Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: PJM Transmission Owners Submit Tariff Revisions in Compliance With May 15, 2014 Order Relating to the Allocation of Costs of Regional Transmission Projects
Docket No. ER13-90-004

Dear Secretary Bose:

Pursuant to the Commission’s May 15, 2014 Order in the above-identified proceeding\(^1\) and in compliance with the directives of that order, the PJM Transmission Owners, acting through the PJM Consolidated Transmission Owners Agreement (“CTOA”),\(^2\) respectfully submit revisions to Schedule 12 of the PJM Open Access Transmission Tariff (“PJM OATT”) as described herein. The May 15 Order accepted the PJM Transmission Owners’ July 22, 2013 Compliance Filing subject to three additional changes to Schedule 12, which are described herein.

The PJM Transmission Owners, rather than PJM, submit this filing because, under section 9.1 of the PJM OATT and Article 7 of the CTOA, the PJM Transmission Owners have the exclusive authority and responsibility to submit filings under section 205 “in or relating to . . . the transmission rate design under the PJM Tariff.” The PJM Transmission Owners note that PJM will be separately submitting a filing to demonstrate its compliance with other requirements of the May 15 Order.\(^3\) The PJM Transmission Owners request an

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\(^1\) PJM Interconnection, L.L.C., 147 FERC ¶ 61,128 (2014) (the “May 15 Order”).

\(^2\) PJM Interconnection, L.L.C., Consolidated Transmission Owners Agreement, Rate Schedule F.E.R.C. No. 42 (June 19, 2008).

\(^3\) Pursuant to Order No. 714, this filing is being submitted by PJM on behalf of the PJM Transmission Owners as part of an XML filing package that conforms with the Commission’s regulations. Pursuant to Section 9.1(b) of the PJM Tariff, PJM has agreed to make all filings on behalf of the PJM Transmission Owners in order to retain administrative control over the PJM
effective date of February 1, 2013, consistent with the effective date that the Commission accepted in its May 15 Order.\footnote{May 15 Order at PP 18, 24.}

\section{BACKGROUND}

On October 11, 2012, pursuant to section 205 of the Federal Power Act, the PJM Transmission Owners proposed modifications to provisions of Schedule 12 of the PJM OATT establishing the allocation of costs of transmission projects in PJM.\footnote{These projects are referred to in Schedule 12 as “Required Transmission Enhancements.”} The proposed modification of Schedule 12 reflected prospectively a consensus among the PJM Transmission Owners on a just and reasonable cost allocation methodology for such projects that complied with the regional cost allocation requirements of Order No. 1000.\footnote{Contemporaneously, on October 11, 2012, PJM submitted revisions to other portions of the PJM Tariff in compliance with Order No. 1000 in Docket No. ER13-198-000.}

The revised Schedule 12 contained cost allocation provisions applicable to all categories of Required Transmission Enhancements approved by the PJM Board of Managers in the RTEP process as set forth in the current PJM Operating Agreement\footnote{Amended and Restated Operating Agreement of PJM Interconnection, L.L.C., Schedule 6 (the “RTEP Protocol”).} or in revisions to the RTEP process that PJM proposed in its own compliance filing for Order No. 1000.\footnote{Whenever changes are proposed to the regional planning process, the PJM Transmission Owners consider whether changes to cost allocation are necessary and appropriate.}

Relevant to this filing, the proposed cost allocation provisions continued to distinguish between Regional Facilities and Necessary Lower Voltage Facilities, on one hand, and lower voltage facilities on the other.\footnote{A complete description of all of the changes made to the cost allocation provisions in Schedule 12 is contained in the PJM Transmission Owners’ filing submitted on October 11, 2012 in this docket.} However, they revised the definition of Region Facilities to include double-circuit alternating current (“A.C.”) facilities planned to operate at voltages of at least 345 kV, but less than 500 kV, as well as all A.C. facilities planned to operate at 500 kV or above.\footnote{Proposed Schedule 12, § (b)(i). If a double-circuit 345 kV facility included in the RTEP is a combination of an existing and a new facility, only the cost of the new facility will be allocated as a Regional Facility, along with the remaining undepreciated cost of the existing facility, provided it has previously been included in an appendix to Schedule 12 as an RTEP-planned facility. Except with respect to Commission-authorized construction work in progress, a double-circuit 345 kV facility is only allocated as a Regional Facility after both circuits enter service. \textit{Id.} § (b)(i)(C).} In order to qualify as a Regional Facility, the...
provisions required that each of the circuits of a double-circuit 345 kV facility begin at a single substation and end at a single substation, but did not require them to share a single right-of-way. The proposed definition of Regional Facilities also included a direct current (“D.C.”) facility that is connected directly to a D.C. facility that is a Regional Facility or (a) that is connected to at least one substation or switching station that is also connected to either (i) at least one A.C. transmission line operated at 500 kV or above; or (ii) at least one Double-circuit 345 kV Required Transmission Enhancement; and (b) for which any transformer between such substation or switching station and the D.C. converter has a low-side phase-to-phase voltage rating of not less than 345 kV, such voltage having been determined by PJM to be necessary and appropriate.

The proposal used a hybrid approach to allocate the cost of Regional Facilities and Necessary Lower Voltage Facilities. This approach allocated a portion of the costs of these projects to beneficiaries that PJM identified specifically and the remainder to customers throughout the region, in recognition of the “widespread, although difficult to quantify benefits” that these projects provide. Under this approach, one-half of each project’s cost would be allocated on a postage-stamp basis, i.e., to zones on a load ratio share basis and to merchant transmission facilities in proportion to awarded Firm Transmission Withdrawal Rights. The methodologies used to allocate the other half of the cost of Regional Facilities and Necessary Lower Voltage Facilities allocated costs to specifically identified beneficiaries of each project. Consistent with the cost allocation principles established in Order No. 1000, the proposal used different methodologies to identify specific beneficiaries of Reliability Projects and Economic Projects. For Regional Facilities that are Reliability Projects, the proposal allocated fifty percent of each project’s cost using a new form of distribution factor (“DFAX”) analysis. This analysis, which allocates the cost of a Required Transmission Enhancement based on each Zone’s and merchant transmission facility’s use of the facility, is referred to as “Solution-based DFAX.” For new Regional Facilities included in the RTEP as Economic Projects, the proposal allocated fifty percent of each project’s cost based on each Zone’s and each merchant transmission facility’s share of the zonal Changes in Load Energy Payment that result from the new facility.

The Commission conditionally accepted the proposed revisions, subject to the submission of a compliance filing that (1) confirmed that certain provisions of the CTOA and the PJM OATT do not prevent nonincumbent transmission developers from recovering the costs of Required Transmission Enhancements through the cost allocation methodologies of Schedule 12 or, in the alternative, revised those provisions; (2) specified

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11 *PJM Interconnection, L.L.C.*, 142 FERC ¶ 61,214 (2013) (the “March 22 Order” or “First Compliance Order”) at P 413.
12 Proposed Schedule 12, § (b)(i)(A)(1).
13 *Id.* § (b)(iii).
14 *Id.* § (b)(v).
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how costs allocated to PJM of transmission projects located in other regions would be allocated within PJM and the allocation to other regions of the cost of PJM transmission projects; (3) further explained the process for implementing the Solution-based DFAX methodology; and (4) modified the criteria for designating D.C. facilities as Regional Facilities to be consistent with the criteria for designating A.C. facilities as Regional Facilities. The PJM Transmission Owners’ filed revisions in compliance with the Commission’s directives on July 22, 2013.

The PJM Transmission Owners explained in that compliance filing that the provisions cited in the March 22 Order do not deny nonincumbent transmission owners access to the cost allocation mechanisms of Schedule 12. To avoid any possible misinterpretation of those provisions, the PJM Transmission Owners also proposed to modify further the language in Schedule 12 to specifically preclude any such effect and specifically referenced the March 22, 2013 Order in its proposed revisions by adding the sentence underscored below:

For purposes of this Schedule 12 only, the term, “Transmission Owner,” shall include any entity that undertakes to construct and own and/or finance a Required Transmission Enhancement pursuant to a designation in the Regional Transmission Expansion Plan to construct and own and/or finance such Required Transmission Enhancement, even if such entity is not yet eligible to become a party to the Consolidated Transmission Owners Agreement. In compliance with FERC’s Order on Compliance Filing issued in PJM Interconnection, L.L.C., Docket No. ER13-198-000 et al. on March 22, 2013, nothing in the PJM Tariff or the Consolidated Transmission Owners Agreement shall prevent an entity that undertakes to construct and own and/or finance a Required Transmission Enhancement pursuant to a designation in the Regional Transmission Expansion Plan to construct and own and/or finance such Required Transmission Enhancement from recovering the costs of such Required Transmission Enhancement through this Schedule 12.

The May 15 Order directed the PJM Transmission Owners to remove the phrase “[i]n compliance with FERC’s Order on Compliance Filing issued in PJM Interconnection, L.L.C., Docket No. ER13-198-000 et al., on March 22, 2013” from the modification of Schedule 12.15

In the March 22 Order, the Commission also rejected the proposed criteria for qualification of a D.C. line as a Regional Facility. It found that the criteria applicable to D.C. Required Transmission Enhancements “may discriminate” against them because those criteria were “based largely on the transmission facilities that [a D.C. transmission

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15 May 15 Order at P 305.
facility] connects to. . . . regardless of the D.C. link voltage or power carrying capacity.\textsuperscript{16} The Commission required the submission on compliance of “criteria for qualification as a Regional Facility that consider a D.C. transmission facility and an A.C. transmission facility in a comparable manner.”\textsuperscript{17}

In compliance with the Commission’s directive, the PJM Transmission Owners proposed revised criteria in the July 22nd compliance filing that classify D.C. facilities, like A.C. facilities, as Regional Facilities based on the voltage of the Required Transmission Enhancement. Specifically, the PJM Transmission Owners proposed minimum voltage thresholds for D.C. Required Transmission Enhancements to qualify as Regional Facilities that (a) like the criteria for A.C. Required Transmission Enhancements, distinguish between projects that constitute a single circuit (defined for D.C. facilities as both conductors of a bipole facility, as well as any A.C./D.C. converter terminal) and those that comprise two circuits; and (b) are equivalent, from the standpoint of power-carrying capability, to the corresponding voltage thresholds for A.C. Required Transmission Enhancements.

In the May 15 Order, the Commission found that the proposed criteria do not fully ensure comparable treatment of A.C. and D.C. facilities. Accordingly, it directed the PJM Transmission Owners to submit a further compliance filing that: (1) specifies that D.C. facilities that operate below ± 433 kV D.C. (or ± 298 kV D.C. for double-circuit D.C. Required Transmission Enhancements) that must be constructed or strengthened to support new Regional Facilities may qualify as a Necessary Lower Voltage Facility; and (2) removes the 345 kV low side phase-to-phase voltage threshold for transformers connected to D.C. Regional Facilities.\textsuperscript{18}

II. COMPLIANCE PROVISIONS

In compliance with the directives of the May 15 Order, the PJM Transmission owners submit three modifications of Section 12.

First, in compliance with the Commission’s directive that the PJM Transmission Owners remove the phrase “[i]n compliance with FERC’s Order on Compliance Filing issued in PJM Interconnection, L.L.C., Docket No. ER13-198-000 \textit{et al.}, on March 22, 2013” from the modification of Schedule 12, the PJM Transmission Owners proposed to revise Schedule 12, section (a)(iv) to read as follows:

\textbf{(iv) Entities Not Yet Eligible to Become Transmission Owners.}
For purposes of this Schedule 12 only, the term, “Transmission Owner,”

\textsuperscript{16} March 22 Order at P 439.
\textsuperscript{17} \textit{Id.} at P 440.
\textsuperscript{18} May 15 Order at P 382.
shall include any entity that undertakes to construct and own and/or finance a Required Transmission Enhancement pursuant to a designation in the Regional Transmission Expansion Plan to construct and own and/or finance such Required Transmission Enhancement, even if such entity is not yet eligible to become a party to the Consolidated Transmission Owners Agreement. In compliance with FERC’s Order on Compliance Filing issued in PJM Interconnection, L.L.C., Docket No. ER13-198-000 et al., on March 22, 2013” from the modification of Schedule 12, nothing in the PJM Tariff nor the Consolidated Transmission Owners Agreement shall prevent an entity that undertakes to construct and own and/or finance a Required Transmission Enhancement pursuant to a designation in the Regional Transmission Expansion Plan to construct and own and/or finance such Required Transmission Enhancement from recovering the costs of such Required Transmission Enhancement through this Schedule 12.

