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Market Efficiency Process Enhancement Task Force: Phase 3

PJM Proposal for Capacity Benefit Calculation

The Reliability Pricing Model (RPM) is designed to ensure long-term grid reliability by securing the appropriate amount of power supply resources needed to meet predicted energy demand three years in the future. By matching power supply with future demand, PJM's capacity market creates long-term price signals to attract needed generation and transmission investments to ensure adequate power supplies and deliveries.

As part of the existing 24-month Market Efficiency process, all economic-based transmission enhancement or expansion proposals are studied in the latest RPM model to determine if additional benefits by-way-of reductions in total system capacity costs and/or load capacity payment savings are created over a 15-year horizon. Any benefits realized in the RPM model are then added to energy market benefits, determined by reductions in total system production costs and/or load payment savings via the PROMOD tool and RTEP planning model, and the sum is utilized as the numerator in the final benefit-to-cost ratio.

Recent history as shown that RPM benefits tend to be very large relative to project cost and disconnected from energy benefits[1], complicating the competitive process for a number of reasons. RPM benefits are particularly speculative given that planning parameters for the capacity market cannot be calculated beyond the RTEP year. Additionally, capacity market benefits are calculated assuming most recent capacity market offers and other market sensitive model inputs which add to future uncertainty.

Given these concerns, PJM is proposing to bifurcate the study of energy and capacity benefits for Market Efficiency proposals when the constraint drivers for Energy and RPM are not the same, and to modify the capacity benefit calculation in order to mitigate future topology and Capacity Emergency Transfer Limit (CETL) uncertainties.

Furthermore, although RPM benefits are studied in the existing 24-month process, constraints in PJM's capacity market can be identified annually. Therefore, PJM is proposing to open, when needed, a separate 60-day window following the annual Base Residual Auction (BRA) to solicit projects for constraints identified. Such constraints must meet the existing criteria in OATT Att. DD, Section 15[2]. If the same congestion drivers are identified for both Energy and RPM then the evaluation of the combined benefits will be performed during the 24-month process used for the evaluation of Energy congestion drivers.

Table 1: PJM Proposal

Design Component	Status Quo	Proposal	Justification
Proposal Window	120 day long-term window; biennial	For Capacity exclusive drivers: 60 day window, annual following BRA For Energy and multi-criteria drivers: status quo	Address capacity driver in time for BRA delivery year

[1] https://www.pjm.com/-/media/committees-groups/task-forces/mepetf/20190607/20190607-item-03-benefits-comparison-capacity-vs-energy.ashx
[2] https://agreements.pjm.com/oatt/5169

Capacity Driver Criteria	Tied to Eligible Energy Congestion Drivers	Strictly follow existing OATT Att. DD, Section 15[3] language	Existing procedures outline when transmission solutions are appropriate in RPM
Simulation Years	RTEP, RTEP+3, RTEP+6	RPM, RTEP	Address future topology and CETL uncertainties

[3] https://agreements.pjm.com/oatt/5169