

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

PJM Interconnection, L.L.C.)	
)	
Improvements to Generator)	Docket No. ER24-2045-005
Interconnection Procedures and)	
Agreements)	

**ORDER NOS. 2023 AND 2023-A
FURTHER COMPLIANCE FILING OF
PJM INTERCONNECTION, L.L.C.**

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Dated: June 15, 2026

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PJM Interconnection, L.L.C. (“PJM”) submits this filing in compliance with the Order on Compliance issued by the Federal Energy Regulatory Commission (“Commission”) on April 16, 2026, in the captioned proceeding.¹ This further compliance filing revises PJM’s Open Access Transmission Tariff (“Tariff”) consistent with the Final Rule in the Order No. 2023 proceedings,² and as directed in the April 16 Order. PJM proposes herein (1) to adopt language from the *pro forma* Large Generator Interconnection Procedures (“LGIP”) and Large Generator Interconnection Agreement (“LGIA”) established in Order No. 2003,³ as appropriate and directed in the April 16 Order; (2) to further justify certain independent entity variation requests; and (3) to withdraw a

¹ *PJM Interconnection, L.L.C.*, 195 FERC ¶ 61,031 (2026) (“April 16 Order”). The April 16 Order accepted, in part, the compliance filing PJM made in this proceeding on October 23, 2025, and directed further compliance. See *PJM Interconnection, L.L.C.*, Order Nos. 2023 and 2023-A Further Compliance Filing of PJM Interconnection, L.L.C., Docket No. ER24-2045-004 (Oct. 23, 2025) (“October 23 Filing”).

² *Improvements to Generator Interconnection Procedures and Agreements*, Order No. 2023, 184 FERC ¶ 61,054, *limited order on reh’g*, 185 FERC ¶ 61,063 (2023), *order on reh’g and clarification*, Order No. 2023-A, 186 FERC ¶ 61,199, *errata notice*, 188 FERC ¶ 61,134 (2024), *appeals pending sub nom. Advanced Energy United v. FERC*, Nos. 23-1282, et al. (D.C. Cir. Oct. 6, 2023). For purposes of this further compliance filing, PJM refers to Order No. 2023, as modified by Order No. 2023-A, as the “Final Rule.”

³ *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 104 FERC ¶ 61,103, at P 826 (2003), *order on reh’g*, Order No. 2003-A, 106 FERC ¶ 61,220, *order on reh’g*, Order No. 2003-B, 109 FERC ¶ 61,287 (2004), *order on reh’g*, Order No. 2003-C, 111 FERC ¶ 61,401 (2005), *aff’d sub nom. Nat’l Ass’n of Regul. Util. Comm’rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007).

previously requested independent entity variation. This further compliance filing therefore contains Tariff sheets implementing the April 16 Order’s guidance and directives, as well as further justifications of independent entity variations PJM seeks.

Specifically, this filing contains Tariff sheets making revisions concerning:

- Revisions to the Application section of Tariff, Part VIII to clarify how the commercial operation date in the initial Interconnection Request will be used to determine the permissible extension of the commercial operation date until the Project Developer executes, or requests the unexecuted filing of, a Generation Interconnection Agreement (“GIA”);
- Revisions to the definition of “System Network Upgrades” and to the Tariff provisions concerning the allocation methodologies for these Network Upgrade costs, as well as revisions to “include substation network upgrades and system network upgrades through”⁴ the *pro forma* GIA in Tariff, Part IX, Subpart B;
- Removal of language concerning completion of deficiency reviews in the Application Review Phase,⁵ as directed in the April 16 Order;
- Removal or revision of certain provisions concerning study delay penalties, as directed in the April 16 Order;
- Revisions to the Affected System study process to align the timing with the LGIP and to the Affected System Customer Impact Study Agreement (“ASCISA”) to provide for cost and schedule estimates and specify the outputs of the Affected System impact studies;

⁴ April 16 Order at P 73.

⁵ Capitalized terms not otherwise defined in this transmittal letter shall have the meaning given to them in Tariff, Part VIII.