Second, the PJM Transmission Owners proposed to revise section (b)(i) of Schedule 12 to read as follows:

(i) **Regional Facilities and Necessary Lower Voltage Facilities.** Transmission Provider shall assign cost responsibility on a region-wide basis for Required Transmission Enhancements included in the Regional Transmission Expansion Plan that (1) (a) are A.C. facilities that operate at or above 500 kV; (b) constitute a single Required Transmission Enhancement comprising two A.C. circuits operating at or above 345 kV and below 500 kV, where both circuits originate from a single substation or switching station at one end and terminate at a single substation or switching station at the other end, regardless of whether or not the two circuits are routed in the same right-of-way (“Double-circuit 345 kV Required Transmission Enhancement”); (c) are A.C. or D.C. shunt reactive resources (such as capacitors, static var compensators, static synchronous condenser (STATCON), synchronous condensers, inductors, other shunt devices, or their equivalent) connected to a Transmission Facility described in clause (a) or (b) of this subsection, or (d) are D.C. facilities meeting the criteria set forth in subsection (b)(i)(D) (collectively, “Regional Facilities”), or (2) new A.C. Transmission Facilities or expansions or enhancements to existing Transmission Facilities that operate below 500 kV (or 345 kV in the case of a Regional Facility described in clause (1)(b) of this subsection) or new D.C. Transmission Facilities that do not meet the criteria of subsection (b)(i)(D) that must be constructed or strengthened to support new Regional Facilities, based on the planning criteria used by the Transmission Provider in developing the applicable Regional Transmission Expansion Plan (“Necessary Lower Voltage Facilities”) as follows:

Finally, the PJM Transmission Owners propose to revise section (b)(i)(B) (1) of Schedule 12 to read as follows:
(B) (1) Except for transformers that are an integral component of an A.C. Regional Facility and transformers that are an integral component of a D.C. Regional Facility with a low side phase to phase voltage rating of not less than 345 kV, transformers connected to Lower Voltage Facilities, as defined in section (b)(ii) of this Schedule 12 and transformers connected to D.C. Regional Facilities with a low side phase to phase voltage rating of less than 345 kV, shall not be considered Regional Facilities or Necessary Lower Voltage Facilities; and (2) Transmission Facilities that are not Regional Facilities and deliver energy from a Regional Facility to load shall not be considered Necessary Lower Voltage Facilities.

III. CONTENTS OF FILING

This filing consists of the following documents:

- The instant Transmittal Letter;
- Attachment A: Redlined Tariff Sheets depicting revisions to Schedule 12 in compliance with the May 15 Order;
- Attachment B: Clean Tariff Sheets of Schedule 12 in compliance with the May 15 Order;

IV. LIST OF PERSONS RECEIVING A COPY OF THIS FILING

On behalf of the PJM Transmission Owners, PJM has served a copy of this filing on all PJM Members and on all state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the Commission’s regulations,19 PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: http://www.pjm.com/documents/ferc-manuals/ferc-filings.aspx with a specific link to the newly-filed documents, and will send an e-mail on the same date as this filing to all PJM Members and all state utility regulatory commissions in the PJM Region alerting them that this filing has been made by PJM and is available by following such link. PJM also serves the parties listed on the Commission’s official service list for this docket. If the documents are not immediately available by using the referenced link, the documents will be available through the referenced link within 24 hours of the filing. Also, a copy of this filing will be available on the Commission’s eLibrary website located at the following link: http://www.ferc.gov/docs-filing/elibrary.asp in accordance with the Commission’s regulations and Order No. 714.

19 See 18 C.F.R §§ 35.2(e) and 385.2010(f)(3) (2014).
20 PJM already maintains updates and regularly uses e-mail lists for all PJM members and affected state commissions.
VII. CONCLUSION

For the reasons set forth herein, the PJM Transmission Owners respectfully request that the Commission accept these modifications to Schedule 12 of the PJM Tariff as full compliance with the May 15 Order.

Respectfully submitted,

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On Behalf of the PJM Transmission Owners

Enclosures
Attachment A

Schedule 12
Transmission Enhancement Charges

PJM Open Access Transmission Tariff
(Redlined format)
SCHEDULE 12
Transmission Enhancement Charges

(a) Establishment of Transmission Enhancement Charges.

(i) Establishment of Transmission Enhancement Charges by Transmission Owners and Entities That Will Become Transmission Owners. One or more of the Transmission Owners may be designated to construct and own and/or finance Required Transmission Enhancements (as defined in Section 1.38C of the Tariff) by (1) the Regional Transmission Expansion Plan periodically developed pursuant to Schedule 6 of the Operating Agreement or (2) any joint planning or coordination agreement between PJM and another region or transmission planning authority set forth in Schedule 12-Appendix B (“Appendix B Agreement”) (collectively, for purposes of this Schedule 12 only, “Regional Transmission Expansion Plan”). Section 1.7 of Schedule 6 of the Operating Agreement recognizes that Transmission Owners, subject to obtaining any necessary regulatory approvals, may seek to recover the costs of Required Transmission Enhancements and obligates PJM Settlement to collect on behalf of Transmission Owner(s) any charges established by Transmission Owners to recover the costs of Required Transmission Enhancements. If a Transmission Owner is designated by the Regional Transmission Expansion Plan to construct and own and/or finance a Required Transmission Enhancement, such Transmission Owner may choose any of the following cost recovery mechanisms, subject to the crediting procedures set forth in section (e) below:

1. Decline to seek to recover the costs of Required Transmission Enhancements from customers until such time as it makes a filing pursuant to Section 205 of the Federal Power Act to revise its Network Integration Transmission Service rates;

2. Make a filing pursuant Section 205 of the Federal Power Act and the FERC’s rules and regulations to establish the revenue requirement with respect to a Required Transmission Enhancement, without filing to revise its rates for Network Integration Transmission Service generally; or

3. Establish the revenue requirement with respect to a Required Transmission Enhancement through the operation of a formula rate in effect applicable to its rates for Network Integration Transmission Service.

A charge established to recover the revenue requirement with respect to a Required Transmission Enhancement is hereafter referred to as a “Transmission Enhancement Charge.” Transmission Enhancement Charges of one or more Transmission Owners for Required Transmission Enhancements shall be established in accordance with this Schedule 12.

(ii) Establishment of Transmission Enhancement Charges With Respect to Required Transmission Enhancements Constructed by Entities in Another Region. The revenue requirement with respect to a Required Transmission Enhancement constructed pursuant to an Appendix B Agreement in another region by an entity designated by such other region shall be governed by the tariffs or agreements in effect in such region. Transmission Enhancement
Charges to recover the costs of such Required Transmission Enhancement for which PJM is responsible shall be determined in accordance with this Schedule 12. Other than with respect to a Required Transmission Enhancement constructed pursuant to an Appendix B Agreement, no PJM Network or Transmission Customer will bear cost responsibility for any required transmission upgrades in another region as a consequence of a Required Transmission Enhancement included in the Regional Transmission Expansion Plan.

(iii) Transmission Facilities Not Eligible for Cost Responsibility Assignment. Any alternating current (“A.C.”) facilities or direct current (“D.C.”) facilities that are Attachment Facilities, Local Upgrades, Merchant Network Upgrades, Merchant Transmission Facilities, Network Upgrades, Supplemental Projects as defined in Section 1.42A.02 of the Operating Agreement, or any other Transmission Facilities that operate or are planned to be operated in a manner that requires customers to subscribe to transmission service over such facilities or to a portion of the electric capability of such facilities shall not be eligible for cost responsibility assignment pursuant to this Schedule 12.

(iv) Entities Not Yet Eligible to Become Transmission Owners. For purposes of this Schedule 12 only, the term, “Transmission Owner,” shall include any entity that undertakes to construct and own and/or finance a Required Transmission Enhancement pursuant to a designation in the Regional Transmission Expansion Plan to construct and own and/or finance such Required Transmission Enhancement, even if such entity is not yet eligible to become a party to the Consolidated Transmission Owners Agreement. In compliance with FERC’s Order On Compliance Filing issued in PJM Interconnection, L.L.C., Docket No. ER13-198-000 et al. on March 22, 2013, Nothing in the PJM Tariff nor the Consolidated Transmission Owners Agreement shall prevent an entity that undertakes to construct and own and/or finance a Required Transmission Enhancement pursuant to a designation in the Regional Transmission Expansion Plan to construct and own and/or finance such Required Transmission Enhancement from recovering the costs of such Required Transmission Enhancement through this Schedule 12.

(v) Effective Date. The assignment of cost responsibility or classification of Required Transmission Enhancements either (1) made by the Transmission Provider prior to February 1, 2013, or (2) applicable to Required Transmission Enhancements approved by the PJM Board pursuant to Section 1.6 of the PJM Operating Agreement prior to February 1, 2013 are set forth in Schedule 12-Appendix. Except as specifically set forth herein, nothing in this Schedule 12 shall change the assignment of cost responsibility or classification of Required Transmission Enhancements included in Schedule 12-Appendix. The assignment of cost responsibility or classification of all other Required Transmission Enhancements shall be set forth in Schedule 12-Appendix A.

(b) Designation of Customers Subject to Transmission Enhancement Charges.

(i) Regional Facilities and Necessary Lower Voltage Facilities. Transmission Provider shall assign cost responsibility on a region-wide basis for Required Transmission Enhancements included in the Regional Transmission Expansion Plan that (1) are A.C.
facilities that operate at or above 500 kV; (b) constitute a single Required Transmission Enhancement comprising two A.C. circuits operating at or above 345 kV and below 500 kV, where both circuits originate from a single substation or switching station at one end and terminate at a single substation or switching station at the other end, regardless of whether or not the two circuits are routed in the same right-of-way (“Double-circuit 345 kV Required Transmission Enhancement”); (c) are A.C. or D.C. shunt reactive resources (such as capacitors, static var compensators, static synchronous condenser (STATCON), synchronous condensers, inductors, other shunt devices, or their equivalent) connected to a Transmission Facility described in clause (a) or (b) of this subsection, or (d) are D.C. facilities meeting the criteria set forth in subsection (b)(i)(D) (collectively, “Regional Facilities”), or (2) new A.C. Transmission Facilities or expansions or enhancements to existing Transmission Facilities that operate below 500 kV (or 345 kV in the case of a Regional Facility described in clause (1)(b) of this subsection) or new D.C. Transmission Facilities that do not meet the criteria of subsection (b)(i)(D) that must be constructed or strengthened to support new Regional Facilities, based on the planning criteria used by the Transmission Provider in developing the applicable Regional Transmission Expansion Plan (“Necessary Lower Voltage Facilities”) as follows:

(A) Cost responsibility for Regional Facilities and Necessary Lower Voltage Facilities shall be allocated among Responsible Customers as defined in this Schedule 12 as follows:

(1) Fifty percent (50%) shall be assigned annually on a load-ratio share basis as follows:

(a) With respect to each Zone, using, consistent with section 34.1 of the Tariff, the applicable zonal loads at the time of such Zone’s annual peak load from the 12-month period ending October 31 preceding the calendar year for which the annual cost responsibility allocation is determined; and

(b) With respect to Merchant Transmission Facilities, (1) for the calendar year following the year in which it initiates operation, the actually awarded Firm Transmission Withdrawal Rights associated with its existing Merchant Transmission Facility; and (2) for all subsequent calendar years, the annual peak load of the Merchant Transmission Facility (not to exceed its actual Firm Transmission Withdrawal Rights) from the 12-month period ending October 31 of the calendar year preceding the calendar year for which the annual cost responsibility allocation is determined.

(2) Fifty percent (50%) shall be assigned as follows:

(a) In the case of a Required Transmission Enhancement included in the Regional Transmission Expansion Plan to address one or more reliability violations or to address operational adequacy and performance issues (collectively, “Reliability Project”), in accordance with the distribution factor (“DFAX”) analysis described in subsection (b)(iii) of this Schedule 12; and

(b) In the case of a Required Transmission Enhancement included in the Regional Transmission Expansion Plan to relieve one or more economic
constraints as described in section 1.5.7(b)(iii) of Schedule 6 of the Operating Agreement ("Economic Project"), in accordance with the methodology described in subsection (b)(v) of this Schedule 12.

