PJM Study Assesses Possible Impact of Climate Control Legislation

(Valley Forge, Pa. – Jan. 28, 2009) – A PJM Interconnection study concludes that the leading legislative proposals* of the 110th Congress to reduce carbon dioxide (CO2) emissions from fossil-fuel generation plants could result in wholesale electricity price increases ranging from $7.50 per megawatt hour (MWh) to $45/MWh in 2013.

The study, “Potential Effects of Proposed Climate Change Policies on PJM’s Energy Market,” also noted that at those prices the annual market-wide cost of power increase would range from $5.9 billion to $36 billion.

“We recognize that legislation to reduce carbon emissions will have a significant impact on PJM, our members and their customers,” noted PJM CEO Terry Boston. “This study was undertaken to help inform decisions of our members and the discussions in Washington and elsewhere. We’re not trying to influence or shape policy, but do believe as the largest grid in North America that we’re in a good position to demonstrate with how climate control proposals will affect wholesale market prices.”

The study’s calculations are based on projected carbon prices within ranges identified by the U.S. Environmental Protection Agency and the Energy Information Administration from $10 to $60 per ton and on typical residential use of 750 kilowatt-hours (kWh) per month.

The study used market models to simulate in 2013 the impact of climate change legislation whereby cap-and-trade or carbon tax policies place a cost on emitting CO2. The year 2013 is examined as the year when major legislative proposals would be effective, and also because it represents PJM’s five-year planning horizon, where there is a greater likelihood of predicting accurately the planned new generation and transmission system upgrades that will be commercially operational.

PJM’s study is one of the few analyses that have examined the near term impacts of climate change policy on a regional basis as opposed to more macro-economic national analyses. The findings assume no offsets for making homes, businesses and industry more energy efficient or efforts to reduce electricity demand.

–MORE–
According to the study, however, reducing electricity consumption by two percent to 10 percent could lower prices between $3/MWh and $13/MWh, or between $3 billion and $17 billion per year. The same reductions in consumption would lower CO₂ emissions between 12 million and 60 million tons in 2013.

Wind, a renewable energy resource, represents about 40 percent of all new generation projects proposed in the PJM region. Analyzing the impact of the addition of 15,000 megawatts (MW) of wind by 2013, about one-third of wind generation in the interconnection queue, revealed that CO₂ emissions would be reduced by nearly 35 million tons and wholesale market prices collectively would decline by $3.55 billion to $4.74 billion, without calculating the effect of CO₂ prices.

The study, led by PJM Senior Economist Dr. Paul Sotkiewicz and the Market Simulation Department, also determined that only beginning at CO₂ prices of about $40/ton will natural gas combined cycle generating units will be run in place of coal generating units on a large scale. A $40/ton emission cost results in an increase in wholesale electricity costs of approximately $30/MWh and a residential price increase of about $22.50/month.

*The Lieberman/McCain Bill (S.280), the Bingaman/Specter Bill (S.1766) and the Lieberman/Warner Bill (S.2191).

PJM Interconnection ensures the reliability of the high-voltage electric power system serving 51 million people in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. PJM coordinates and directs the operation of the region’s transmission grid, which includes 6,038 substations and 56,350 miles of transmission lines; administers a competitive wholesale electricity market; and plans regional transmission expansion improvements to maintain grid reliability and relieve congestion. Visit PJM at www.pjm.com.

###