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FOR IMMEDIATE RELEASE

2023 Quarterly State of the Market Report for PJM: January through June

MARKET MONITOR FINDS PJM WHOLESALE ELECTRICITY MARKETS COMPETITIVE

(Eagleville, PA, August 10, 2023) PJM Interconnection's wholesale electric energy market produced competitive results during the first six months of 2023, according to the *2023 Quarterly State of the Market Report for PJM: January through June* released today by Monitoring Analytics, LLC, the Independent Market Monitor for PJM.

The Independent Market Monitor, Joseph Bowring, announced findings of the report today. The report is the Independent Market Monitor's assessment of the competitiveness of the wholesale electricity markets managed by PJM in 13 states and the District of Columbia. The report includes analysis of market structure, participant behavior and market performance for each of the PJM markets.

"Our analysis concludes that the results of the PJM Energy Market were competitive in the first six months of 2023," Bowring said.

Energy prices decreased in the first six months of 2023 from the first six months of 2022. The real-time load-weighted average LMP in the first six months of 2023 decreased by \$38.44 per MWh, 56.7 percent, from the first six months of 2022, from \$67.77 per MWh to \$29.33 per MWh. Of the \$38.44 per MWh decrease, \$23.69 per MWh (61.6 percent) was a result of the decreased costs of fuel and consumables. Both coal and natural gas prices were lower in the first six months of 2023 than in the first six months of 2022. The real-time hourly average load in the first six months of 2023 decreased by 5.0 percent from the first six months of 2022, from 87,616 MWh to 83,226 MWh.

The total price of wholesale power decreased from \$95.92 per MWh in the first six months of 2022 to \$53.23 per MWh in the first six months of 2023, a decrease of 44.5 percent. Energy (55.1 percent), capacity (9.6 percent) and transmission charges (31.9 percent) are the three largest components of the total price of wholesale power, comprising 96.6 percent of the total price per MWh in the first six months of 2023. Starting in the third quarter of 2019, the cost of transmission per MWh of wholesale power has been higher than the cost of capacity.

Energy prices in PJM in the first six months of 2023 were set, on average, by units operating at, or close to, their short run marginal costs, although this was not always the case. This is evidence of generally competitive behavior and competitive market outcomes, although high markups for some marginal units did affect prices.

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In the first six months of 2023, generation from coal units decreased 37.6 percent, generation from natural gas units increased 10.7 percent, and generation from oil units increased 19.6 percent compared to the first six months of 2022. Wind and solar output decreased by 1.7 percent compared to the first six months of 2022, supplying 5.6 percent of PJM energy in the first six months of 2023.

Net revenue is a key measure of overall market performance as well as a measure of the incentive to invest in generation to serve PJM markets. Theoretical net revenues from the energy market decreased for all unit types in the first six months of 2023 compared to the first six months of 2022. Theoretical energy market net revenues decreased by 48 percent for a new combustion turbine (CT), 49 percent for a new combined cycle (CC), 92 percent for a new coal plant (CP), 54 percent for a new nuclear plant, 53 percent for a new onshore wind plant, 59 percent for a new offshore wind plant and 63 percent for a new solar plant.

Total energy uplift charges decreased by \$26.5 million, or 32.7 percent, in the first six months of 2023 compared to the first six months of 2022, from \$81.1 million to \$54.6 million.

When there are binding transmission constraints and locational energy price differences, customers pay more for energy than generation is paid to produce that energy. The difference is congestion. Congestion revenues belongs to customers and should be returned to customers. Total congestion costs decreased by \$747.0 million or 65.3 percent, from \$1,143.5 million in the first six months of 2022 to \$396.5 million. But only 78.8 percent of total congestion paid by customers for the 2022/2023 planning period was returned to customers through the ARR and self-scheduled FTR revenues offset. The goal of the FTR market design should be to ensure that customers have the rights to 100 percent of the congestion revenues that customers pay. Load has received \$3.8 billion less in congestion revenues than load should have received from the 2011/2012 planning period through the 2022/2023 planning period.

The Independent Market Monitor (also known as the Market Monitoring Unit or MMU or IMM) evaluates the operation of PJM's wholesale markets to identify ineffective market rules and tariff provisions, proposes improvements to market rules and tariff provisions when needed, monitors compliance with and implementation of the market rules, identifies potential anticompetitive behavior by market participants and provides comprehensive market analysis critical for informed policy and decision making. Joseph Bowring, the Market Monitor, ensures the independence and objectivity of the monitoring program.

For a copy of the State of the Market Report, visit Monitoring Analytics at: http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2023.shtml