(B) (1) Except for transformers that are an integral component of an A.C.-a Regional Facility and transformers that are an integral component of a D.C.-Regional Facility with a low side phase-to-phase voltage rating of not less than 345kV, transformers connected to Lower Voltage Facilities, as defined in section (b)(ii) of this Schedule 12 and transformers connected to D.C.-Regional Facilities with a low side phase-to-phase voltage rating of less than 345kV, shall not be considered Regional Facilities or Necessary Lower Voltage Facilities; and (2) Transmission Facilities that are not Regional Facilities and deliver energy from a Regional Facility to load shall not be considered Necessary Lower Voltage Facilities.

(C) With respect Required Transmission Enhancements that qualify as Regional Facilities under subsection (b)(i)(1)(b) or subsection (b)(i)(D)(2) of this Schedule 12,

(1) where the Required Transmission Enhancement includes both new Transmission Facilities and pre-existing Transmission Facilities, cost responsibility under this section (b)(i) shall apply only to the cost of the new Transmission Facilities plus the original cost less accumulated depreciation of pre-existing Transmission Facilities that are included in Schedule 12-Appendix or Schedule 12-Appendix A;

(2) cost responsibility shall be assigned under this section (b)(i) only after the Required Transmission Enhancement goes into service as a Double-circuit 345 kV Required Transmission Enhancement or a Double-circuit D.C. Required Transmission Enhancement; and

(3) cost responsibility shall be assigned under this section (b)(i) for any CWIP permitted to be recovered before the Required Transmission Enhancement goes into service only after such Transmission Facilities are approved in a Regional Transmission Expansion Plan as a Double-circuit 345 kV Required Transmission Enhancement or a Double-circuit D.C. Required Transmission Enhancement.

(D) A Required Transmission Enhancement included in the Regional Transmission Expansion Plan that is a D.C. facility, consisting of D.C. lines (i.e., wires or cables) and A.C./D.C. converters, shall be a Regional Facility only if:

(1) such D.C. facility comprises two poles and operates at a voltage of ±433 kV D.C. or above; or

(2) such D.C. Facility constitutes a single Required Transmission Enhancement comprising two D.C. circuits where (i) both circuits originate from a single substation or switching station at one end and terminate at a single substation or switching station at the other end, regardless of whether or not both circuits are routed in the same right-of-way, and (ii) each such circuit consists of two poles and operates at a voltage of ±298 kV D.C or above ("Double-circuit D.C. Required Transmission Enhancement").
(ii) **Lower Voltage Facilities.** Transmission Provider shall assign cost responsibility for Required Transmission Enhancements that (a) are not Regional Facilities; and (b) are not “Necessary Lower Voltage Facilities” as defined in section (b)(i) of this Schedule 12 (collectively “Lower Voltage Facilities”), as follows:

(A) If the Lower Voltage Facility is a Reliability Project, Transmission Provider shall use the DFAX analysis described in subsection (b)(iii) of this Schedule 12; and

(B) If the Lower Voltage Facility is an Economic Project, Transmission Provider shall use the methodology described in subsection (b)(v) of this Schedule 12.

(iii) **DFAX Analysis for Reliability Projects.**

(A) For purposes of the assignment of cost responsibility for Reliability Projects under subsection (b)(i)(A)(2)(a) and subsection (b)(ii)(A) of Schedule 12, the Transmission Provider, based on a computer model of the electric network and using power flow modeling software, shall calculate distribution factors, represented as decimal values or percentages, which express the portions of a transfer of energy from a defined source to a defined sink that will flow across a particular transmission facility or group of transmission facilities. These distribution factors represent a measure of the use by the load of each Zone or Merchant Transmission Facility (collectively, “Responsible Zone”) of the Required Transmission Enhancement, as determined by a power flow analysis. In general, a distribution factor can be represented as:

\[
\text{Distribution Factor} = \frac{\text{After-shift power flow} - \text{pre-shift power flow}}{\text{Total amount of power shifted}}
\]

\[
\text{Total amount of power shifted} = \text{Modeled incremental megawatt transfer to a given Load Deliverability Area or Merchant Transmission Facility}
\]

\[
\text{Pre-shift power flow} = \text{Megawatt flow over the Required Transmission Enhancement before the incremental megawatt transfer}
\]

\[
\text{After-shift power flow} = \text{Megawatt flow over the Required Transmission Enhancement after the incremental megawatt transfer}
\]

When calculating such distribution factors:

1. All distribution factors are calculated with respect to the Required Transmission Enhancement subject to cost allocation under subsection (b)(i)(A)(2)(a) and subsection (b)(ii)(A) of this Schedule 12.

2. The calculation of distribution factors shall be determined using linear matrix algebra, such that distribution factors represent the ratio of (i) a change in megawatt flow on a Required Transmission Enhancement to (ii) a change in megawatts transferred to
aggregate load within a Zone or, in the case of a Merchant Transmission Facility, the point of withdrawal associated with Firm Transmission Withdrawal Rights over such Merchant Transmission Facility.

(3) With respect to a Merchant Transmission Facility, zonal peak load shall mean (i) the existing Firm Transmission Withdrawal Rights of the Merchant Transmission Facility being evaluated, if the Merchant Transmission Facility is in service, or (ii) for a Merchant Transmission Facility that is not yet in service, the planned Firm Transmission Withdrawal Rights of the Merchant Transmission Facility being evaluated as identified in the Interconnection Service Agreement in effect for such Merchant Transmission Facility.

(4) In the DFAX analysis, when Transmission Provider models a transfer from generation to all load within an individual Zone, Transmission Provider shall model the transfer to the Zone as a whole (not on a bus-by-bus basis).

(5) In the DFAX analysis, Transmission Provider shall model generation both external and internal to individual Responsible Zones to reflect (a) the boundaries of Locational Deliverability Areas (“LDAs”), as defined in Attachment DD to the Tariff, and (b) limitations with respect to the reliability objective for moving generation capacity across the transmission system. Transmission Provider shall adopt the Capacity Emergency Transfer Objective (“CETO”), as defined in Attachment DD to the Tariff, associated with that LDA and calculated for the applicable planning year to be the transfer limitation into the LDA. In modeling the system generation and load, Transmission Provider shall assume that the percentage of the zonal load in the LDA served by external (or internal) generation to the LDA shall equal the ratio of (i) the CETO associated within that LDA (or generation internal with the LDA) to (ii) the sum of (a) the internal generation within the LDA and (b) the CETO associated with that LDA. For the generation dispatch used in calculating the distribution factor, Transmission Provider shall distribute these amounts of external/internal generation among all generation in the PJM Region external to/internal within the LDA, respectively, in proportion to their capacity. For Responsible Zones that are located within LDAs that are also entirely contained in other larger LDAs, the modeling approach and distribution factor calculations shall be repeated for such Responsible Zones for each LDA. The lowest distribution factor derived from these calculations shall be applied to the Responsible Zone in the calculation of the use of the Required Transmission Enhancement.

(6) No cost responsibility shall be assigned to a Responsible Zone unless the magnitude of the distribution factor is greater than or equal to 0.01. Any distribution factor of a smaller magnitude shall be set equal to zero.

(B) The DFAX analysis will be performed in accordance with the following steps:

(1) Transmission Provider shall calculate a distribution factor and a direction of use for each Responsible Zone by modeling a transfer from all generation in the PJM
Region to each Responsible Zone. To establish the use by a Responsible Zone, in megawatts, of a Required Transmission Enhancement, the distribution factor of a Required Transmission Enhancement associated with the resulting transfer modeled by the Transmission Provider to each Responsible Zone shall be multiplied by the Responsible Zone’s peak load.

(2) The Transmission Provider shall separately determine the relative use of the Required Transmission Enhancement by each Responsible Zone in each direction by dividing the megawatts of use by each Responsible Zone determined in Section (iii)(B)(1) by the total use of all Responsible Zones using the Required Transmission Enhancement in the same direction of use.

(3) Transmission Provider shall determine the direction of use percentage of the Required Transmission Enhancement in each direction using a production cost analysis to determine the total use, in megawatt-hours, of the Required Transmission Enhancement by all Zones and Merchant Transmission Facilities in each direction over the course of a year. The Transmission Provider shall calculate the percentage use in each direction by dividing the megawatt-hours of use in each direction by total use in megawatt-hours in both directions of use.

(4) The Transmission Provider shall multiply the relative use by each Responsible Zone of the Required Transmission Enhancement in each direction of use determined in Section (iii)(B)(2), above, by the applicable direction of use percentage determined in Section (iii)(B)(3), above.

(5) The products of the calculation performed in Section (iii)(B)(4), above, shall determine the relative allocation to each Responsible Zone of cost responsibility for the Required Transmission Enhancement.

(C) In the DFAX analysis, the Zones of Public Service Electric and Gas Company and Rockland Electric Company will be treated as one Zone unless and until Rockland Electric Company elects to be treated as a separate Zone in accordance with the terms of the Settlement Agreement And Offer Of Partial Settlement approved by FERC in Docket Nos. ER06-456-000, et al.

(D) Transmission Provider shall round cost responsibility assignments determined using the DFAX analysis described in subsection (b)(iii) of this Schedule 12 to the nearest one-hundredth of one percent.

(E) Transmission Provider shall not account for the ability to adjust use of phase angle regulators (“PARs”) in the DFAX analysis described in subsection (b)(iii) of this Schedule 12. In the DFAX analysis, all PAR angles shall be fixed at their base case settings.

(F) In the DFAX analysis, if the Required Transmission Enhancement is a D.C. facility, the Transmission Provider shall determine cost responsibility assignment as follows:
(1) The Required Transmission Enhancement shall be replaced in the model with a comparable proxy A.C. facility, the impedance of which shall be calculated based on the length of the D.C. facility that was removed from the model multiplied by an approximate per unit/mile impedance value for the proxy A.C. facility.

(2) Where a D.C. facility is an integral part of a Required Transmission Enhancement that also includes A.C. facilities, the methodology described in Subsection (b)(iii)(F)(1) above shall be used only for the D.C. facility segment of such Required Transmission Enhancement.

(3) A D.C. facility used to control flow over portions of the Transmission System shall be modeled with a zero impedance and no control shall be applied.

(G) If Transmission Provider determines in its reasonable engineering judgment that, as a result of applying the provisions of this Section (b)(iii), the DFAX analysis cannot be performed or that the results of such DFAX analysis are objectively unreasonable, the Transmission Provider may use an appropriate substitute proxy for the Required Transmission Enhancement in conducting the DFAX analysis. If a proxy is used that is not specified in this Schedule 12, Transmission Provider shall state in a written report (a) the reasons why it determined the DFAX analysis could not be performed or that the results of the DFAX analysis were objectively unreasonable; (b) why the substitute proxy produced objectively reasonable results; and (3) a recommendation as to what changes, if any, should be considered in conducting the DFAX analysis.

(H) The Transmission Provider shall make a preliminary cost responsibility determination for each Required Transmission Enhancement subject to this section (b)(iii) of Schedule 12 at the time such Required Transmission Enhancement is included in the Regional Transmission Expansion Plan.

(1) When CWIP in connection with a Required Transmission Enhancement subject to this section (b)(iii) of Schedule 12 is entitled to be recovered, the preliminary determination of cost responsibility made at the time that the Required Transmission Enhancement was included in the Regional Transmission Expansion Plan shall be used to assign cost responsibility for such CWIP and such cost responsibility shall remain unchanged until the date the Required Transmission Enhancement goes into service. Once a Required Transmission Enhancement has gone into service, the updated cost responsibility determination provided for in subsection (b)(iii)(H)(2) shall apply.

(2) Beginning with the calendar year in which a Required Transmission Enhancement is scheduled to enter service, and thereafter annually at the beginning of each calendar year, the Transmission Provider shall update the preliminary cost responsibility determination for each Required Transmission Enhancement using the values and inputs used in the base case of the most recent Regional Transmission Expansion Plan approved by the PJM Board prior to the date of the update. All values and inputs used in the calculation of the distribution factor in a determination of cost responsibility shall be the same values and
inputs as used in the base case of the most recent Regional Transmission Expansion Plan approved by the PJM Board prior to the determination of cost responsibility.

