

Midwest ISO  
FERC Electric Tariff, First Revised Rate Schedule No. 5

Original Sheet No. 61

PJM Interconnection, L.L.C.  
FERC Electric Tariff, First Revised Rate Schedule No. 38

**2.2 Definitions.** Any undefined, capitalized terms used in this Agreement shall have the meaning given under industry custom and, where applicable, in accordance with good utility practices.

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**2.2.50** “PJM” has the meaning stated in the preamble of this Agreement.

**2.2.51** “Project Cost” shall mean all costs for Network Upgrades, as determined by the RTOs to be a single transmission expansion project, including those costs associated with seeking and obtaining all necessary approvals for the design, engineering, construction, and testing the Network Upgrades. Project Cost will include costs classified by the Transmission Owners and ITCs as transmission plant using the Uniform System of Accounts 350 through 359 or equivalent set of accounts for any Coordinating Owner, where Transmission Owners, ITCs, and Coordinating Owner have the meanings as defined under the PJM and Midwest ISO OATTs.

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## **9.4 Allocation of Costs of Network Upgrades.**

**9.4.1 Network Upgrades Associated with Interconnections.** When under Section

9.3.3 it is determined that a generation or merchant transmission interconnection

to a Party's system will have an impact on the Affected System such that Network Upgrades shall be made, the upgrades on the Affected System shall be paid for in accordance with the terms and conditions of the Parties' Order 2003 compliance filings as accepted by FERC.

**9.4.2 Network Upgrades Associated with Transmission Service Requests.** When under Section 9.3.4 it is determined that the granting of a long-term firm delivery service request with respect to a Party's system will have an impact on the Affected System such that Network Upgrades shall be made, the upgrades on the Affected System shall be paid for in accordance with the terms and conditions of the Parties' Order 2003 compliance filings as accepted by FERC.

**9.4.3 Network Upgrades Under Coordinated System Plan.** The Coordinated System Plan will identify Cross-Border Projects as (i) Cross-Border Baseline Reliability Projects, or; (ii) Cross-Border Market Efficiency Projects, ~~or; (iii) Cross-Border Operational Performance Projects.~~ Consistent with the applicable OATT provisions, the Coordinated System Plan will designate the portion of the Project Cost for each such project that is to be allocated to each RTO on behalf of its Market Participants. The JRPC will determine an allocation of costs to each RTO for such Network Upgrades based on the procedures described below. The proposed allocation of costs will be reviewed with the IPSAC and the appropriate multi-state entities and posted on the internet web site of the two RTOs.

Stakeholder input will be solicited and taken into consideration by the JRPC in arriving at a consensus allocation of costs.

**9.4.3.1 Criteria for Project Designation as a Cross-Border Project.** Projects will be designated in accordance with the following criteria:

**9.4.3.1.1 Criteria for Project Designation as a Cross-Border Baseline Reliability Project (CBBRP).** Projects that meet all of the following criteria will be designated as a Cross-Border Baseline Reliability Project: (i) by agreement of the JRPC, the project is needed to efficiently meet applicable reliability criteria; (ii) the project must be a baseline reliability project as defined under the Midwest ISO or PJM Tariffs; (iii) the resulting allocation of ~~Project e~~Cost to the RTO in which the project is not constructed must be a minimum of \$10,000,000; (iv) using the Coordinated System Plan power flow model, the contribution of the Cross-Border RTO to loading on the constrained facility giving rise to the Cross-Border Baseline Reliability Project must be at least five percent (5%) of the total loading on the constrained facility; and (v) the Cross-Border Baseline Reliability Project must have an in-service date after December 31, 2007. The Cross-Border Grandfathered Projects document contains a list of projects that will be excluded from designation as a Cross-Border Baseline ~~Allocation-Reliability~~ Project notwithstanding the in-service date.

#### 9.4.3.1.2 Criteria for Project Designation as a Cross-Border Market

##### Efficiency Project (CBMEP). Projects that meet all of the following

criteria will be designated as a CBMEP ~~if the project~~: (i) ~~involves~~  
~~upgrade of at least one 345 kV or greater facility~~ ~~involves~~ facilities with  
~~voltages of 345 kV or higher<sup>1</sup>; and that may include any lower voltage~~  
~~facilities of 100kV or higher that collectively constitute less than fifty~~  
~~percent (50%) of the combined pProject Cost, and without which the~~  
~~345 kV or higher facilities would not meet the required benefit-to-cost~~  
~~ratio threshold for the project as established in Section 9.4.3.1.2.1 b, or~~  
~~that otherwise are needed to relieve applicable reliability criteria~~  
~~violations that may occur as a direct result of the development of the 345~~  
~~kV or higher facilities of the project~~; (ii) has an estimated ~~Project~~  
~~Costs spent, direct cost~~ of \$20 million or greater; (iii) is evaluated as  
part of a Coordinated System Plan or joint study process, as described in  
section 9.3.5 of the JOA; (iv) meets the threshold benefit to cost ratio as  
prescribed under the terms of, and using the benefit and cost measures  
prescribed under section 9.4.3.1.2.1 of the JOA; (v) ~~using the costs~~  
~~allocated to each RTO pursuant to section 9.4.3.2.2 of the JOA, and the~~  
~~Coordinated System Plan model~~, qualifies as ~~an economic transmission~~  
~~enhancement or expansion under the terms of the PJM RTEP~~ and also  
qualifies as a Regionally Beneficial Project under the terms of

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<sup>1</sup> Transformer voltage is defined by the voltage of the low-side of the transformer for these purposes.

