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FOR IMMEDIATE RELEASE

2016 State of the Market Report for PJM

MARKET MONITOR FINDS PJM WHOLESALE ELECTRICITY MARKETS COMPETITIVE

(Eagleville, PA March 9, 2017) PJM Interconnection's wholesale electric energy, capacity and regulation markets produced competitive results during 2016, according to the *2016 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, Capacity and Regulation Markets in 2016 were competitive," Bowring said.

Energy prices were lower as a direct result of lower fuel prices and the resultant increased role of gas as the marginal fuel. The load-weighted average real-time LMP was 19.2 percent lower in 2016 than in 2015, \$29.23 per MWh versus \$36.16 per MWh. PJM real-time load-weighted energy market prices were lower in 2016 than at any time in PJM history since the beginning of the competitive wholesale market on April 1, 1999.

Energy prices in PJM in 2016 were set, on average, by units operating at, or close to, their short run marginal costs, although this was not always the case during high demand hours. This is evidence of generally competitive behavior and resulted in a competitive energy market outcome.

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. Natural gas prices decreased in 2016 and coal prices decreased or remained flat. Energy prices were lower in 2016 than in 2015. Capacity prices in 2016 were lower than in 2015 in all zones except PSEG. For gas fired units, the decrease in energy prices was more than offset by the decrease in gas prices and increased operating hours, resulting in higher energy net revenues for a new combustion turbine (CT) and a new combined cycle (CC), the most commonly built type of new unit in PJM. In 2016, average energy market net revenues increased by 21 percent for a new CT and 14 percent for a new CC.

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For other plant types, including coal and nuclear, energy net revenues were lower. In 2016, average energy market net revenues decreased 54 percent for a new coal plant, 86 percent for a new diesel plant, 26 percent for a new nuclear plant, 19 percent for a new wind installation, and 28 percent for a new solar installation.

Total energy uplift charges decreased by \$175.4 million or 56.1 percent, from \$312.5 million in 2015 to \$137.1 million in 2016.

Total payments for demand response programs decreased by \$163.2 million or 20.1 percent, from \$812.2 million in 2015 to \$649.0 million in 2016. The capacity market is the primary source of revenue to participants in PJM demand response programs. In 2016, payments to demand response resources in the capacity market decreased by \$162.7 million or 20.0 percent, while payments to demand resources in the economic program decreased by \$4.7 million or 58.8 percent decrease.

Congestion costs decreased by \$361.6 million or 26.1 percent, from \$1,385.3 million in 2015 to \$1,023.7 million in 2016. 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. Congestion is neither good nor bad, but is a direct measure of the extent to which there are multiple marginal generating units dispatched to serve load as a result of transmission constraints and the costs of operating those units.

ARR and FTR revenues offset only 86.5 percent of total congestion costs for load during the 2015 to 2016 planning period and offset only 82.3 percent of total congestion costs for the first seven months of the 2016 to 2017 planning period.

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/2016.shtml