(iv) **Spare Parts, Replacement Equipment And Circuit Breakers.** Transmission Provider shall assign cost responsibility for spare parts, replacement equipment, and circuit breakers and associated equipment, included in the Regional Transmission Expansion Plan as follows:

(A) Spare parts that are part of the design specifications of a Required Transmission Enhancement at the time such Required Transmission Enhancement is first included in the Regional Transmission Expansion Plan shall be considered part of the Required Transmission Enhancement for the purpose of applying the cost threshold described in subsection (b)(vi) of this Schedule 12 and cost responsibility for such spare parts shall be assigned in the same manner as the Required Transmission Enhancement. Cost responsibility for spare parts independently included in the Regional Transmission Expansion Plan and not a part of the design specifications of a Required Transmission Enhancement as described above in this subsection shall be assigned to the Zone of the owner of the spare part, if the owner of the spare part is a Transmission Owner listed in Attachment J of the Tariff. If the owner of the spare part is not a Transmission Owner listed in Attachment J of the Tariff, cost responsibility shall be assigned on a pro rata basis to the zones that bear cost responsibility for the owner’s Required Transmission Enhancements.

(B) Replacement equipment that is part of the design specifications of a Required Transmission Enhancement at the time the Required Transmission Enhancement is first included in the Regional Transmission Expansion Plan shall be considered part of the Required Transmission Enhancement for the purpose of applying the cost threshold described in section (b)(vi) of this Schedule 12 and cost responsibility for such replacement equipment shall be assigned in the same manner as the Required Transmission Enhancement. Cost responsibility for Required Transmission Enhancement replacement equipment independently included in the Regional Transmission Expansion Plan and not a part of the design specifications of a Required Transmission Enhancement as described above in this subsection, shall be assigned to the same Zones and/or Merchant Transmission Facilities and in the same proportions as the then-existing assignments of cost responsibility for the facilities that the replacement equipment is replacing.

(C) Circuit breakers and associated equipment that are part of the design specifications of a Required Transmission Enhancement at the time the Required Transmission Enhancement is first included in the Regional Transmission Expansion Plan shall be considered part of the Required Transmission Enhancement for the purpose of applying the cost threshold described in subsection (b)(vi) of this Schedule 12 and cost responsibility for such circuit breakers and associated equipment shall be assigned in the same manner as the Required Transmission Enhancement. Cost responsibility for circuit breakers and associated equipment independently included in the Regional Transmission Expansion Plan and not a part of the design specifications of a transmission element of a Required Transmission Enhancement as described above in this subsection, shall be assigned to the Zone of the owner of the circuit breaker and associated equipment if the owner of the circuit breaker is a Transmission Owner listed in Attachment J of the Tariff. If the owner of the circuit breaker is not a Transmission Owner listed
in Attachment J of the Tariff, cost responsibility shall be assigned on a pro rata basis to the zones that bear cost responsibility for the owner’s Required Transmission Enhancements.

(v) Economic Projects. Transmission Provider shall assign (i) fifty percent (50%) of cost responsibility for Economic Projects that are Regional Facilities; and (ii) full cost responsibility for Economic Projects that are Lower Voltage Facilities; as follows:

(A) Transmission Provider shall assign cost responsibility for Economic Projects that are accelerations of Reliability Projects as described in section 1.5.7(b)(i) of Schedule 6 of the Operating Agreement (“Acceleration Projects”) by performing and comparing (1) a DFAX analysis consistent with the methodology described in subsection (b)(iii) of this Schedule 12, and (2) a methodology that is intended to act as a proxy for expected economic benefits from reduced Locational Marginal Prices (“LMP Benefit”) over the period that the reliability-based enhancement or expansion is to be accelerated (“LMP Benefits Methodology”). The LMP Benefits Methodology shall determine cost responsibility assignment percentages to Zones and Merchant Transmission Facilities in the following manner. The LMP Benefit to a Zone shall be deemed to be equal to the reduction in Locational Marginal Price payments made by Load Serving Entities as a result of the Acceleration Project assuming the customers purchase all energy needs from the PJM Interchange Energy Market, and LMP Benefits so calculated shall be converted into percentage cost responsibility assignments for the affected Zones. The LMP Benefits Methodology shall not incorporate the financial effects of allocations of Auction Revenue Rights or Financial Transmission Rights. The LMP Benefit to a Merchant Transmission Facility shall be deemed to be equal to the proportionate share of assigned cost responsibility using the DFAX analysis and the assignments of cost responsibility to other Zones in the LMP Benefits Methodology shall be proportionately adjusted, as necessary, to reflect this treatment of Merchant Transmission Facilities to ensure that the total allocation for any economic-based Required Transmission Enhancement equals one hundred percent. If, after performing both analyses and comparing the percentage cost responsibility assignments for the affected Zones calculated pursuant to the DFAX analysis and the LMP Benefits Methodology, the results do not indicate at least a ten percentage point cost responsibility assignment differential between the two methods for any Zone, cost responsibility for the Acceleration Project shall be assigned using the DFAX analysis. If, after performing both analyses and comparing the percentage cost responsibility assignments for the affected Zones calculated pursuant to the DFAX analysis and LMP Benefits Methodology, the results indicate at least a ten percentage point cost responsibility assignment differential between the DFAX analysis and the LMP Benefits Methodology for any Zone, cost responsibility for the Acceleration Project for the period of time the Reliability Project is accelerated (i.e. the period between the date the Reliability Project actually goes into service and the date the Reliability Project originally was scheduled to go in service in the PJM Board approved Regional Transmission Expansion Plan) shall be assigned using the LMP Benefits Methodology. For all periods other than the period of time the Reliability Project is accelerated, cost responsibility for such an Acceleration Project shall be assigned in accordance with the provisions of this Schedule 12 governing the assignment of cost responsibility of Regional Facility Reliability Projects or Lower Voltage Facility Reliability Projects, as applicable.
(B) Transmission Provider shall assign cost responsibility for Economic Projects that are modifications to Reliability Projects as described in section 1.5.7(b)(ii) of Schedule 6 of the Operating Agreement in accordance with the provisions of this Schedule 12 governing the assignment of cost responsibility of Regional Facility Reliability Projects or Lower Voltage Facility Reliability Projects, as applicable.

(C) Transmission Provider shall assign cost responsibility for Economic Projects that are new enhancements or expansions that could relieve one or more economic constraints as described in section 1.5.7(b)(iii) of Schedule 6 of the Operating Agreement to the Zones that show a decrease in the net present value of the Changes in Load Energy Payment determined for the first 15 years of the life of the Economic Project. The Change in Load Energy Payment for each year shall be determined using the methodology set forth in Section 1.5.7(d) of Schedule 6 of the Operating Agreement. Cost responsibility shall be assigned based on each Zone’s pro rata share of the sum of the net present values of the Changes in Load Energy Payment only of the Zones in which the net present value of the Changes in Load Energy Payment shows a decrease.

(vi) **Required Transmission Enhancements Costing Less Than $5 Million.** Notwithstanding Section (b)(i), (b)(ii), (b)(iv) and (b)(v), cost responsibility for a Required Transmission Enhancement for which the good faith estimate of the cost of the Required Transmission Enhancement (a) prepared in connection with the development of the Regional Transmission Expansion Plan and (b) provided to the PJM Board at the time the Required Transmission Enhancement is included for the first time in the Regional Transmission Expansion Plan, does not equal or exceed $5 million shall be assigned to the Zone where the Required Transmission Enhancement is to be located. The determination of whether the estimated cost of a Required Transmission Enhancement does not equal or exceed $5 million shall be based solely on such good faith estimate of the cost of the Required Transmission Enhancement regardless of the actual costs incurred. The estimated cost of a Required Transmission Enhancement shall include the aggregate estimated costs of all of the transmission elements approved by the PJM Board at the time such elements are included in the Regional Transmission Expansion Plan that collectively are intended (i) in the case of a Reliability Project, to resolve a specific reliability criteria violation, or (ii) in the case of an Economic Project, provide a specific LMP Benefit. Where a Required Transmission Enhancement subject to this section (b)(vi) consists of a single transmission element or multiple transmission elements that will be located in more than one Zone, each Zone shall be assigned cost responsibility for the transmission elements or portions of the transmission elements located in such Zone. Merchant Transmission Facilities shall not be assigned cost responsibility for a Required Transmission Enhancement subject to this Section (b)(vi).

(vii) **Modifications of Required Transmission Enhancements.** Once a Required Transmission Enhancement is included in the Regional Transmission Expansion Plan, any modification to such Required Transmission Enhancement that subsequently is included in the Regional Transmission Expansion Plan as a separate Reliability or Economic Project shall be considered a separate and distinct Required Transmission Enhancement for purposes of cost responsibility assignment under this Schedule 12. Except as provided in Section (b)(iv) of this Schedule 12, any cost responsibility assignment that has been made for a previously approved
Required Transmission Enhancement shall have no impact on the cost responsibility assignment of such modification.

(viii) **FERC Filing.** Within 30 days of the approval of each Regional Transmission Expansion Plan or an addition to such plan by the PJM Board pursuant to Section 1.6 of Schedule 6 of the PJM Operating Agreement, the Transmission Provider shall designate in the Schedule 12-Appendix A and in a report filed with the FERC the customers using Point-to-Point Transmission Service and/or Network Integration Transmission Service and Merchant Transmission Facility owners that will be subject to each such Transmission Enhancement Charge (“Responsible Customers”) based on the cost responsibility assignments determined pursuant to subsections (b)(i) through (v) of this Schedule 12. Those customers designated by the Transmission Provider as Responsible Customers shall have 30 days from the date the filing is made with the FERC to seek review of such designation. Such cost responsibility designations shall be the same as those made for the relevant Regional Facility, Necessary Lower Voltage Facility, or Lower Voltage Facility in the Regional Transmission Expansion Plan.

(ix) **Regions With Which PJM Has Entered Into an Agreement Listed in Schedule 12-Appendix B.** For purposes of this Schedule 12, where costs of a Required Transmission Enhancement are allocated to a region other than PJM pursuant to an agreement set forth in Schedule 12-Appendix B, Responsible Customers for such costs shall be customers in such region. Cost responsibility with respect to the costs of a Required Transmission Enhancements allocated to a region other than PJM shall be allocated within such region in accordance with the applicable tariff or agreement governing the allocation of such costs in such region.

(x) **Merchant Transmission Facilities.**

(A) For purposes of this Schedule 12, where the Transmission Provider has allocated all or a portion of a Required Transmission Enhancement to a Merchant Transmission Facility, the owner of the Merchant Transmission Facility shall be the Responsible Customer with respect to such Required Transmission Enhancement, and shall pay the Transmission Enhancement Charges associated with the Required Transmission Enhancement.

(B) (1) Transmission Provider shall defer collection of Transmission Enhancement Charges from a Merchant Transmission Facility until the Merchant Transmission Facility goes into commercial operation; provided, however, in the event the commercial operation of a Merchant Transmission Facility is delayed beyond the commercial operation milestone date(s) specified in the Interconnection Service Agreement associated with the Merchant Transmission Facility and the Transmission Provider or Transmission Owner constructing the Required Transmission Enhancement demonstrates that the Merchant Transmission Facility is responsible for such delay, Transmission Provider may begin collecting Transmission Enhancement Charges from the Merchant Transmission Facility prior to the Merchant Transmission Facility going into commercial operation. Transmission Enhancement Charges allocated to a Merchant Transmission Facility for which collection is deferred in accordance with this section (b)(x)(B)(1) shall be recorded in appropriate Transmission Provider accounts for deferred charges and collected in accordance with section (b)(x)(B)(3), below.
(2) Transmission Provider shall base the collection of Transmission Enhancement Charges associated with Required Transmission Enhancements from a Merchant Transmission Facility on the actual Firm Transmission Withdrawal Rights that have been awarded to the Merchant Transmission Facility; provided, however, to the extent that a Merchant Transmission Facility has been awarded less than the amount of Firm Transmission Withdrawal Rights specified in the Interconnection Service Agreement associated with the Merchant Transmission Facility, then Transmission Provider shall record the difference between the amount of Transmission Enhancement Charges collected based on the lesser amount of Firm Transmission Withdrawal Rights and the amount of Transmission Enhancement Charges based on the full amount of Firm Transmission Withdrawal Rights specified in the applicable Interconnection Service Agreement in appropriate accounts for deferred charges and, after the Merchant Transmission Facility has been awarded the full amount of Firm Transmission Withdrawal Rights specified in the Interconnection Service Agreement, collect such deferred amounts in accordance with section (b)(x)(B)(3), below. Notwithstanding the foregoing, Transmission Provider may collect Transmission Enhancement Charges based on more than a Merchant Transmission Facility’s actually awarded Firm Transmission Withdrawal Rights (not to exceed the Firm Transmission Withdrawal Rights specified in the applicable Interconnection Service Agreement) if the Transmission Provider or Transmission Owner demonstrates that the Merchant Transmission Facility is responsible for receiving fewer Firm Transmission Withdrawal Rights than are specified in the applicable Interconnection Service Agreement.

