

Problem/Opportunity Statement

Reactive Rates

Problem / Opportunity Statement

Under Schedule 2 of the PJM Tariff, generation owners may submit for filing at FERC pursuant to Section 205 of the Federal Power Act and Part 35 of the Commission's regulations a rate schedule for Reactive Supply and Voltage Control from Generation Sources Service for VAR capability. The rate schedule specifies the generator's revenue requirement for Reactive Supply and Voltage Control from Generation Sources Service from the generating facility.

The Commission has accepted reactive cost-based rate schedules in PJM to collect a revenue requirement for VAR capacity for synchronous and non-synchronous generator facilities. PJM also pays make whole and opportunity cost payments under Attachment K, Appx. Section 3.2.3B for combustion turbine units, combined cycle units, steam electric generating units, storage resources, and hydro units. Non-synchronous resources do not get energy opportunity costs when dispatched up by PJM for VARs. PJM does not currently have a market mechanism to compensate generation resources for reactive service capability, leaving generation owners to seek cost-based rate recovery with FERC. Once approved, PJM administers the recovery of the reactive revenues through payments and charges from transmission customers through the Tariff.

Reactive power is a critical component of operating an alternating current electricity system and is required to control system voltage within appropriate ranges for efficient and reliable operation of the transmission system, and, allows for the transmission of real power across transmission lines. However, transmission lines dissipate reactive power more quickly than real power, such that reactive power cannot be efficiently transferred over long distances on transmission lines. Thus, transmission providers need localized resources to provide reactive power. Given this need, transmission customers must pay for reactive power as a necessary component to obtain transmission service.

The reactive power compensation process for VAR capability within PJM is time consuming and onerous for generation owners, developers, and transmission customers as it exposes generators, developers, and customers to significant litigation costs, either defending or contesting the requested rates.

In ISO-NE market participants with an ownership share in qualified reactive resources receive two credit components:

- VAR capacity payments based on an asset's qualified leading and lagging VARs and the applicable FERC-approved VAR capacity cost (CC) rate (\$/MVAR-year), which is stated in the ISO-NE Tariff.
- VAR variable energy payments, for any resource the ISO dispatches for providing voltage support for one or more of the following payment types: cost of energy produced, lost opportunity costs, and cost of energy consumed.

There is a desire to seek solutions to address the lack of uniform compensation of VAR capacity reactive rates and avoid the significant time and litigation costs which are otherwise passed on to customers. Generation owners and developers could elect to receive those standard rates, avoiding significant time and litigation costs, which would otherwise be passed on to customers. Existing FERC filed reactive power rates will not be impacted by the proposal.

Additionally, the eligibility of reactive power lost opportunity costs need to be reviewed. Currently, the market sellers providing reactive services from steam-electric generating unit or combined cycle unit

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operating in a combined cycle mode, storage resources, and hydro units are eligible to receive lost opportunity costs if the resources is dispatched down to provide reactive service in the real time energy market¹. The exclusion of other resources may be unduly discriminatory. With the foreseeable increased entry of renewable resources into the market, PJM should examine expanding the eligibility of reactive service LOCs to other generation types.

The components of generating units that produce reactive power are an integral part of the generating units. It is not possible to identify specific components that are added to a unit to provide reactive, that would not otherwise be part of the unit. The AEP method is a cost of service based method that applies allocation factors to the costs of a generating unit to develop costs that are asserted to be related to the production of reactive power.

Currently, the costs of reactive are partially integrated into the PJM capacity market. One hundred percent of the capacity costs of generating units are included in the cost of new entry. That includes all the costs that the AEP method assumes are related to reactive power production. In recognition of the nonmarket reactive capability payments made to generators, a defined amount of reactive revenues is credited against the full capacity costs of generating units when calculating the cost of new entry, the MOPR floor and other capacity market parameters. There is an opportunity to simplify the reactive issue.

There is the opportunity to eliminate the need for complex reactive rate filings and eliminate the the significant time and litigation costs which are otherwise passed on to customers. There is the opportunity to eliminate the need for a lengthy proceeding to establish standard rates for the reactive capability payments. There is the opportunity to eliminate the need for drawn out discussions about which resources should be compensated for reactive and at what levels.

There is the potential for the rules governing the opportunity costs associated with the provision of reactive power require to be applied in different ways to different resources. There is the opportunity to clarify the rules to provide transparency.

The rules governing the PJM requirements for reactive based on the location of resource on the transmission/subtransmission/distribution system have been interpreted in different ways. There is the opportunity to clarify the rules to provide transparency.

¹ PJM OATT, Appendix to Attachment K, Section 3.2.3B