- Removal of the new Schedule N to the *pro forma* GIA in Tariff, Part IX, Subpart B, and certain Application provisions concerning shared facilities arrangements, as directed in the April 16 Order;
- Inclusion of provisions concerning charging assumptions consistent with the Final Rule *pro forma* LGIA article 17.2 and Appendix H in the *pro forma* GIA in Tariff, Part IX, Subpart B;⁶
- Revisions to provide that PJM will evaluate alternative technologies in each of the three System Impact Studies (Phases I through III), provided the Project Developer submits to PJM in its Application the requisite model information to allow PJM to evaluate the requested technology; and
- Revisions to align the Tariff's ride through requirements for non-synchronous Generating Facilities with the Final Rule's requirements.

PJM also justifies in this filing the independent entity variations it seeks to retain related to Affected Systems processes, withdraws one of its prior independent entity variation requests, and establishes a single effective date for all the Final Rule compliance changes in this docket.

I. COMPLIANCE FILING

A. Cluster Study Process - Commercial Operation Date Extension

The Final Rule adopted revisions requiring that interconnection customers receive an extension of fewer than three cumulative years, calculated from the date of the initial interconnection request, of the generating facility's commercial operation date without

⁶ April 16 Order at P 182.

requiring them to request such an extension.⁷ The April 16 Order found that the Tariff is ambiguous and the lack of clarity as to extensions of the commercial operation date prior to the execution of a GIA does not comply with the Final Rule.⁸ The Commission therefore directed PJM to either clarify how PJM proposes to comply with the requirement in section 4.4.5 of the *pro forma* LGIP permitting extension of the commercial operation date set forth in the initial Interconnection Request before the interconnection customer executes, or requests the unexecuted filing of, the GIA, or justify its proposal under the independent entity variation standard.⁹

PJM proposes revisions to the Tariff, Part VIII, Subpart B, section 403(A)(1)(o) to adopt the language of the *pro forma* LGIP, section 4.4.5, regarding extension of the commercial operation date set forth in the Generation Interconnection Request before the Project Developer executes, or requests the unexecuted filing of, the GIA.¹⁰ The Application language in Tariff, Part VIII, Subpart B, section 403(A)(1)(o) now specifies that the Project Developer's proposed commercial operation date shall not exceed seven years from the date PJM receives the Generation Interconnection Request,¹¹ as provided for in section 3.4.2 of the *pro forma* LGIP established in the Final Rule.¹² PJM submits that these proposed revisions are just and reasonable, and not unduly discriminatory as they are consistent with the Final Rule and provide clarity as to extensions of a Generating

⁷ Order No. 2023 at P 293.

⁸ April 16 Order at P 39.

⁹ *Id.*

¹⁰ See Attachment A at Tariff, Part VIII, Subpart B, section 403(A)(1)(o) ("Proposed Tariff").

¹¹ See *id.*

¹² Order No. 2023-A at Appendix C, *pro forma* LGIP, section 3.4.2.

Facility's commercial operation date prior to the Project Developer executing a GIA or requesting that PJM file the GIA unexecuted.

B. Allocation of Cycle Network Upgrade Costs and Revisions to the Definitions of "System Network Upgrades" and "Substation Network Upgrades"

In Order No. 2023, the Commission required transmission providers to directly assign the cost of shared transmission provider's interconnection facilities to interconnection customers on a per capita basis where interconnection customers agree to share interconnection facilities¹³ and to allocate substation network upgrade costs initially only to interconnection customers seeking to interconnect at the same substation.¹⁴ In Order No. 2023-A, the Commission clarified that it would consider in the transmission provider's individual Order No. 2023 compliance filing the details of the transmission provider's proposed proportional impact method and whether those details should be in its tariff, consistent with the rule of reason.¹⁵

In its October 23 Filing, PJM submitted revisions to Tariff, Part VIII, Subpart A, section 400 to add definitions of the "Proportional Impact Method," "Substation Network Upgrade," and "System Network Upgrade," with the latter two terms including details as to how the costs of such facilities will be allocated and when the cost and schedule estimates for such Network Upgrades will be provided.¹⁶ As relevant here, the revisions provided that (1) the costs of System Network Upgrades will be allocated among Project Developers in the same Cycle using the Proportional Impact Method; and (2) the costs of

¹³ Order No. 2023 at PP 454, 462.

