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Market Efficiency Process Enhancement Task Force: Phase 3

PJM Support for Status Quo of Benefit Calculation

Under the Locational Marginal Pricing ("LMP") market, instituted by PJM in 1998, congestion occurs on the transmission system when re-dispatch is necessary, resulting in congestion charges to those using the transmission system. LMP provides an instantaneous indication of energy pricing on the system. Similarly, this very same LMP, when viewed over time, provides patterns and locations of recurring re-dispatch and, thus, serves as guideposts for investment opportunities in new generation. There are times, however, when placement of new generation isn't feasible even with strong and lasting investment signals. By example, this can occur when adequate space, access to cooling water, ample right of way, among other things do not exist. In such cases, organized energy markets recognize that economic transmission planning principles can alleviate the problem and provide for a more efficient market outcome when considered and measured in aggregate load payment costs.

Market Efficiency projects are necessary when the most economic or cost beneficial flow of electricity is impeded by congestion requiring higher-cost generation to be used to meet the demand. In particular, these projects address future simulated market congestion inefficiencies that exist because customers on both sides of a constraint are not paying equitable costs due to physical limitations of the transmission system.

Within the FERC Order 1000 competitive transmission paradigm, a Market Efficiency project proposal to address a transmission system inefficiency must have at least a 1.25:1 benefit to cost ratio, represented by a net present value over a 15-year period. In 2013, after a year-long stakeholder process and following a change in project cost allocation methodology, the PJM membership endorsed by acclamation the below energy market benefit criteria for Market Efficiency projects.

Project Class	Cost Allocation: Market Efficiency Projects	Energy Market Benefit Determination
Regional Projects	50% Load Ratio Share and 50% to zones with decreased net load payments	Energy Benefit: 50% change in production costs + 50% change in net load payments (only zones with decrease in net load payments)
Lower Voltage Projects	100% to zones with decreased net load payments	Energy Benefit: 100% change in net load payments (only zones with decrease in net load payments)

Transmission zones that are currently benefitting from congestion inefficiencies[1] are not included in the B/C metric for several reasons. Primarily, absent the upgrade, load in these zones benefit via artificially low prices as a result of confined, cheap local generation. PJM believes that in a regional market it is inefficient for low price signals to persist in some areas due to a transmission bottleneck(s) while other areas absorb

[1] Zones that result in an increased in net load payments as a result of a Market Efficiency project

higher inequitable costs. The zones, which may see increased load payments from the congestion reduction, are also those zones that are benefitting from the inefficiency before the market efficiency project is placed in service. The fact that a zone that is currently seeing artificially low prices because of congestion will no longer see those artificially low prices should not count as a "cost" in the PJM formula. Additionally, the existing cost allocation does not require non benefitting zones to pay for the direct cost to build the transmission upgrade to remove the inefficiency.

Monitoring Analytics has raised concerns over the existing methodology, citing congestion as "not bad" and a need to account for all zones in the benefit calculation. Additionally, concerns were raised by Monitoring Analytics regarding transmission enhancements through the Market Efficiency process impeding market-based generation/merchant transmission investment signals. PJM fundamentally disagrees with this opinion. Generation and Merchant transmission investment is always available and is often used as a solution to transmission inefficiencies in PJM[2].However, even with the proper pricing signals there may be financial or physical limitations to these investments and the FERC approved Market Efficiency process addresses this gap.

[2] Amended and Restated Operating Agreement of PJM, LLC, Schedule 6 Section 1.5.7(h)