(3) Transmission Provider shall record: (i) in an appropriate deferred asset account, the Transmission Enhancement Charges associated with Required Transmission Enhancements for which collection is deferred in accordance with sections (b)(x)(B)(1) and (b)(x)(B)(2); and (ii) in an appropriate deferred liability account, the revenues associated with the Transmission Enhancement Charges that, absent the deferred charges, would have been due to Transmission Owners or to Transmission Owners’ customers as directed by the applicable Transmission Owner. At such time as collection of such deferred Transmission Enhancement Charges are permitted in accordance with sections (b)(x)(B)(1) and (b)(x)(B)(2), the deferred charges (along with appropriate interest) shall be collected from the Merchant Transmission Facility in equal installments over the twelve months following the commencement of the collection of the deferred charges. Such amounts shall be distributed to Transmission Owners or to Transmission Owners’ customers as directed by the applicable Transmission Owner, and the Transmission Provider shall make appropriate adjustments to the deferred asset and liability accounts. Transmission Provider shall not be responsible for distributing revenues associated with deferred Transmission Enhancement Charges unless and until such charges are collected in accordance with this section (b)(x)(B), and uncollected deferred Transmission Enhancement Charges shall not be subject to Default Allocation Assessments to the Members pursuant to section 15.2 of the Operating Agreement.

(xi) Consolidated Edison Company of New York. (A) Cost responsibility assignments to Consolidated Edison Company of New York for Required Transmission Enhancements pursuant to this Schedule 12 with respect to the Firm Point-To-Point Service Agreements designated as Original Service Agreement No. 1873 and Original Service Agreement No. 1874 accepted by the Commission in Docket No. ER08-858 (“ConEd Service
Agreements”) shall be in accordance with the terms and conditions of the settlement approved by the FERC in Docket No. ER08-858-000. (B) All cost responsibility assignments for Required Transmission Enhancements pursuant to this Schedule 12 shall be adjusted at the commencement and termination of service under the ConEd Service Agreements to take account of the assignments under subsection (xi)(A).

(xii) Public Policy Projects.

(A) Transmission Facilities as defined in section 1.27 of the Consolidated Transmission Owners Agreement constructed by a Transmission Owner pursuant to a Public Policy Requirement as defined in Section 1.38B of the Operating Agreement, but not included in a Regional Transmission Expansion Plan as a Required Transmission Enhancement, shall be as considered a Supplemental Project, as defined in Section 1.42A.02 of the Operating Agreement.

(B) If a transmission enhancement or expansion is proposed pursuant to Section 1.5.9(a) of Schedule 6 of the Operating Agreement which is not a Supplemental Project (“State Agreement Public Policy Project”), the Transmission Provider shall submit the assignment of costs to Responsible Customers proposed in connection with such State Agreement Public Policy Project to the Transmission Owners Agreement Administrative Committee for consideration and filing pursuant to Section 7.3 of the Consolidated Transmission Owners Agreement and Section 9.1(a) of the PJM Tariff. Nothing in this Section (b)(xii) shall prevent the Transmission Provider or the state governmental entities proposing such State Agreement Public Policy Project from filing a proposed assignment of costs to Responsible Customers for such project pursuant to Section 206 of the Federal Power Act.

(xiii) Replacement of Transmission Facilities. Unless determined by PJM to be a Required Transmission Enhancement included in a Regional Transmission Expansion Plan, cost responsibility for the replacement of Transmission Facilities, as defined in section 1.27 of the Consolidated Transmission Owners Agreement, shall be assigned to the Zonal loads and Merchant Transmission Facilities responsible for the costs of the Transmission Facilities being replaced.

(c) Determination of Transmission Enhancement Charges. In the event that any Transmission Owner recovers the cost of a Required Transmission Enhancement through a Transmission Enhancement Charge, such charge shall be determined as follows:

1. Transmission Provider shall identify in writing and post on the PJM Internet site the Required Transmission Enhancement(s) to which each Transmission Enhancement Charge corresponds. The Transmission Enhancement Charge with respect to a Required Transmission Enhancement shall recover the applicable Transmission Owner’s annual transmission revenue requirement associated with the Required Transmission Enhancement.

2. Each Transmission Enhancement Charge shall be a monthly charge based on all costs and applicable incentives associated with a particular Required Transmission Enhancement for which the Transmission Owner is responsible.
(3) A Transmission Owner’s annual transmission revenue requirement associated with a Required Transmission Enhancement shall be determined pursuant to either (i) a unilateral filing by the Transmission Owner under Section 205 of the Federal Power Act and the FERC’s rules and regulations thereunder; or (ii) a formula rate in effect applicable to the Transmission Owner’s rates for Network Integration Transmission Service, including the costs associated with Required Transmission Enhancements.

(4) Each Transmission Enhancement Charge applicable to Network Customers and Non-Zone Network Customers shall be recalculated annually to reflect the annual revisions to the billing determinants used by the Transmission Provider to calculate charges to Network Customers for Network Integration Transmission Service under Section 34.1 of the PJM Tariff. The Transmission Provider shall post on its Internet site by October 31 of each calendar year each recalculated Transmission Enhancement Charge that shall be effective during the subsequent calendar year.

(5) Each Transmission Enhancement Charge applicable to customers using Point-To-Point Transmission Service shall be calculated monthly to reflect the billing determinants used by the Transmission Provider to determine charges for customers of Point-To-Point Transmission Service in accordance with Section 25 of the PJM Tariff.

(6) Each Transmission Enhancement Charge payable by an owner of a Merchant Transmission Facility pursuant to Section (b) of this Schedule shall be calculated as a fixed monthly charge.

(7) If a Transmission Owner chooses to recover the cost of Required Transmission Enhancements through the operation of a formula rate as described in Section (a), the Transmission Owner must make an informational filing with the Commission one year from the date the selecting Transmission Owner’s formula rates go into effect, and each year thereafter, providing a detailed list of the costs the Transmission Owner has incurred, and the revenues the Transmission Owner has received to provide service.

(d) Recovery of Transmission Enhancement Charges.

(1) Responsible Customers shall pay Transmission Provider all applicable Transmission Enhancement Charges as required by this Schedule 12 in addition to all other charges for transmission service for which such Responsible Customers are responsible under the Tariff.

(2) Transmission Provider shall collect all applicable Transmission Enhancement Charges from each Responsible Customer on a monthly basis. Transmission Provider shall remit or credit all revenues received from Responsible Customers under this Schedule 12 to the Transmission Owner(s) that established such charge or to the appropriate authority in a region other than PJM in the case of Transmission Enhancement Charges established in such region in connection with
a Required Transmission Enhancement constructed pursuant to an Appendix B Agreement, to be distributed in accordance with the applicable tariff or agreement governing the distribution of such charges in such region.

(e) **Crediting of Revenue from Transmission Enhancement Charges.** In recognition that a Transmission Owner’s charges for Network Integration Transmission Service set forth in Attachment H are established based upon the Transmission Owner’s total cost of providing FERC-jurisdictional transmission service, including the costs associated with Required Transmission Enhancements, revenue from a Transmission Owner’s Transmission Enhancement Charges for a billing month shall be credited pursuant to this Schedule 12 to the Network Customers in the Transmission Owner’s Zone (including, where applicable, the Transmission Owner) and Transmission Customers purchasing Firm Point-to-Point Transmission Service for delivery in the Transmission Owner’s Zone in proportion to their Demand Charges (including any imputed Demand Charges for bundled service to Native Load Customers) for Network Integration Transmission Service and Reserved Capacity for Firm Point-to-Point Transmission Service; provided that such credits shall be reduced by the amount of any applicable incentives included in such Transmission Enhancement Charges.
Attachment B

Schedule 12
Transmission Enhancement Charges

PJM Open Access Transmission Tariff
(Clean format)
(a) Establishment of Transmission Enhancement Charges.

(i) Establishment of Transmission Enhancement Charges by Transmission Owners and Entities That Will Become Transmission Owners. One or more of the Transmission Owners may be designated to construct and own and/or finance Required Transmission Enhancements (as defined in Section 1.38C of the Tariff) by (1) the Regional Transmission Expansion Plan periodically developed pursuant to Schedule 6 of the Operating Agreement or (2) any joint planning or coordination agreement between PJM and another region or transmission planning authority set forth in Schedule 12-Appendix B (“Appendix B Agreement”) (collectively, for purposes of this Schedule 12 only, “Regional Transmission Expansion Plan”). Section 1.7 of Schedule 6 of the Operating Agreement recognizes that Transmission Owners, subject to obtaining any necessary regulatory approvals, may seek to recover the costs of Required Transmission Enhancements and obligates PJM Settlement to collect on behalf of Transmission Owner(s) any charges established by Transmission Owners to recover the costs of Required Transmission Enhancements. If a Transmission Owner is designated by the Regional Transmission Expansion Plan to construct and own and/or finance a Required Transmission Enhancement, such Transmission Owner may choose any of the following cost recovery mechanisms, subject to the crediting procedures set forth in section (e) below:

1. Decline to seek to recover the costs of Required Transmission Enhancements from customers until such time as it makes a filing pursuant to Section 205 of the Federal Power Act to revise its Network Integration Transmission Service rates;

2. Make a filing pursuant Section 205 of the Federal Power Act and the FERC’s rules and regulations to establish the revenue requirement with respect to a Required Transmission Enhancement, without filing to revise its rates for Network Integration Transmission Service generally; or

3. Establish the revenue requirement with respect to a Required Transmission Enhancement through the operation of a formula rate in effect applicable to its rates for Network Integration Transmission Service.

A charge established to recover the revenue requirement with respect to a Required Transmission Enhancement is hereafter referred to as a “Transmission Enhancement Charge.” Transmission Enhancement Charges of one or more Transmission Owners for Required Transmission Enhancements shall be established in accordance with this Schedule 12.

(ii) Establishment of Transmission Enhancement Charges With Respect to Required Transmission Enhancements Constructed by Entities in Another Region. The revenue requirement with respect to a Required Transmission Enhancement constructed pursuant to an Appendix B Agreement in another region by an entity designated by such other region shall be governed by the tariffs or agreements in effect in such region. Transmission Enhancement
Charges to recover the costs of such Required Transmission Enhancement for which PJM is responsible shall be determined in accordance with this Schedule 12. Other than with respect to a Required Transmission Enhancement constructed pursuant to an Appendix B Agreement, no PJM Network or Transmission Customer will bear cost responsibility for any required transmission upgrades in another region as a consequence of a Required Transmission Enhancement included in the Regional Transmission Expansion Plan.

(iii) Transmission Facilities Not Eligible for Cost Responsibility Assignment. Any alternating current (“A.C.”) facilities or direct current (“D.C.”) facilities that are Attachment Facilities, Local Upgrades, Merchant Network Upgrades, Merchant Transmission Facilities, Network Upgrades, Supplemental Projects as defined in Section 1.42A.02 of the Operating Agreement, or any other Transmission Facilities that operate or are planned to be operated in a manner that requires customers to subscribe to transmission service over such facilities or to a portion of the electric capability of such facilities shall not be eligible for cost responsibility assignment pursuant to this Schedule 12.

