

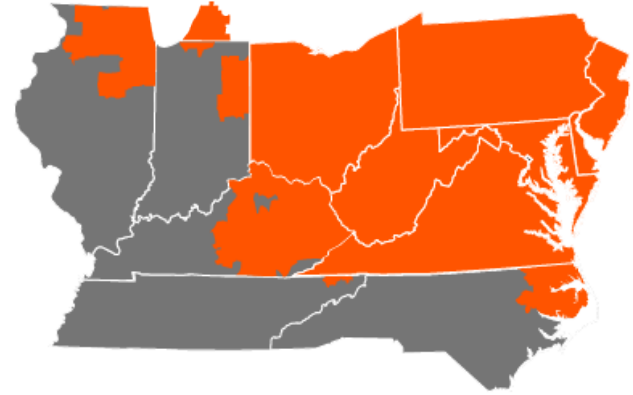
PJM's Frequency Regulation Program

PJM's ancillary services help maintain a precise balance between electricity generation and consumption on the grid's transmission system.

Unlike capacity programs, whose participants are called on to curtail by PJM when grid stress is foreseeable, the Frequency Regulation program is an ancillary grid service program that helps match real-time supply and demand continuously to keep the frequency of the grid stable.

Organizations that participate in the Frequency Regulation Program can earn money for being available to rapidly increase and decrease their usage in response to a dynamic signal.

CPower can help you make it happen.



Resources in the Frequency Regulation market must be able to respond within seconds to fluctuations between generation and consumption on the grid.

How the Frequency Regulation Program Works

The Frequency Regulation program is available 24 hours a day, 7 days a week, 365 days a year.

Each hour, customers may offer their resources available to ramp up and down usage into PJM's Frequency Regulation market. Customers perform during hours awarded in the market by responding continuously to a dynamic, second-level signal.

Participating resources are measured on their ability to perform quickly and reliably in response to the Frequency Regulation signal. The revenue participating resources receive, and their likelihood of being awarded in the Frequency Regulation market is determined by this performance score.

When you're a CPower customer, your team of energy experts will always be at the ready to help you optimize the results from frequency regulation participation.

Frequency Regulation

Program Parameters

Minimum Size	Minimum responsive load of at least 100kW up and down.
Participation	Half-hourly availability offered through CPower to PJM market, offers can be updated up to <u>35 minute</u> before the start of a participating <u>30-minute interval</u> .
Number and Duration of Events	Participation follows PJM's dynamic signal for each awarded <u>30-minute interval</u> .
Notification	Dynamic signal from PJM.
Qualification	≥ Initial FR tests (40 minutes each) on different days. Resource must earn at least 75% performance score <u>in each test</u> to qualify. <u>At least one test must be PJM-administered. The other can be PJM- or self-administered..</u>
Compensation	FR Hourly Market Price * Performance Score * Contract %. Performance is measured based on accuracy of sub-minute response.
Compliance	Required during all <u>30-minute intervals</u> -in which offers were awarded.
Settlements	60 days after end of each month.
Consequences of Non-Performance	Non-performing resources will lower their performance score and not be awarded as often. If the average performance score falls too low, resources will have to re-qualify to participate. Resources that perform less than <u>40%</u> will not be paid, otherwise payment proportional to performance factor. <u>Such resources can requalify upon successful completion of another test.</u>
Enrollment Deadline	No deadline.
Metering	Each account must have an approved meter delivering 2 second data delivered through SCADA to PJM in real-time.
Eligibility	Resources may also be enrolled in other PJM demand response and ancillary service programs, depending on hour-by-hour resource availability.