

SCHEDULE 3 Regulation and Frequency Response Service

Regulation and Frequency Response Service is necessary to provide for the continuous balancing of resources with load and for maintaining scheduled Interconnection frequency at 60 cycles per second (60 Hz). Regulation and Frequency Response Service is accomplished by committing resources whose output is raised or lowered (predominantly through the use of automatic generating control equipment) and by other non-generation resources capable of providing this service as necessary to follow the moment-by-moment changes in load. The obligation to maintain this balance between resources and load lies with the Transmission Provider. The Transmission Provider must offer this service when the transmission service is used to serve load within its Control Area. The Transmission Customer must either purchase this service from the Transmission Provider or make alternative comparable arrangements to satisfy its Regulation and Frequency Response Service obligation. The Transmission Provider will take into account the speed and accuracy of Regulation resources in its determination of Regulation and Frequency Response reserve requirements, including as it reviews whether a self-supplying Transmission Customer has made alternative comparable arrangements. Upon request by the self-supplying Transmission Customer, the Transmission Provider will share with the Transmission Customer its reasoning and any related data used to make the determination of whether the Transmission Customer has made alternative comparable arrangements. The amount of and charges for Regulation and Frequency Response Service are set forth below. The Transmission Provider shall administer the purchases of Regulation Service in the PJM Interchange Energy Market. PJMSettlement shall be the Counterparty to the purchases by customers of Regulation Service in the PJM Interchange Energy Market; provided however, that PJMSettlement shall not be the contracting party to bilateral transactions between market participants or with respect to a self-schedule or self-supply of resources by a customer to satisfy its Regulation obligation.

For Regulation not satisfied by individual Transmission Owners on behalf of their Native Load Customers, Network Customers or other Transmission Customers serving load in the PJM Region, the Transmission Provider will order the lowest cost alternative for Regulation in service as needed to meet the Regulation Requirements of each Regulation Zone (as may be set forth in the PJM Manuals and as specified below:

- a. Regulation shall be supplied to meet the Regulation objective of a Regulation Zone from resources located within the metered electrical boundaries of such Regulation Zone. Resources offering Regulation shall comply with applicable standards and requirements for Regulation capability and dispatch specified in the PJM Manuals.
- b. The Office of the Interconnection shall obtain and maintain an amount of Regulation for each Regulation Zone equal to the Regulation objective for such Regulation Zone, as specified in the PJM Manuals.
- c. The Regulation range of a resource shall be at least the amount of Regulation assigned, in the upward direction for Regulation-Up Service and in the downward direction for Regulation-Down Service ~~at least twice the amount of Regulation assigned.~~

- d. A resource capable of automatic energy dispatch that is also providing Regulation shall have its energy dispatch range reduced from the Regulation range by at least the amount of Regulation assigned, in the upward direction for Regulation-Up Service and in the downward direction for Regulation-Down Service ~~twice the amount of the Regulation provided~~ with consideration of the Regulation limit(s) of the resource, as specified in the PJM Manuals.
- e. Qualified Regulation resources must satisfy the measurement and verification tests described in the PJM Manuals.
- f. A Transmission Owner, Network Customer or other Transmission Customer may satisfy its Regulation obligation from its own resources capable of performing Regulation service, by contractual arrangements with others able to provide Regulation service on a comparable basis, or by purchases from the PJM Regulation market.
- g. The Office of the Interconnection shall obtain Regulation service from the least-cost alternatives available from either pool-scheduled or self-scheduled resources as needed to meet Regulation Zone requirements not otherwise satisfied by a Transmission Owner, Network Customer or other Transmission Customer, in accordance with Tariff, Attachment K-Appendix, section 1.11.4(b).
- h. The Office of the Interconnection shall dispatch resources for Regulation by sending Regulation signals and instructions to resources from which Regulation service has been committed, in accordance with the PJM Manuals. Those resources shall comply with Regulation dispatch signals and instructions transmitted by the Office of the Interconnection and, in the event of conflict, Regulation dispatch signals and instructions shall take precedence over energy dispatch signals and instructions. Those providing Regulation shall exert all reasonable efforts to operate, or ensure the operation of, their resources supplying load in the PJM Region as close to desired output levels as practical, consistent with Good Utility Practice.
- i. Each Transmission Owner (on behalf of its Native Load Customers), Network Customer or other Transmission Customer serving load within a Regulation Zone shall have an hourly Regulation objective equal to its pro rata share of the Regulation Requirement of such Regulation Zone for such hour, based on the entity's total load (net of operating Behind The Meter Generation, but not to be less than zero) in such Regulation Zone for such hour.
- j. An entity supplying Regulation at the direction of the Office of the Interconnection in excess of its hourly Regulation obligation shall be credited for each increment of such Regulation at the price specified in Tariff, Attachment K-Appendix, section 3.2.2 and Tariff, Attachment K-Appendix, section 3.3.2 and the parallel provisions of Operating Agreement, Schedule 1, section 3.2.2 and Operating Agreement, Schedule 1, section 3.3.2. A Transmission Owner, Network Customer or other Transmission Customer that does not meet its hourly Regulation obligation shall be charged for Regulation dispatched by the Office of the Interconnection to meet such obligation at the price specified in Tariff, Attachment K-Appendix, section 3.2.2 and Tariff, Attachment K-Appendix, section 3.3.2 and the parallel provisions of Operating Agreement, Schedule 1, section 3.2.2 and Operating Agreement, Schedule 1, section 3.3.2.