(iv) Entities Not Yet Eligible to Become Transmission Owners. For purposes of this Schedule 12 only, the term, “Transmission Owner,” shall include any entity that undertakes to construct and own and/or finance a Required Transmission Enhancement pursuant to a designation in the Regional Transmission Expansion Plan to construct and own and/or finance such Required Transmission Enhancement, even if such entity is not yet eligible to become a party to the Consolidated Transmission Owners Agreement. Nothing in the PJM Tariff nor the Consolidated Transmission Owners Agreement shall prevent an entity that undertakes to construct and own and/or finance a Required Transmission Enhancement pursuant to a designation in the Regional Transmission Expansion Plan to construct and own and/or finance such Required Transmission Enhancement from recovering the costs of such Required Transmission Enhancement through this Schedule 12.

(v) Effective Date. The assignment of cost responsibility or classification of Required Transmission Enhancements either (1) made by the Transmission Provider prior to February 1, 2013, or (2) applicable to Required Transmission Enhancements approved by the PJM Board pursuant to Section 1.6 of the PJM Operating Agreement prior to February 1, 2013 are set forth in Schedule 12-Appendix. Except as specifically set forth herein, nothing in this Schedule 12 shall change the assignment of cost responsibility or classification of Required Transmission Enhancements included in Schedule 12-Appendix. The assignment of cost responsibility or classification of all other Required Transmission Enhancements shall be set forth in Schedule 12-Appendix A.

(b) Designation of Customers Subject to Transmission Enhancement Charges.

(i) Regional Facilities and Necessary Lower Voltage Facilities. Transmission Provider shall assign cost responsibility on a region-wide basis for Required Transmission Enhancements included in the Regional Transmission Expansion Plan that (1) (a) are A.C. facilities that operate at or above 500 kV; (b) constitute a single Required Transmission Enhancement comprising two A.C. circuits operating at or above 345 kV and below 500 kV,
where both circuits originate from a single substation or switching station at one end and terminate at a single substation or switching station at the other end, regardless of whether or not the two circuits are routed in the same right-of-way ("Double-circuit 345 kV Required Transmission Enhancement"); (c) are A.C. or D.C. shunt reactive resources (such as capacitors, static var compensators, static synchronous condenser (STATCON), synchronous condensers, inductors, other shunt devices, or their equivalent) connected to a Transmission Facility described in clause (a) or (b) of this subsection, or (d) are D.C. facilities meeting the criteria set forth in subsection (b)(i)(D) (collectively, "Regional Facilities"), or (2) new A.C. Transmission Facilities or expansions or enhancements to existing Transmission Facilities that operate below 500 kV (or 345 kV in the case of a Regional Facility described in clause (1)(b) of this subsection) or new D.C. Transmission Facilities that do not meet the criteria of subsection (b)(i)(D) that must be constructed or strengthened to support new Regional Facilities, based on the planning criteria used by the Transmission Provider in developing the applicable Regional Transmission Expansion Plan ("Necessary Lower Voltage Facilities") as follows:

(A) Cost responsibility for Regional Facilities and Necessary Lower Voltage Facilities shall be allocated among Responsible Customers as defined in this Schedule 12 as follows:

(1) Fifty percent (50%) shall be assigned annually on a load-ratio share basis as follows:

(a) With respect to each Zone, using, consistent with section 34.1 of the Tariff, the applicable zonal loads at the time of such Zone’s annual peak load from the 12-month period ending October 31 preceding the calendar year for which the annual cost responsibility allocation is determined; and

(b) With respect to Merchant Transmission Facilities, (1) for the calendar year following the year in which it initiates operation, the actually awarded Firm Transmission Withdrawal Rights associated with its existing Merchant Transmission Facility; and (2) for all subsequent calendar years, the annual peak load of the Merchant Transmission Facility (not to exceed its actual Firm Transmission Withdrawal Rights) from the 12-month period ending October 31 of the calendar year preceding the calendar year for which the annual cost responsibility allocation is determined.

(2) Fifty percent (50%) shall be assigned as follows:

(a) In the case of a Required Transmission Enhancement included in the Regional Transmission Expansion Plan to address one or more reliability violations or to address operational adequacy and performance issues (collectively, "Reliability Project"), in accordance with the distribution factor ("DFAX") analysis described in subsection (b)(iii) of this Schedule 12; and

(b) In the case of a Required Transmission Enhancement included in the Regional Transmission Expansion Plan to relieve one or more economic constraints as described in section 1.5.7(b)(iii) of Schedule 6 of the Operating Agreement
(“Economic Project”), in accordance with the methodology described in subsection (b)(v) of this Schedule 12.

(B) (1) Except for transformers that are an integral component of a Regional Facility, transformers connected to Lower Voltage Facilities, as defined in section (b)(ii) of this Schedule 12, shall not be considered Regional Facilities or Necessary Lower Voltage Facilities; and (2) Transmission Facilities that are not Regional Facilities and deliver energy from a Regional Facility to load shall not be considered Necessary Lower Voltage Facilities.

(C) With respect Required Transmission Enhancements that qualify as Regional Facilities under subsection (b)(i)(1)(b) or subsection (b)(i)(D)(2) of this Schedule 12,

(1) where the Required Transmission Enhancement includes both new Transmission Facilities and pre-existing Transmission Facilities, cost responsibility under this section (b)(i) shall apply only to the cost of the new Transmission Facilities plus the original cost less accumulated depreciation of pre-existing Transmission Facilities that are included in Schedule 12-Appendix or Schedule 12-Appendix A;

(2) cost responsibility shall be assigned under this section (b)(i) only after the Required Transmission Enhancement goes into service as a Double-circuit 345 kV Required Transmission Enhancement or a Double-circuit D.C. Required Transmission Enhancement; and

(3) cost responsibility shall be assigned under this section (b)(i) for any CWIP permitted to be recovered before the Required Transmission Enhancement goes into service only after such Transmission Facilities are approved in a Regional Transmission Expansion Plan as a Double-circuit 345 kV Required Transmission Enhancement or a Double-circuit D.C. Required Transmission Enhancement.

(D) A Required Transmission Enhancement included in the Regional Transmission Expansion Plan that is a D.C. facility, consisting of D.C. lines (i.e., wires or cables) and A.C./D.C. converters, shall be a Regional Facility only if:

(1) such D.C. facility comprises two poles and operates at a voltage of ±433 kV D.C. or above; or

(2) such D.C. Facility constitutes a single Required Transmission Enhancement comprising two D.C. circuits where (i) both circuits originate from a single substation or switching station at one end and terminate at a single substation or switching station at the other end, regardless of whether or not both circuits are routed in the same right-of-way, and (ii) each such circuit consists of two poles and operates at a voltage of ±298 kV D.C or above (“Double-circuit D.C. Required Transmission Enhancement”).

(ii) **Lower Voltage Facilities.** Transmission Provider shall assign cost responsibility for Required Transmission Enhancements that (a) are not Regional Facilities; and (b) are not
“Necessary Lower Voltage Facilities” as defined in section (b)(i) of this Schedule 12 (collectively “Lower Voltage Facilities”), as follows:

(A) If the Lower Voltage Facility is a Reliability Project, Transmission Provider shall use the DFAX analysis described in subsection (b)(iii) of this Schedule 12; and

(B) If the Lower Voltage Facility is an Economic Project, Transmission Provider shall use the methodology described in subsection (b)(v) of this Schedule 12.

(iii) DFAX Analysis for Reliability Projects.

(A) For purposes of the assignment of cost responsibility for Reliability Projects under subsection (b)(i)(A)(2)(a) and subsection (b)(ii)(A) of Schedule 12, the Transmission Provider, based on a computer model of the electric network and using power flow modeling software, shall calculate distribution factors, represented as decimal values or percentages, which express the portions of a transfer of energy from a defined source to a defined sink that will flow across a particular transmission facility or group of transmission facilities. These distribution factors represent a measure of the use by the load of each Zone or Merchant Transmission Facility (collectively, “Responsible Zone”) of the Required Transmission Enhancement, as determined by a power flow analysis. In general, a distribution factor can be represented as:

\[ \text{Distribution Factor} = \frac{\text{After-shift power flow} - \text{pre-shift power flow}}{\text{Total amount of power shifted}} \]

\[ \text{Total amount of power shifted} = \text{Modeled incremental megawatt transfer to a given Load Deliverability Area or Merchant Transmission Facility} \]

\[ \text{Pre-shift power flow} = \text{Megawatt flow over the Required Transmission Enhancement before the incremental megawatt transfer} \]

\[ \text{After-shift power flow} = \text{Megawatt flow over the Required Transmission Enhancement after the incremental megawatt transfer} \]

When calculating such distribution factors:

(1) All distribution factors are calculated with respect to the Required Transmission Enhancement subject to cost allocation under subsection (b)(i)(A)(2)(a) and subsection (b)(ii)(A) of this Schedule 12.

(2) The calculation of distribution factors shall be determined using linear matrix algebra, such that distribution factors represent the ratio of (i) a change in megawatt flow on a Required Transmission Enhancement to (ii) a change in megawatts transferred to aggregate load within a Zone or, in the case of a Merchant Transmission Facility, the point of withdrawal associated with Firm Transmission Withdrawal Rights over such Merchant Transmission Facility.
With respect to a Merchant Transmission Facility, zonal peak load shall mean (i) the existing Firm Transmission Withdrawal Rights of the Merchant Transmission Facility being evaluated, if the Merchant Transmission Facility is in service, or (ii) for a Merchant Transmission Facility that is not yet in service, the planned Firm Transmission Withdrawal Rights of the Merchant Transmission Facility being evaluated as identified in the Interconnection Service Agreement in effect for such Merchant Transmission Facility.

In the DFAX analysis, when Transmission Provider models a transfer from generation to all load within an individual Zone, Transmission Provider shall model the transfer to the Zone as a whole (not on a bus-by-bus basis).

In the DFAX analysis, Transmission Provider shall model generation both external and internal to individual Responsible Zones to reflect (a) the boundaries of Locational Deliverability Areas (“LDAs”), as defined in Attachment DD to the Tariff, and (b) limitations with respect to the reliability objective for moving generation capacity across the transmission system. Transmission Provider shall adopt the Capacity Emergency Transfer Objective (“CETO”), as defined in Attachment DD to the Tariff, associated with that LDA and calculated for the applicable planning year to be the transfer limitation into the LDA. In modeling the system generation and load, Transmission Provider shall assume that the percentage of the zonal load in the LDA served by external (or internal) generation to the LDA shall equal the ratio of (i) the CETO associated with that LDA (or generation internal with the LDA) to (ii) the sum of (a) the internal generation within the LDA and (b) the CETO associated with that LDA. For the generation dispatch used in calculating the distribution factor, Transmission Provider shall distribute these amounts of external/internal generation among all generation in the PJM Region external to/internal within the LDA, respectively, in proportion to their capacity. For Responsible Zones that are located within LDAs that are also entirely contained in other larger LDAs, the modeling approach and distribution factor calculations shall be repeated for such Responsible Zones for each LDA. The lowest distribution factor derived from these calculations shall be applied to the Responsible Zone in the calculation of the use of the Required Transmission Enhancement.

No cost responsibility shall be assigned to a Responsible Zone unless the magnitude of the distribution factor is greater than or equal to 0.01. Any distribution factor of a smaller magnitude shall be set equal to zero.

The DFAX analysis will be performed in accordance with the following steps:

Transmission Provider shall calculate a distribution factor and a direction of use for each Responsible Zone by modeling a transfer from all generation in the PJM Region to each Responsible Zone. To establish the use by a Responsible Zone, in megawatts, of a Required Transmission Enhancement, the distribution factor of a Required Transmission Enhancement associated with the resulting transfer modeled by the Transmission Provider to each Responsible Zone shall be multiplied by the Responsible Zone’s peak load.
(2) The Transmission Provider shall separately determine the relative use of the Required Transmission Enhancement by each Responsible Zone in each direction by dividing the megawatts of use by each Responsible Zone determined in Section (iii)(B)(1) by the total use of all Responsible Zones using the Required Transmission Enhancement in the same direction of use.

(3) Transmission Provider shall determine the direction of use percentage of the Required Transmission Enhancement in each direction using a production cost analysis to determine the total use, in megawatt-hours, of the Required Transmission Enhancement by all Zones and Merchant Transmission Facilities in each direction over the course of a year. The Transmission Provider shall calculate the percentage use in each direction by dividing the megawatt-hours of use in each direction by total use in megawatt-hours in both directions of use.

