



Black start service supplies electricity for system restoration in the unlikely event that the entire PJM Interconnection grid would lose power.

What Are Black Start Units?

Black start service is provided by strategically located generating units that have the ability to start up and deliver electricity to the grid without an outside source of power, or to remain in operation at reduced output levels when disconnected from the grid.

Such units must be able to reconnect to the grid within three hours or less following a request from PJM. They also must be able to maintain frequency and voltage under varying loads.

Hydropower, simple-cycle combustion turbines and combined-cycle units constitute the majority of PJM's current black start resources.

A unit designated under the PJM Open Access Transmission Tariff as a black start unit must annually pass a series of performance tests to verify black start capability. The owners of black start units are compensated monthly for providing the service to the grid.

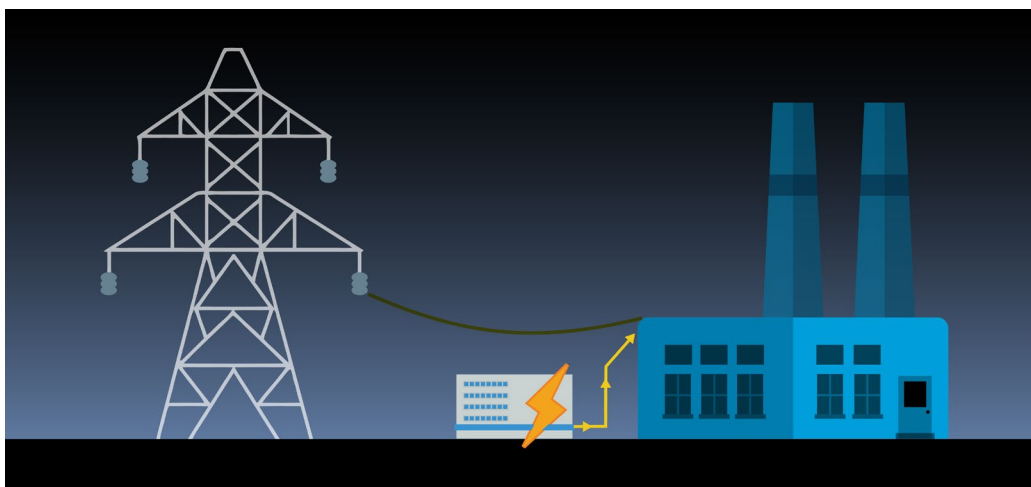
Key Facts

- Black start service is used to help re-energize the grid in the unlikely event of a system-wide outage.
- Black start units are strategically located generators that can start up and deliver electricity to the grid without an outside source of power or can remain running when disconnected from the grid. One example is hydropower.
- Owners of black start units are compensated for providing this service.

How Black Start Helps Re-energize the Grid

In a system restoration, black start units help re-establish the flow of electricity. When connected, they supply start-up power to other generating units and help restore service to critical load, such as machinery that maintains the safety of nuclear plants during shutdowns and equipment that supports the region's supply of natural gas.

This process must be careful and deliberate, keeping generation in balance with load in order to avoid the possibility of another loss of service. PJM conducts annual drills with its transmission and generation owners to simulate this critical restoration process.



Black start units help restart other generators and restore critical service after a major outage.

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