

Transmission Penalty Factors: Impact on Energy Market Results Additional Data

Markets Reliability Committee
October 25, 2018

Devendra Canchi
John Hyatt
Joseph Bowring



Monitoring Analytics

Impact on Load Payments in 2017

- **The IMM simulated the clearing of the real-time market, setting the shadow prices of violated transmission constraints equal to the transmission penalty factors.**
- **The balancing market payments were calculated for every pricing node using simulated LMPs.**
- **The load payments and congestion surplus allocation is aggregated for each state in the PJM territory.**

Impact on Load Payments January through December, 2017¹

Load Payments (\$ Millions)

	Actual	Transmisison Penalty Factors Set Prices	Change	Percent Change
Day-Ahead	\$23,463.71	\$23,463.71	\$0.00	0.00%
Balancing Market	\$102.57	\$107.46	\$4.89	4.77%
Balancing Congestion Surplus	\$51.69	\$43.10	-\$8.58	(16.6%)
Net Payments	\$23,514.59	\$23,528.07	\$13.48	0.06%

¹ Presented at Market Implementation Committee - Special Session, June 27, 2018

Impact on Load Payments by State

January through December, 2017

State	Actual (\$ Millions)				Transmission Penalty Factors Set Prices (\$ Millions)				Change (\$)	Change (%)
	Day-Ahead Market Payment By Load	Balancing Market Payment By Load	Balancing Congestion Credit	Net Payment by Load	Day-Ahead Market Payment By Load	Balancing Market Payment By Load	Balancing Congestion Credit	Net Payment by Load		
DC	\$352.76	(\$22.14)	\$0.64	\$329.99	\$352.76	(\$22.20)	\$0.53	\$330.03	\$0.04	0.01%
DE	\$351.12	\$9.60	\$0.77	\$359.96	\$351.12	\$10.24	\$0.64	\$360.73	\$0.77	0.21%
IL	\$2,693.08	(\$12.54)	\$6.43	\$2,674.11	\$2,693.08	(\$12.24)	\$5.36	\$2,675.47	\$1.36	0.05%
IN	\$663.89	(\$2.47)	\$1.43	\$659.99	\$663.89	(\$2.46)	\$1.19	\$660.25	\$0.25	0.04%
KY	\$569.77	(\$7.50)	\$1.19	\$561.08	\$569.77	(\$7.40)	\$0.99	\$561.37	\$0.29	0.05%
MD	\$2,081.45	\$61.28	\$4.04	\$2,138.68	\$2,081.45	\$62.56	\$3.37	\$2,140.64	\$1.95	0.09%
MI	\$130.22	\$0.41	\$0.28	\$130.35	\$130.22	\$0.44	\$0.23	\$130.43	\$0.07	0.06%
NC	\$163.77	\$4.01	\$0.33	\$167.45	\$163.77	\$4.07	\$0.28	\$167.57	\$0.12	0.07%
NJ	\$2,308.02	\$34.05	\$5.00	\$2,337.08	\$2,308.02	\$34.88	\$4.17	\$2,338.73	\$1.65	0.07%
OH	\$4,860.42	(\$6.26)	\$10.16	\$4,843.99	\$4,860.42	(\$6.32)	\$8.48	\$4,845.62	\$1.63	0.03%
PA	\$4,471.31	\$8.94	\$9.79	\$4,470.46	\$4,471.31	\$10.08	\$8.17	\$4,473.22	\$2.76	0.06%
TN	\$45.62	\$0.30	\$0.10	\$45.82	\$45.62	\$0.29	\$0.08	\$45.83	\$0.01	0.03%
VA	\$3,719.83	\$26.76	\$7.30	\$3,739.28	\$3,719.83	\$27.24	\$6.09	\$3,740.98	\$1.70	0.05%
WV	\$1,052.43	\$2.23	\$2.24	\$1,052.42	\$1,052.43	\$2.37	\$1.87	\$1,052.94	\$0.51	0.05%
Other	\$0.01	\$5.90	\$1.98	\$3.93	\$0.01	\$5.92	\$1.65	\$4.28	\$0.34	8.77%
Total	\$23,463.71	\$102.57	\$51.69	\$23,514.59	\$23,463.71	\$107.46	\$43.10	\$23,528.07	\$13.48	0.06%

Monitoring Analytics, LLC

2621 Van Buren Avenue

Suite 160

Eagleville, PA

19403

(610) 271-8050

MA@monitoringanalytics.com

www.MonitoringAnalytics.com