Attachment FF of the Midwest ISO OATT, provided that any minimum Project Cost threshold required to qualify a project under either the PJM RTEP or Midwest ISO OATT shall apply the Project Cost of the CBMEP and not the allocated cost; and (vi) addresses one or more constraints for which at least one dispatchable generator in the adjacent market has a generation-to-load distribution factor (GLDF) of 5% or greater with respect to serving load in that adjacent market, as determined using the Coordinated System Plan power flow model.

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**9.4.3.1.2.1 Determination of Benefits to Each RTO from CBMEP:**

The RTOs shall jointly evaluate the benefits to the combined Midwest ISO and PJM markets, and to each market individually by evaluating multiple metrics using a multi-year analysis to determine whether a proposed project qualifies as a CBMEP. The RTOs shall perform this evaluation as follows:

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a. The RTOs shall utilize a Benefit Metric to analyze the anticipated annual economic benefits of construction of a proposed CBMEP to Transmission Customers of each RTO. The Benefit Metric is based upon the impact of the project on: (1) Adjusted Production Cost (adjusted to account for purchases and sales) (APC); and (2) Net Load Payments (NLP). The Benefit Metric for each RTO shall be developed by weighting the APC benefit and the NLP benefit. The

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Benefit Metric shall be calculated as the sum of seventy percent (70%) times the APC benefit for each RTO plus thirty percent (30%) times the NLP benefit for each RTO:

$$\textit{Benefit Metric} = (70\% \textit{ APC} + 30\% \textit{ NLP})$$

The APC for each RTO represents each RTO's production costs adjusted for interchange purchases and sales. For each simulation hour in which an RTO is selling interchange, the APC shall be calculated by multiplying the interchange sales MW times the RTO's generation-weighted LMP and then subtracting this value from the RTO's production cost. For each simulation hour in which an RTO is purchasing interchange, the APC shall be calculated by multiplying the interchange purchase MW times the RTO's load-weighted LMP and then adding this value to the RTO's production cost.

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The NLP benefit for each RTO represents each RTO's gross load payment minus the estimated value of congestion-hedging transmission rights in each RTO. The NLP shall be calculated by multiplying the LMP at each modeled load bus in the RTO by the Load at the bus, for each simulation hour ( $\text{Load LMP} * \text{Load}$ ), and then subtracting from that product the estimated value of congestion-hedging transmission rights for that hour.:-

For each simulation hour, the value of an RTO's transmission rights shall be calculated by subtracting the RTO generation-weighted LMP from the RTO load-weighted LMP and then

multiplying this difference times the lower of the RTO's total generation MW level or the RTO's total load MW level.

The Benefit Metric shall be calculated for each RTO for each year of simulation. Benefits for intermediate years between simulated years will be based on interpolation.

The annual benefit for a CBMEP shall be determined as the sum of the Benefit Metric values for each RTO. The total project benefit shall be determined by calculating the present value of annual benefits for, at a minimum, the first ten years of project life after the projected in-service year, with a maximum planning horizon of 20 years from the current year.

b. The RTOs shall employ a threshold benefits-to-costs ratio test to evaluate a potential CBMEP. Only projects that meet the benefits-to-costs ratio threshold shall be designated as a CBMEP. The costs applied in the benefits-to-costs ratio shall be the present value, over the same period for which the project benefits are determined, of the annual revenue requirements for the project. The annual revenue requirements for the CBMEP are determined from the estimated CBMEP installed costs and the fixed charge rate applicable to the constructing transmission owner(s).

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The benefits-to-costs ratio threshold for a project to qualify as a CBMEP shall be 1.25:1. To determine the present value of the annual benefits and costs, the discount rate shall be based on the transmission owner(s)' most recent after-tax embedded cost of capital weighted by each of the RTO's transmission owner's total transmission capitalization. Each transmission owner shall provide the RTOs with the transmission owner's most recent after-tax embedded cost of capital, total transmission capitalization, and levelized carrying charge rate, including the recovery period. The recovery period shall be consistent with recovery periods allowed by FERC for comparable facilities.

c. Using the cost allocated to each RTO pursuant to section 9.4.3.2.2 of the JOA, and the Coordinated System Plan model, each RTO will evaluate the project using its internal criteria to determine if it qualifies as an economic transmission enhancement or expansion under the terms of the PJM RTEP and also qualifies as a Regionally Beneficial Project under the terms of Attachment FF of the Midwest ISO OATT.

