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FOR IMMEDIATE RELEASE

2019 State of the Market Report for PJM

MARKET MONITOR FINDS PJM WHOLESALE ELECTRICITY MARKETS COMPETITIVE

(Eagleville, PA March 12, 2020) PJM Interconnection's wholesale electric energy market produced competitive results during 2019, according to the *2019 State of the Market Report for PJM* 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 2019," Bowring said.

Energy prices were significantly lower as a result of lower natural gas and coal prices. The load-weighted average real-time LMP was 28.6 percent lower in 2019 than in 2018, \$27.32 per MWh versus \$38.24 per MWh. Of the \$10.92 per MWh decrease, 41.5 percent was a result of lower fuel costs. Other contributors to the decrease were the dispatch of lower cost units, decreased load and lower markups.

Energy prices in PJM in 2019 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.

Net revenue is a key measure of overall market performance as well as a measure of the incentive to invest in new generation to serve PJM markets. Net revenues are significantly affected by fuel prices, energy prices and capacity prices. Net revenues decreased for all unit types in 2019 compared to 2018 as a result of lower energy prices. For example, net revenues decreased by 44 percent for a new combustion turbine, 33 percent for a new combined cycle, 78 percent for a new coal plant, 25 percent for a new nuclear plant, 52 percent for a new diesel, 28 percent for a new on shore wind installation, 32 percent for a new off shore wind installation and 24 percent for a new solar installation compared to 2018. In 2019, a new combined cycle would have received sufficient net revenue to cover levelized total costs in 10 zones and more

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than 90 percent of levelized total costs in 18 out of 20 zones. A new coal plant and a new nuclear plant would have been significantly unprofitable in all zones.

Total energy uplift charges decreased by \$109.6 million or 55.3 percent, from \$198.2 million in 2018 to \$88.6 million in 2019.

Total payments for demand response programs decreased by \$108.0 million or 18.0 percent, from \$598.5 million in 2018 to \$490.5 million in 2019. The capacity market is the primary source of revenue to participants in PJM demand response programs. In 2019, payments to demand response resources in the capacity market decreased by \$102.7 million or 17.5 percent, while payments to demand resources in the economic program decreased by \$1.6 million or 62.2 percent.

When there are binding transmission constraints and locational price differences, load pays more for energy than generation is paid to produce that energy. The difference is congestion. Congestion costs decreased by \$726.6 million or 55.5 percent, from \$1,309.9 million in 2018 to \$583.3 million in 2019. Congestion reflects the underlying characteristics of the power system, including the capability of transmission facilities, the fuel costs and geographic distribution of generation facilities and the geographic distribution of load.

Total ARR and self-scheduled FTR revenues offset 50.0 percent of total congestion costs for the 2017/2018 planning period and 92.1 percent for the 2018/2019 planning period. Total ARR and self-scheduled FTR revenues offset 106.4 percent of total congestion costs for the first seven months of the 2019/2020 planning period because FTR bidders paid more in the auctions than actual day-ahead payments for the same paths. The goal of the FTR market design should be to ensure that load has the rights to offset 100 percent of congestion costs.

The Independent Market Monitor (also known as the Market Monitoring Unit or MMU) 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/2019.shtml