



PJM's control room is the nerve center of the high-voltage electric grid. System operators manage the economical flow of power around the clock for 65 million people in 13 states and Washington, D.C.



Core Mission: Reliability

PJM's team of system operators works 24 hours a day, seven days a week to maintain an uninterrupted flow of high-voltage electricity. They anticipate and respond to shifts in the demand for power and changes in the flow of electricity across the system. And they plan for the next day's power needs to ensure there is enough electric supply and that it is provided at the least cost.

Keeping the Lights On

The PJM control room team maintains the delicate balance between the supply and demand for electricity. System operators constantly analyze displays that show the complex, ever-changing relationships between power producers and the network spanning 85,000 miles of transmission lines. They direct power producers to boost output up or down. They stay alert to potential overloads or disruptions in the high-voltage transmission network. Beyond PJM's borders, PJM dispatchers keep an eye on possible impacts to the system from conditions in neighboring grid networks in New York and parts of the South and Midwest.

Air Traffic Controllers of the Grid

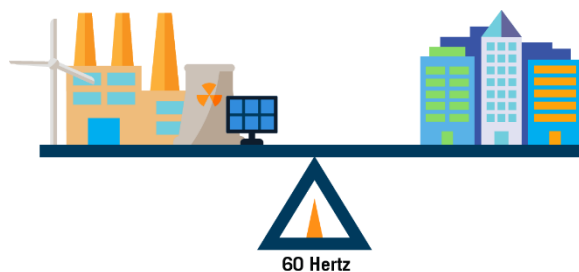
PJM control room operators constantly prepare for and respond to any possible disruption to the grid as they manage the secure, reliable delivery of electricity to one-fifth of the U.S.

System operators:

- Direct power companies to boost or lower generation to maintain electricity flow in delicate balance
- Monitor high-voltage transmission lines and systems for possible overload
- Maintain system security with constant analysis of what could go wrong
- Use meteorology forecasts to plan for and cope with weather
- Train for eight weeks annually to make the best real-time decisions under pressure

Balancing the System

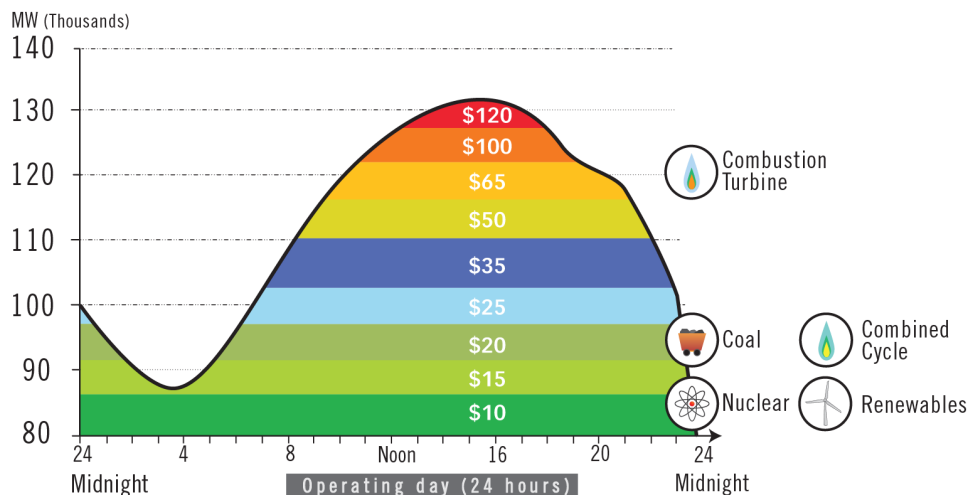
As they balance supply and demand on the high-voltage electric system, PJM system operators maintain a frequency of 60 cycles per second, or 60 hertz, which is the standard for all of North America.





Watchdog for Reliable Power at the Least Cost

Operators call on the most economical power plants first. As demand grows, they dispatch incrementally more expensive resources throughout the day.



Looking Ahead

Dispatchers ensure that PJM meets or exceeds federally required electricity reserve requirements to keep the power on, despite unexpected equipment failures or weather events like a summer heat wave that can put a high demand on the system. To prepare for such events, a PJM meteorologist assesses weather forecasts across the territory, which spans 369,000 square miles. Experts combine historical use patterns with hundreds of “what-if” scenarios, such as extreme weather, outages or other emergency conditions, to ensure reliable grid operations. To plan for the next day, PJM experts use similar analyses to help guide electricity producers on how much power will need to be generated.

Safe and Secure Under Any Conditions

PJM system operators train eight weeks a year to maintain their ability to make the best decisions under pressure in real time. They gain expertise to manage human factors like stress and fatigue. They participate in simulations and grid exercises to practice their understanding of, and response to, actions required to manage the intricate electricity network. Via these processes, they are routinely tested to meet or maintain all required certifications. PJM’s Valley Forge control room operation can shift operations seamlessly to a second control room that operates in parallel at all times.

Teamwork Keeps Economical Power Flowing

Minute by minute, PJM reliably directs electricity for the millions of people who live and work in the region while keeping costs down and spurring innovation through its wholesale electricity market.

Jan. 3, 2024

