# PJM Interconnection manages the electric grid to ensure the highest level of reliability. There are two significant aspects of reliability – adequacy and security.

In electric reliability terms, **adequacy** ensures that there are sufficient electric generating and other resources, including reserves or back-up electricity, to meet customer demand for energy during extreme conditions. Adequacy also ensures that the transmission system will be able to meet customer needs reliably in the future.

PJM's Reliability Assurance Agreement requires each load-serving entity – an organization that provides electricity to retail customers in the PJM area – to secure electric generating resources to cover the load it serves plus a reserve margin. These generating resources must be dedicated to PJM's operational control so that PJM can call on them if they are needed to meet the demands on the system.

The Reliability Pricing Model, the capacity-market approach that PJM implemented in 2007, is designed to ensure the future availability of the capacity resources, including demand response and energy-efficiency resources, that will be needed to keep the regional power grid operating reliably for consumers.

Through PJM's Regional Transmission Expansion Planning process, future adequacy requirements for new generation and transmission resources are identified using a 15-year planning horizon.

The second aspect of reliability, **security**, involves operating the electric power system in a way that anticipates the possibility of the failure of key elements of the system, guards against a cascading failure of other elements and ultimately minimizes the loss of service to large groups of customers.

Security involves making operating adjustments so that the system is prepared for and protected in the event of a sudden, unexpected disturbance or failure. It allows operators the flexibility to adjust to conditions in real time to protect the system. It also involves being prepared to withstand disturbances caused by manmade physical or cyber attacks.

Because of the extreme weather events of recent years, as well as ever-present cybersecurity risks, PJM and its members recognize that there are threats to reliability that can't be fully anticipated or prevented. As a result, PJM also is focusing on resilience – the ability to reduce the magnitude and duration of major events that threaten the reliable supply of electricity. The aim is a resilient grid that has the ability to anticipate, absorb, adapt to and rapidly recover from a potentially disruptive and high-impact event.

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