(4) The Transmission Provider shall multiply the relative use by each Responsible Zone of the Required Transmission Enhancement in each direction of use determined in Section (iii)(B)(2), above, by the applicable direction of use percentage determined in Section (iii)(B)(3), above.

(5) The products of the calculation performed in Section (iii)(B)(4), above, shall determine the relative allocation to each Responsible Zone of cost responsibility for the Required Transmission Enhancement.

(C) In the DFAX analysis, the Zones of Public Service Electric and Gas Company and Rockland Electric Company will be treated as one Zone unless and until Rockland Electric Company elects to be treated as a separate Zone in accordance with the terms of the Settlement Agreement And Offer Of Partial Settlement approved by FERC in Docket Nos. ER06-456-000, et al.

(D) Transmission Provider shall round cost responsibility assignments determined using the DFAX analysis described in subsection (b)(iii) of this Schedule 12 to the nearest one-hundredth of one percent.

(E) Transmission Provider shall not account for the ability to adjust use of phase angle regulators (“PARs”) in the DFAX analysis described in subsection (b)(iii) of this Schedule 12. In the DFAX analysis, all PAR angles shall be fixed at their base case settings.

(F) In the DFAX analysis, if the Required Transmission Enhancement is a D.C. facility, the Transmission Provider shall determine cost responsibility assignment as follows:

(1) The Required Transmission Enhancement shall be replaced in the model with a comparable proxy A.C. facility, the impedance of which shall be calculated based
on the length of the D.C. facility that was removed from the model multiplied by an approximate per unit/mile impedance value for the proxy A.C. facility.

(2) Where a D.C. facility is an integral part of a Required Transmission Enhancement that also includes A.C. facilities, the methodology described in Subsection (b)(iii)(F)(1) above shall be used only for the D.C. facility segment of such Required Transmission Enhancement.

(3) A D.C. facility used to control flow over portions of the Transmission System shall be modeled with a zero impedance and no control shall be applied.

(G) If Transmission Provider determines in its reasonable engineering judgment that, as a result of applying the provisions of this Section (b)(iii), the DFAX analysis cannot be performed or that the results of such DFAX analysis are objectively unreasonable, the Transmission Provider may use an appropriate substitute proxy for the Required Transmission Enhancement in conducting the DFAX analysis. If a proxy is used that is not specified in this Schedule 12, Transmission Provider shall state in a written report (a) the reasons why it determined the DFAX analysis could not be performed or that the results of the DFAX analysis were objectively unreasonable; (b) why the substitute proxy produced objectively reasonable results; and (3) a recommendation as to what changes, if any, should be considered in conducting the DFAX analysis.

(H) The Transmission Provider shall make a preliminary cost responsibility determination for each Required Transmission Enhancement subject to this section (b)(iii) of Schedule 12 at the time such Required Transmission Enhancement is included in the Regional Transmission Expansion Plan.

(1) When CWIP in connection with a Required Transmission Enhancement subject to this section (b)(iii) of Schedule 12 is entitled to be recovered, the preliminary determination of cost responsibility made at the time that the Required Transmission Enhancement was included in the Regional Transmission Expansion Plan shall be used to assign cost responsibility for such CWIP and such cost responsibility shall remain unchanged until the date the Required Transmission Enhancement goes into service. Once a Required Transmission Enhancement has gone into service, the updated cost responsibility determination provided for in subsection (b)(iii)(H)(2) shall apply.

(2) Beginning with the calendar year in which a Required Transmission Enhancement is scheduled to enter service, and thereafter annually at the beginning of each calendar year, the Transmission Provider shall update the preliminary cost responsibility determination for each Required Transmission Enhancement using the values and inputs used in the base case of the most recent Regional Transmission Expansion Plan approved by the PJM Board prior to the date of the update. All values and inputs used in the calculation of the distribution factor in a determination of cost responsibility shall be the same values and inputs as used in the base case of the most recent Regional Transmission Expansion Plan approved by the PJM Board prior to the determination of cost responsibility.
(iv) **Spare Parts, Replacement Equipment And Circuit Breakers.** Transmission Provider shall assign cost responsibility for spare parts, replacement equipment, and circuit breakers and associated equipment, included in the Regional Transmission Expansion Plan as follows:

(A) Spare parts that are part of the design specifications of a Required Transmission Enhancement at the time such Required Transmission Enhancement is first included in the Regional Transmission Expansion Plan shall be considered part of the Required Transmission Enhancement for the purpose of applying the cost threshold described in subsection (b)(vi) of this Schedule 12 and cost responsibility for such spare parts shall be assigned in the same manner as the Required Transmission Enhancement. Cost responsibility for spare parts independently included the Regional Transmission Expansion Plan and not a part of the design specifications of a Required Transmission Enhancement as described above in this subsection shall be assigned to the Zone of the owner of the spare part, if the owner of the spare part is a Transmission Owner listed in Attachment J of the Tariff. If the owner of the spare part is not a Transmission Owner listed in Attachment J of the Tariff, cost responsibility shall be assigned on a pro rata basis to the zones that bear cost responsibility for the owner’s Required Transmission Enhancements.

(B) Replacement equipment that is part of the design specifications of a Required Transmission Enhancement at the time the Required Transmission Enhancement is first included in the Regional Transmission Expansion Plan shall be considered part of the Required Transmission Enhancement for the purpose of applying the cost threshold described in section (b)(vi) of this Schedule 12 and cost responsibility for such replacement equipment shall be assigned in the same manner as the Required Transmission Enhancement. Cost responsibility for Required Transmission Enhancement replacement equipment independently included in the Regional Transmission Expansion Plan and not a part of the design specifications of a Required Transmission Enhancement as described above in this subsection, shall be assigned to the same Zones and/or Merchant Transmission Facilities and in the same proportions as the then-existing assignments of cost responsibility for the facilities that the replacement equipment is replacing.

(C) Circuit breakers and associated equipment that are part of the design specifications of a Required Transmission Enhancement at the time the Required Transmission Enhancement is first included in the Regional Transmission Expansion Plan shall be considered part of the Required Transmission Enhancement for the purpose of applying the cost threshold described in subsection (b)(vi) of this Schedule 12 and cost responsibility for such circuit breakers and associated equipment shall be assigned in the same manner as the Required Transmission Enhancement. Cost responsibility for circuit breakers and associated equipment independently included in the Regional Transmission Expansion Plan and not a part of the design specifications of a transmission element of a Required Transmission Enhancement as described above in this subsection, shall be assigned to the Zone of the owner of the circuit breaker and associated equipment if the owner of the circuit breaker is a Transmission Owner listed in Attachment J of the Tariff. If the owner of the circuit breaker is not a Transmission Owner listed in Attachment J of the Tariff, cost responsibility shall be assigned on a pro rata basis to the zones that bear cost responsibility for the owner’s Required Transmission Enhancements.
(v) Economic Projects. Transmission Provider shall assign (i) fifty percent (50%) of cost responsibility for Economic Projects that are Regional Facilities; and (ii) full cost responsibility for Economic Projects that are Lower Voltage Facilities; as follows:

(A) Transmission Provider shall assign cost responsibility for Economic Projects that are accelerations of Reliability Projects as described in section 1.5.7(b)(i) of Schedule 6 of the Operating Agreement (“Acceleration Projects”) by performing and comparing (1) a DFAX analysis consistent with the methodology described in subsection (b)(iii) of this Schedule 12, and (2) a methodology that is intended to act as a proxy for expected economic benefits from reduced Locational Marginal Prices (“LMP Benefit”) over the period that the reliability-based enhancement or expansion is to be accelerated (“LMP Benefits Methodology”). The LMP Benefits Methodology shall determine cost responsibility assignment percentages to Zones and Merchant Transmission Facilities in the following manner. The LMP Benefit to a Zone shall be deemed to be equal to the reduction in Locational Marginal Price payments made by Load Serving Entities as a result of the Acceleration Project assuming the customers purchase all energy needs from the PJM Interchange Energy Market, and LMP Benefits so calculated shall be converted into percentage cost responsibility assignments for the affected Zones. The LMP Benefits Methodology shall not incorporate the financial effects of allocations of Auction Revenue Rights or Financial Transmission Rights. The LMP Benefit to a Merchant Transmission Facility shall be deemed to be equal to the proportionate share of assigned cost responsibility using the DFAX analysis and the assignments of cost responsibility to other Zones in the LMP Benefits Methodology shall be proportionately adjusted, as necessary, to reflect this treatment of Merchant Transmission Facilities to ensure that the total allocation for any economic-based Required Transmission Enhancement equals one hundred percent. If, after performing both analyses and comparing the percentage cost responsibility assignments for the affected Zones calculated pursuant to the DFAX analysis and the LMP Benefits Methodology, the results do not indicate at least a ten percentage point cost responsibility assignment differential between the two methods for any Zone, cost responsibility for the Acceleration Project shall be assigned using the DFAX analysis. If, after performing both analyses and comparing the percentage cost responsibility assignments for the affected Zones calculated pursuant to the DFAX analysis and LMP Benefits Methodology, the results indicate at least a ten percentage point cost responsibility assignment differential between the DFAX analysis and the LMP Benefits Methodology for any Zone, cost responsibility for the Acceleration Project for the period of time the Reliability Project is accelerated (i.e. the period between the date the Reliability Project actually goes into service and the date the Reliability Project originally was scheduled to go in service in the PJM Board approved Regional Transmission Expansion Plan) shall be assigned using the LMP Benefits Methodology. For all periods other than the period of time the Reliability Project is accelerated, cost responsibility for such an Acceleration Project shall be assigned in accordance with the provisions of this Schedule 12 governing the assignment of cost responsibility of Regional Facility Reliability Projects or Lower Voltage Facility Reliability Projects, as applicable.

(B) Transmission Provider shall assign cost responsibility for Economic Projects that are modifications to Reliability Projects as described in section 1.5.7(b)(ii) of Schedule 6 of the Operating Agreement in accordance with the provisions of this Schedule 12.
(C) Transmission Provider shall assign cost responsibility for Economic Projects that are new enhancements or expansions that could relieve one or more economic constraints as described in section 1.5.7(b)(iii) of Schedule 6 of the Operating Agreement to the Zones that show a decrease in the net present value of the Changes in Load Energy Payment determined for the first 15 years of the life of the Economic Project. The Change in Load Energy Payment for each year shall be determined using the methodology set forth in Section 1.5.7(d) of Schedule 6 of the Operating Agreement. Cost responsibility shall be assigned based on each Zone’s pro rata share of the sum of the net present values of the Changes in Load Energy Payment only of the Zones in which the net present value of the Changes in Load Energy Payment shows a decrease.

(vi) Required Transmission Enhancements Costing Less Than $5 Million. Notwithstanding Section (b)(i), (b)(ii), (b)(iv) and (b)(v), cost responsibility for a Required Transmission Enhancement for which the good faith estimate of the cost of the Required Transmission Enhancement (a) prepared in connection with the development of the Regional Transmission Expansion Plan and (b) provided to the PJM Board at the time the Required Transmission Enhancement is included for the first time in the Regional Transmission Expansion Plan, does not equal or exceed $5 million shall be assigned to the Zone where the Required Transmission Enhancement is to be located. The determination of whether the estimated cost of a Required Transmission Enhancement does not equal or exceed $5 million shall be based solely on such good faith estimate of the cost of the Required Transmission Enhancement regardless of the actual costs incurred. The estimated cost of a Required Transmission Enhancement shall include the aggregate estimated costs of all of the transmission elements approved by the PJM Board at the time such elements are included in the Regional Transmission Expansion Plan that collectively are intended (i) in the case of a Reliability Project, to resolve a specific reliability criteria violation, or (ii) in the case of an Economic Project, provide a specific LMP Benefit. Where a Required Transmission Enhancement subject to this section (b)(vi) consists of a single transmission element or multiple transmission elements that will be located in more than one Zone, each Zone shall be assigned cost responsibility for the transmission elements or portions of the transmission elements located in such Zone. Merchant Transmission Facilities shall not be assigned cost responsibility for a Required Transmission Enhancement subject to this Section (b)(vi).

