



Joint and Common Market

# **COORDINATED TRANSACTION SCHEDULING (CTS) DATA POSTING ON YEAR 2 ACTIVITY**



## Key takeaways

- CTS was implemented 10/2/2017 after a multi-year design and implementation effort between MISO and PJM
- Since CTS development began in 2011 Real-Time spreads have come down and traders gained the ability to submit physical schedules until 20 minutes before each interval
- A data issue caused MISO to under forecast prices at its PJMC interface from June 2018 – March 2019
- Since March 2019 however CTS activity, clearing and forecasts have improved
- CTS averaged ~19MW per interval from June to September 2019

Since March 2019, CTS spread prices are down while activity and clearing are up

Year 1 Month	Total Bid (MWh)	Avg. Spread Price	% of Bids Cleared	Cleared Imports (MWh)	Cleared Exports (MWh)
Oct 2017	25,978	\$ 5.99	20%	1,746	3,472
Nov 2017	55,628	\$ 1.33	24%	1,207	12,029
Dec 2017	22,038	\$ 9.41	15%	3,072	137
Jan 2018	908	\$14.32	11%	78	25
Feb 2018	6,625	\$10.21	17%	1,157	
Mar 2018	375	\$10.00	35%		131
Apr 2018	9,875	\$ 3.34	5%	513	
May 2018	n/a				
Jun 2018	1,025	\$ 0.75	38%	387	
Jul 2018	n/a				
Aug 2018	250	\$10.00			
Sep 2018	675	\$ 1.50	56%	375	

Year 2 Month	Total Bid (MWh)	Avg. Spread Price	% of Bids Cleared	Cleared Imports (MWh)	Cleared Exports (MWh)
Oct 2018	1,525	\$ 6.42	2%	30	
Nov 2018	1,550	\$ 2.00	0%		
Dec 2018	750	\$ 2.00	0%		
Jan 2019	1,300	\$11.76	10%	3	128
Feb 2019	687	\$ 7.44	2%		12
Mar 2019	21,355	\$ 3.90	35%	6,098	1,295
Apr 2019	88,250	\$ 3.05	35%	14,765	16,473
May 2019	29,000	\$ 2.58	35%	9,405	625
Jun 2019	174,400	\$ 1.66	42%	73,831	
Jul 2019	206,775	\$ 1.38	14%	28,733	1,126
Aug 2019	201,850	\$ 0.94	32%	63,233	525
Sep 2019	160,575	\$ 0.90	31%	50,384	



## Forecast\* accuracy has improved significantly since March 2019

Month	Forecast	Actual	Error
Oct-17	\$27.11	\$26.55	\$0.57
Nov-17	\$28.09	\$26.24	\$1.85
Dec-17	\$27.08	\$25.54	\$1.55
Jan-18	\$38.72	\$35.07	\$3.65
Feb-18	\$25.32	\$24.35	\$0.97
Mar-18	\$25.29	\$22.58	\$2.71
Apr-18	\$32.38	\$29.31	\$3.07
May-18	\$30.52	\$28.58	\$1.94
Jun-18	\$22.54	\$26.66	(\$4.11)
Jul-18	\$22.18	\$29.23	(\$7.05)
Aug-18	\$22.78	\$30.81	(\$8.03)
Sep-18	\$23.59	\$31.63	(\$8.04)

Month	Forecast	Actual	Error
Oct-18	\$ 23.86	\$ 30.23	\$ (6.37)
Nov-18	\$ 25.41	\$ 33.76	\$ (8.35)
Dec-18	\$ 24.34	\$ 30.42	\$ (6.07)
Jan-19	\$ 21.71	\$ 29.05	\$ (7.34)
Feb-19	\$ 20.99	\$ 25.84	\$ (4.85)
Mar-19	\$ 24.15	\$ 26.35	\$ (2.20)
Apr-19	\$ 26.80	\$ 26.52	\$ 0.28
May-19	\$ 24.02	\$ 23.69	\$ 0.33
Jun-19	\$ 22.66	\$ 22.90	\$ (0.25)
Jul-19	\$ 25.13	\$ 29.00	\$ (3.87)
Aug-19	\$ 22.57	\$ 22.81	\$ (0.24)
Sep-19	\$ 24.48	\$ 25.13	\$ (0.65)
Oct-19	\$ 19.32	\$ 18.98	\$ 0.34

\*These are MISO's values for the PJMC interface



## Forecast vs. Actual LMP Data (PJM)

Month	Forecast	Actual	Error
Oct-17	\$26.41	\$26.17	\$0.24
Nov-17	\$26.32	\$26.04	\$0.28
Dec-17	\$24.37	\$27.95	(\$3.58)
Jan-18	\$30.41	\$38.88	(\$8.47)
Feb-18	\$22.13	\$23.84	(\$1.71)
Mar-18	\$23.34	\$24.51	(\$1.17)
Apr-18	\$29.51	\$29.58	(\$0.07)
May-18	\$27.15	\$30.27	(\$3.12)
Jun-18	\$24.45	\$25.70	(\$1.25)
Jul-18	\$25.36	\$28.30	(\$2.94)
Aug-18	\$29.20	\$29.74	(\$0.54)
Sep-18	\$30.40	\$30.31	\$0.09

Month	Forecast	Actual	Error
Oct-18	\$31.42	\$29.31	\$ 2.11
Nov-18	\$33.15	\$32.38	\$ 0.77
Dec-18	\$27.40	\$29.90	\$(2.50)
Jan-19	\$27.07	\$26.30	\$ 0.77
Feb-19	\$26.24	\$26.39	\$(0.15)
Mar-19	\$28.41	\$27.11	\$ 1.30
Apr-19	\$27.32	\$25.18	\$ 2.14
May-19	\$22.62	\$22.00	\$ 0.62
Jun-19	\$22.11	\$21.40	\$ 0.71
Jul-19	\$30.18	\$26.21	\$ 3.97
Aug-19	\$24.25	\$22.45	\$ 1.80
Sep-19	\$25.64	\$25.26	\$ 0.38
Oct-19	\$26.75	\$24.86	\$ 1.89



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