	\$135,333
2025	May	\$0	NA	\$0	\$11,458,498	\$1,253,986	\$420,010
2025	Jun	\$0	NA	\$0	\$15,342,965	\$277,346	\$839,460
2025	Jul	\$76,684	NA	\$0	\$24,686,572	\$2,576,268	\$1,274,869
2025	Aug	\$0	NA	\$0	\$8,427,550	\$907,888	\$1,150,779
2025	Sep	\$159,581	NA	\$0	\$10,708,120	\$1,141,430	\$850,947
2025	Oct	\$114,170	NA	\$0	\$12,066,418	\$1,902,703	\$929,807
2025	Nov	\$4,280	NA	\$0	\$10,497,818	\$1,358,628	\$691,986

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

Reserve Prices: January 2024 through November 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.

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