~~9.4.3.1.3 Criteria for Project Designation as a Cross-Border  
Operational Performance Project (RESERVED: To be  
Defined in a later filing):~~

**9.4.3.2 Cross-Border Project Shares.** The Coordinated System Plan shall designate the share of the Project Cost to be allocated to each RTO as set forth in the following subsections:

**9.4.3.2.1 Cost Allocation for Cross-Border Baseline Reliability**

**Projects. a. Method for Thermal Constraints.** The Coordinated System Plan shall designate the share of the Project Cost to be allocated to each RTO based on the relative contribution of the combined Load of each RTO to loading on the constrained facility requiring the need for the Cross-Border Baseline Reliability Project. The loading contribution will be pre-determined using a Joint RTO Planning Model developed and agreed to by the Planning Staff's of both RTOs. This Model will form the basecase from which reliability needs on the combined systems will be determined for the Coordinated System Plan. The Model, adjusted for the conditions driving the upgrade needs, will be

used to calculate the DFAX for cost allocation purposes for each RTO, using a source of the aggregate of RTO generation (network resources) for each RTO to a sink of all Loads within that RTO. The DFAX is the appropriate distribution factor for the condition causing the upgrade; OTDF for contingency condition flow criteria violations, and PTDF for normal condition flow criteria violations. The DFAX calculation determines the MW flow impact attributable to each RTO on the constraint requiring the transmission system to be upgraded. The total load of each RTO for the condition modeled is multiplied by the DFAX associated with that RTO to determine the respective MW flow contribution of that RTO to the constraint. The RTOs will quantify the relative impact due to PJM's system and the relative impact due to the Midwest ISO's system and then will allocate between PJM and the Midwest ISO the load contributions to the reliability constraint on the system by calculating the relative impacts caused by each RTO. This methodology will determine the extent to which each RTO contributes to the need for a reliability upgrade consistent with the Coordinated System Plan modeling that determined the need for the upgrade. The Midwest ISO total load impacts will be allocated to the Midwest ISO and the PJM

total load impacts will be allocated to PJM. PJM and the Midwest ISO will then reallocate their shares internally in accordance with their respective tariffs. By calculating the impacts in this manner, the RTOs will ensure that the relative contribution of each RTO (including both the aggravating and benefiting contributions of generation and load patterns within each RTO) to the need for a particular upgrade, is appropriately captured in the ensuing allocations, and that the allocation is consistent with the Coordinated System Plan modeling that determined the need for the upgrade.

**b. Method for Non-Thermal Constraints:** The JRPC will establish an interface, comprised of a number of transmission facilities, to serve as a surrogate for allocation of cost responsibility for non-thermal constraints. The interface will be established such that the aggregate flow on the interface best represents the non-thermal constraint which the Cross-Border Baseline Reliability Project is proposed to alleviate. Allocation of cost responsibility for the non-thermal constraint will be determined by applying the procedures described in Section 9.4.3.2 to the interface serving as a surrogate for the constraint.

#### **9.4.3.2.2 Cost Allocation for Cross-Border Market Efficiency**

**Projects:** For CBMEP's that meet all of the qualifications in section 9.4.3.1.2, the applicable project costs shall be allocated to the respective RTOs in proportion to the net present value of the total benefits calculated for each RTO pursuant to section 9.4.3.1.2.1.a.

#### **9.4.3.3 Determination of Cross-Border Cost Allocation Share Outside of**

**Coordinated System Plan:** Either RTO may request that a project be tested against the Cross-Border cost allocation criteria during the interim periods between periodic formal releases of the Coordinated System Plan. The RTOs will conduct reviews between the formal cycles on at least an annual basis. Such tests will be performed on the best available Joint Planning Model, as determined by the JRPC.

The Joint Planning Model will be a minimum 5-year horizon case, modeling peak summer conditions, and will be developed by February of each year. It will be based on the current RTEP basecase for PJM and the current MTEP basecase for the Midwest ISO. The basecase developed by each RTO will be based on documented procedures, which, in turn, will guide the development of the joint planning model. Any disputes that arise will be resolved under the JOA's dispute resolution procedures. Each year the model will be updated by the RTOs to include changes to long term firm transmission service, load forecast, topology changes,

generation additions/retirements and any other relevant system changes that may have occurred since the previous years' basecase development. The joint planning model will be available to any member of PJM or the Midwest ISO.

**9.4.3.4 Cost Recovery of Cross-Border Allocation Shares:** The cost recovery of any share of cost of a Cross-Border Project allocated to either RTO shall be recovered by each RTO according to the applicable tariff provisions of the RTO to which such cost recovery is allocated.

**9.4.3.5 Transmission Owners Filing Rights:** Nothing in this Section 9.4 shall affect or limit any Transmission Owners filing rights under Section 205 of the Federal Power Act as set forth in the applicable Tariffs and applicable agreements.

**9.4.3.6 Amendments:** The RTOs shall amend Article IX of this Agreement in accordance with the applicable tariffs and/or agreements.