(vii) Modifications of Required Transmission Enhancements. Once a Required Transmission Enhancement is included in the Regional Transmission Expansion Plan, any modification to such Required Transmission Enhancement that subsequently is included in the Regional Transmission Expansion Plan as a separate Reliability or Economic Project shall be considered a separate and distinct Required Transmission Enhancement for purposes of cost responsibility assignment under this Schedule 12. Except as provided in Section (b)(iv) of this Schedule 12, any cost responsibility assignment that has been made for a previously approved Required Transmission Enhancement shall have no impact on the cost responsibility assignment of such modification.
(viii) **FERC Filing.** Within 30 days of the approval of each Regional Transmission Expansion Plan or an addition to such plan by the PJM Board pursuant to Section 1.6 of Schedule 6 of the PJM Operating Agreement, the Transmission Provider shall designate in the Schedule 12-Appendix A and in a report filed with the FERC the customers using Point-to-Point Transmission Service and/or Network Integration Transmission Service and Merchant Transmission Facility owners that will be subject to each such Transmission Enhancement Charge ("Responsible Customers") based on the cost responsibility assignments determined pursuant to subsections (b)(i) through (v) of this Schedule 12. Those customers designated by the Transmission Provider as Responsible Customers shall have 30 days from the date the filing is made with the FERC to seek review of such designation. Such cost responsibility designations shall be the same as those made for the relevant Regional Facility, Necessary Lower Voltage Facility, or Lower Voltage Facility in the Regional Transmission Expansion Plan.

(ix) **Regions With Which PJM Has Entered Into an Agreement Listed in Schedule 12-Appendix B.** For purposes of this Schedule 12, where costs of a Required Transmission Enhancement are allocated to a region other than PJM pursuant to an agreement set forth in Schedule 12-Appendix B, Responsible Customers for such costs shall be customers in such region. Cost responsibility with respect to the costs of a Required Transmission Enhancements allocated to a region other than PJM shall be allocated within such region in accordance with the applicable tariff or agreement governing the allocation of such costs in such region.

(x) **Merchant Transmission Facilities.**

(A) For purposes of this Schedule 12, where the Transmission Provider has allocated all or a portion of a Required Transmission Enhancement to a Merchant Transmission Facility, the owner of the Merchant Transmission Facility shall be the Responsible Customer with respect to such Required Transmission Enhancement, and shall pay the Transmission Enhancement Charges associated with the Required Transmission Enhancement.

(B) (1) Transmission Provider shall defer collection of Transmission Enhancement Charges from a Merchant Transmission Facility until the Merchant Transmission Facility goes into commercial operation; provided, however, in the event the commercial operation of a Merchant Transmission Facility is delayed beyond the commercial operation milestone date(s) specified in the Interconnection Service Agreement associated with the Merchant Transmission Facility and the Transmission Provider or Transmission Owner constructing the Required Transmission Enhancement demonstrates that the Merchant Transmission Facility is responsible for such delay, Transmission Provider may begin collecting Transmission Enhancement Charges from the Merchant Transmission Facility prior to the Merchant Transmission Facility going into commercial operation. Transmission Enhancement Charges allocated to a Merchant Transmission Facility for which collection is deferred in accordance with this section (b)(x)(B)(1) shall be recorded in appropriate Transmission Provider accounts for deferred charges and collected in accordance with section (b)(x)(B)(3), below.

(2) Transmission Provider shall base the collection of Transmission Enhancement Charges associated with Required Transmission Enhancements from a Merchant
Transmission Facility on the actual Firm Transmission Withdrawal Rights that have been awarded to the Merchant Transmission Facility; provided, however, to the extent that a Merchant Transmission Facility has been awarded less than the amount of Firm Transmission Withdrawal Rights specified in the Interconnection Service Agreement associated with the Merchant Transmission Facility, then Transmission Provider shall record the difference between the amount of Transmission Enhancement Charges collected based on the lesser amount of Firm Transmission Withdrawal Rights and the amount of Transmission Enhancement Charges based on the full amount of Firm Transmission Withdrawal Rights specified in the applicable Interconnection Service Agreement in appropriate accounts for deferred charges and, after the Merchant Transmission Facility has been awarded the full amount of Firm Transmission Withdrawal Rights specified in the Interconnection Service Agreement, collect such deferred amounts in accordance with section (b)(x)(B)(3), below. Notwithstanding the foregoing, Transmission Provider may collect Transmission Enhancement Charges based on more than a Merchant Transmission Facility’s actually awarded Firm Transmission Withdrawal Rights (not to exceed the Firm Transmission Withdrawal Rights specified in the applicable Interconnection Service Agreement) if the Transmission Provider or Transmission Owner demonstrates that the Merchant Transmission Facility is responsible for receiving fewer Firm Transmission Withdrawal Rights than are specified in the applicable Interconnection Service Agreement.

(3) Transmission Provider shall record: (i) in an appropriate deferred asset account, the Transmission Enhancement Charges associated with Required Transmission Enhancements for which collection is deferred in accordance with sections (b)(x)(B)(1) and (b)(x)(B)(2); and (ii) in an appropriate deferred liability account, the revenues associated with the Transmission Enhancement Charges that, absent the deferred charges, would have been due to Transmission Owners or to ‘Transmission Owners’ customers as directed by the applicable Transmission Owner. At such time as collection of such deferred Transmission Enhancement Charges are permitted in accordance with sections (b)(x)(B)(1) and (b)(x)(B)(2), the deferred charges (along with appropriate interest) shall be collected from the Merchant Transmission Facility in equal installments over the twelve months following the commencement of the collection of the deferred charges. Such amounts shall be distributed to Transmission Owners or to Transmission Owners’ customers as directed by the applicable Transmission Owner, and the Transmission Provider shall make appropriate adjustments to the deferred asset and liability accounts. Transmission Provider shall not be responsible for distributing revenues associated with deferred Transmission Enhancement Charges unless and until such charges are collected in accordance with this section (b)(x)(B), and uncollected deferred Transmission Enhancement Charges shall not be subject to Default Allocation Assessments to the Members pursuant to section 15.2 of the Operating Agreement.

(xi) Consolidated Edison Company of New York. (A) Cost responsibility assignments to Consolidated Edison Company of New York for Required Transmission Enhancements pursuant to this Schedule 12 with respect to the Firm Point-To-Point Service Agreements designated as Original Service Agreement No. 1873 and Original Service Agreement No. 1874 accepted by the Commission in Docket No. ER08-858 (“ConEd Service Agreements”) shall be in accordance with the terms and conditions of the settlement approved by the FERC in Docket No. ER08-858-000. (B) All cost responsibility assignments for Required Transmission Enhancements pursuant to this Schedule 12 shall be adjusted at the commencement
and termination of service under the ConEd Service Agreements to take account of the assignments under subsection (xi)(A).

(xii) Public Policy Projects.

(A) Transmission Facilities as defined in section 1.27 of the Consolidated Transmission Owners Agreement constructed by a Transmission Owner pursuant to a Public Policy Requirement as defined in Section 1.38B of the Operating Agreement, but not included in a Regional Transmission Expansion Plan as a Required Transmission Enhancement, shall be as considered a Supplemental Project, as defined in Section 1.42A.02 of the Operating Agreement.

(B) If a transmission enhancement or expansion is proposed pursuant to Section 1.5.9(a) of Schedule 6 of the Operating Agreement which is not a Supplemental Project (“State Agreement Public Policy Project”), the Transmission Provider shall submit the assignment of costs to Responsible Customers proposed in connection with such State Agreement Public Policy Project to the Transmission Owners Agreement Administrative Committee for consideration and filing pursuant to Section 7.3 of the Consolidated Transmission Owners Agreement and Section 9.1(a) of the PJM Tariff. Nothing in this Section (b)(xii) shall prevent the Transmission Provider or the state governmental entities proposing such State Agreement Public Policy Project from filing a proposed assignment of costs to Responsible Customers for such project pursuant to Section 206 of the Federal Power Act.

(xiii) Replacement of Transmission Facilities. Unless determined by PJM to be a Required Transmission Enhancement included in a Regional Transmission Expansion Plan, cost responsibility for the replacement of Transmission Facilities, as defined in section 1.27 of the Consolidated Transmission Owners Agreement, shall be assigned to the Zonal loads and Merchant Transmission Facilities responsible for the costs of the Transmission Facilities being replaced.

(c) Determination of Transmission Enhancement Charges. In the event that any Transmission Owner recovers the cost of a Required Transmission Enhancement through a Transmission Enhancement Charge, such charge shall be determined as follows:

(1) Transmission Provider shall identify in writing and post on the PJM Internet site the Required Transmission Enhancement(s) to which each Transmission Enhancement Charge corresponds. The Transmission Enhancement Charge with respect to a Required Transmission Enhancement shall recover the applicable Transmission Owner’s annual transmission revenue requirement associated with the Required Transmission Enhancement.

(2) Each Transmission Enhancement Charge shall be a monthly charge based on all costs and applicable incentives associated with a particular Required Transmission Enhancement for which the Transmission Owner is responsible.

(3) A Transmission Owner’s annual transmission revenue requirement associated with a Required Transmission Enhancement shall be determined pursuant to either (i) a
unilateral filing by the Transmission Owner under Section 205 of the Federal Power Act and the FERC’s rules and regulations thereunder; or (ii) a formula rate in effect applicable to the Transmission Owner’s rates for Network Integration Transmission Service, including the costs associated with Required Transmission Enhancements.

(4) Each Transmission Enhancement Charge applicable to Network Customers and Non-Zone Network Customers shall be recalculated annually to reflect the annual revisions to the billing determinants used by the Transmission Provider to calculate charges to Network Customers for Network Integration Transmission Service under Section 34.1 of the PJM Tariff. The Transmission Provider shall post on its Internet site by October 31 of each calendar year each recalculated Transmission Enhancement Charge that shall be effective during the subsequent calendar year.

(5) Each Transmission Enhancement Charge applicable to customers using Point-To-Point Transmission Service shall be calculated monthly to reflect the billing determinants used by the Transmission Provider to determine charges for customers of Point-To-Point Transmission Service in accordance with Section 25 of the PJM Tariff.

(6) Each Transmission Enhancement Charge payable by an owner of a Merchant Transmission Facility pursuant to Section (b) of this Schedule shall be calculated as a fixed monthly charge.

(7) If a Transmission Owner chooses to recover the cost of Required Transmission Enhancements through the operation of a formula rate as described in Section (a), the Transmission Owner must make an informational filing with the Commission one year from the date the selecting Transmission Owner’s formula rates go into effect, and each year thereafter, providing a detailed list of the costs the Transmission Owner has incurred, and the revenues the Transmission Owner has received to provide service.

(d) Recovery of Transmission Enhancement Charges.

(1) Responsible Customers shall pay Transmission Provider all applicable Transmission Enhancement Charges as required by this Schedule 12 in addition to all other charges for transmission service for which such Responsible Customers are responsible under the Tariff.

(2) Transmission Provider shall collect all applicable Transmission Enhancement Charges from each Responsible Customer on a monthly basis. Transmission Provider shall remit or credit all revenues received from Responsible Customers under this Schedule 12 to the Transmission Owner(s) that established such charge or to the appropriate authority in a region other than PJM in the case of Transmission Enhancement Charges established in such region in connection with a Required Transmission Enhancement constructed pursuant to an Appendix B Agreement, to be distributed in accordance with the applicable tariff or agreement governing the distribution of such charges in such region.
(e) **Crediting of Revenue from Transmission Enhancement Charges.** In recognition that a Transmission Owner’s charges for Network Integration Transmission Service set forth in Attachment H are established based upon the Transmission Owner’s total cost of providing FERC-jurisdictional transmission service, including the costs associated with Required Transmission Enhancements, revenue from a Transmission Owner’s Transmission Enhancement Charges for a billing month shall be credited pursuant to this Schedule 12 to the Network Customers in the Transmission Owner’s Zone (including, where applicable, the Transmission Owner) and Transmission Customers purchasing Firm Point-to-Point Transmission Service for delivery in the Transmission Owner’s Zone in proportion to their Demand Charges (including any imputed Demand Charges for bundled service to Native Load Customers) for Network Integration Transmission Service and Reserved Capacity for Firm Point-to-Point Transmission Service; provided that such credits shall be reduced by the amount of any applicable incentives included in such Transmission Enhancement Charges.