Transmission Constraint Penalty Factor Circuit Breaker

EPFSTF

IMM

July 19, 2022

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Purpose of TCPF

- **SCED sets LMP at the TCPF when SCED cannot find a dispatch solution at a marginal cost less than the TCPF.**

- **Default TCPF is $2,000/MWh.**

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TCPF Setting Price

- **Locational prices should reflect the cost of the actual marginal unit, based on a reasonable/operational dfax cutoff and based on the correct, not artificial, definition of the marginal unit.**

- **If the real-time market is unable to resolve a contingency constraint, modelled at 100 percent of its appropriate line rating, PJM should apply the TCPF, but only when specific circuit breaker conditions are not present.**

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TCPF Circuit Breaker

- **Circuit breaker triggers for TCPF not applying:**
  - **Transmission owner's planned transmission outage**
  - **PJM operates with the line above the SCED limit for more than an hour; PJM using the appropriate line rating**
  - **PJM emergency actions**

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Planned Transmission Outages

- **Planned transmission outages require circuit breaker limits on shortage pricing in situations where the resulting congestion is not a good long term investment signal.**

- **High prices based on the transmission outages do not send a correct investment signal because the end of the outage resolves the congestion.**

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TCPF Changes for Planned Outages

- **No TCPF pricing should apply for planned outages.**

- **If PJM and the TO are willing to operate with flows higher than the usual constraint limit without shedding load, the constraint limit in SCED should be raised to the highest level before load shedding is required.**

- **The constraint limit and TCPF should not be reduced and modified to force a unit to be marginal when it is not marginal.**

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IMM Proposed Tariff Language

- **In lieu of applying a Transmission Constraint Penalty Factor when there are insufficient available resources to relieve a transmission constraint and the congestion results from a transmission owner's planned transmission outage, the Office of the Interconnection shall set the transmission line limit in its Security Constrained Economic Dispatch program at the level equal to the highest flows on the constraint at which PJM will operate without shedding load.**

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