

# Energy Price Circuit Breaker Joint Stakeholder Package

September 9, 2022



# Goal of the Issue Charge

- Explore potential “circuit breaker(s)” or other stop loss approach(es) that could limit extreme pricing whose cost likely far exceeds the value of any contribution to preserving grid reliability



# Historic Prices in PJM

- Joint Stakeholder package trigger is average LMP over a day or week
- Historic observations of total LMP reviewed for context
- Observation period of data is 2011 through June 2022
- Only reviewed real-time pricing for most extreme price observations
- \$35.11 – average real-time total LMP for a day
- \$35.10 – average real-time total LMP for a week

	Date	Week/Year	LMP (\$/MWh)
Highest Average Week	1/5/2014	2 <sup>nd</sup> /2014	\$167.74
Highest Average Day	1/7/14	2 <sup>nd</sup> /2014	\$675.77
Highest Average Hour	6/13/22, 1600	25 <sup>th</sup> /2022	\$2,642.58



# Historic Prices in PJM

Year	Highest Average RT LMP Day	Highest Average RT LMP Week	Average RT LMP Day	Average RT LMP Week
2011	\$196.95	\$87.96	\$42.84	\$42.59
2012	\$113.55	\$54.94	\$33.11	\$33.06
2013	\$119.56	\$78.89	\$36.55	\$36.46
2014	\$675.77	\$167.74	\$48.22	\$48.23
2015	\$191.76	\$129.31	\$33.39	\$33.24
2016	\$61.43	\$41.56	\$27.57	\$27.46
2017	\$109.75	\$91.40	\$29.42	\$30.42
2018	\$230.98	\$159.82	\$35.75	\$35.89
2019	\$110.34	\$39.48	\$26.02	\$25.91
2020	\$50.67	\$33.68	\$20.66	\$20.66
2021	\$108.20	\$74.89	\$38.18	\$37.92
Thru June 2022	\$361.10	\$130.62	\$64.42	\$63.10



# Joint Stakeholder Package

## Circuit Breaker Trigger

- Energy price, average total LMP over a defined interval in the RTO or Active Subzone
- PJM Discretion to invoke the circuit breaker methodology during other Emergency Procedures
- PJM shall not have discretion to prevent the circuit breaker
- Both day-ahead and real-time markets may trigger the circuit breaker
- Once triggered, circuit breaker is deployed immediately – next 5-minute interval
- Notification
  - Stakeholder email communication
  - Addition of Circuit Breaker Status Icon to PJM Markets & Operations landing page and Data Viewer
  - Much like a PAI notice, the CB will be noticed on the Emergency Procedures page for informational purposes



# Joint Stakeholder Package

## LMP-Based Circuit Breaker Components

- Total LMP in RTO or Active Subzone is the triggering mechanism
- Trigger level
  - \$1,000/MWh average LMP for any single rolling 24-hour period (aka day)
  - \$850/MWh average LMP for any rolling 168-hour period (aka week)
- Termination – after 5 days without circuit breaker cap being administratively utilized
- Methodology – administratively cap total LMP at \$850/MWh for the RTO or Active Subzone
- Settlements - scheduled and committed resources with verified cost offers above the relevant circuit breaker pricing levels would recover costs via current uplift methodology



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