At PJM Interconnection's control centers, a staff of experts monitors the power grid 24 hours a day, seven days a week. PJM system operators react to shifts in electricity use to keep supply and demand in balance. They direct how much energy should be supplied, adjusting the production of generating plants to accommodate changes in demand and to make sure that no transmission lines or facilities are overloaded. The system operators also watch for unusual conditions and react to them to protect the electricity supply.

To manage the high-voltage electric system, PJM acts as a data clearinghouse and decision maker. It forecasts how much electricity will be needed and receives offers to supply electricity from producers and other suppliers.

PJM accepts the offers from lowest priced to highest priced until the generation offered meets the demand for electricity. All decisions consider the transmission system's ability to deliver the electricity to the locations of the demand.

PJM system operators direct the operation of generating stations under agreements with their owners. Once generated, the electricity flows over high-voltage lines to local utilities' distribution substations, and from there the electricity moves on local distribution lines to homes and businesses.

System operators monitor the status of the grid with sophisticated computer technology. The control rooms also feature state-of-the-art displays to help the operators visualize the complex relationships among generating stations, substations, transmission lines and the other equipment that make up the power grid.

In protecting the reliability of the electric system, PJM experts study hundreds of "what if" scenarios, assisted by computer simulations that help them prepare to deal with almost any event. Each variable that conceivably could affect supply and demand for electricity is carefully considered and tested – from extreme weather, emergency conditions and multiple equipment failures to the more easily anticipated impact of daily, weekly and seasonal cycles in electricity demand.

PJM exercises a broader reliability role than that of a local electric utility. PJM system operators conduct dispatch operations and monitor the status of the grid over a wide area, using an enormous amount of telemetered data from about 143,900 points on the grid. This gives these experts a big-picture view of regional conditions and situations that could affect reliability, including those in neighboring systems.

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