¹⁴ *Id.* at PP 458-60.

¹⁵ *Id.* at P 175.

¹⁶ October 23 Filing at 17.

Substation Network Upgrades will be allocated to the Project Developers within the same Cycle causing the need for the Substation Network Upgrade on a per capita basis.¹⁷ PJM also revised the respective specifications provisions of its *pro forma* GIA and *pro forma* Wholesale Market Participation Agreement (“WMPA”) to separately specify Substation Network Upgrades and System Network Upgrades.¹⁸

The April 16 Order partially granted PJM’s requests regarding Network Upgrades, but required that PJM either adopt the Final Rule *pro forma* LGIA and LGIP definition of “system network upgrades” that distinguishes substation network upgrades from other network upgrades or justify its departure as just and reasonable.¹⁹ The April 16 Order also required PJM to further specify how PJM will allocate the costs of a project’s proportional contribution to the need for a System Network Upgrade via the technical analysis and how PJM will allocate shared Substation Network Upgrade costs by voltage level, including for projects sharing interconnection facilities.²⁰ Finally, the April 16 Order directs PJM to explain how it will comply with the Final Rule’s requirement to “include substation network upgrades and system network upgrades through Appendix A of the *pro forma* LGIA” or justify its proposal under the independent entity variation standard.²¹

In this filing, PJM addresses the Commission’s directives concerning System Network Upgrades and Substation Network Upgrades by:

¹⁷ *Id.* at 18.

¹⁸ *Id.*

¹⁹ April 16 Order at P 69.

²⁰ *Id.* at PP 70, 72.

²¹ *Id.* at P 73 (emphasis added).

- Revising the definition of System Network Upgrade to include the phrase “beyond the substation located at the Point of Interconnection” so as to distinguish System Network Upgrades from Substation Network Upgrades, as required by the Final Rule;²²
- Adding a new Tariff, Part VIII, Subpart C, section 404(A)(5)(d) that describes the implementation of the Proportional Impact Method cost allocation methodology for System Network Upgrades;²³
- Providing in Tariff, Part VIII, Subpart C, section 404(A)(5)(d) more detail on how PJM allocates the costs of shared Substation Network Upgrades;²⁴
- Adding to Tariff, Part VIII, Subpart C, section 404(A)(6) detail on the per capita allocation of costs to Project Developers sharing Interconnection Facilities;²⁵ and
- Including System Network Upgrades and Substation Network Upgrades through the table labeled “Summary Table of Substation Network Upgrades, and System Network Upgrades” in GIA, Specifications section 3(e) and in WMPA, Schedule D.²⁶

These proposed revisions to the Tariff concerning Network Upgrade definitions, cost allocation, and inclusion are consistent with the requirements of the Final Rule. The

²² Proposed Tariff, Part VIII, Subpart A, section 400, Definitions S.

²³ Proposed Tariff, Part VIII, Subpart C, section 404(A)(5)(d).

²⁴ *Id.*

²⁵ Proposed Tariff, Part VIII, Subpart C, section 404(A)(6).

²⁶ Proposed Tariff, Part IX, Subpart B, GIA Specifications and Subpart C, Schedule D. GIA, Specifications section 3.0 and WMPA, Schedule D are the functional equivalents in the Tariff of Appendix A to the Final Rule *pro forma* LGIA.

definition of System Network Upgrades now contains the requisite language distinguishing Substation Network Upgrades from System Network Upgrades, and the cost allocation provisions now specify for System Network Upgrades how the Proportional Impact Method will be applied to projects to allocate costs, and provide the required granularity for Substation Network Upgrade and shared Interconnection Facilities cost allocation. The Commission should accept the PJM-specific modification that allows PJM to include the various types of Network Upgrades through a table in section 3(e) of the Specifications portion of the *pro forma* GIA (and Schedule D to the *pro forma* WMPA) rather than through Appendix A to the LGIA. This table serves the same function as Appendix A to the *pro forma* LGIA, and is a just and reasonable, not unduly discriminatory means of accomplishing the objectives of the Final Rule with respect to identification of the various types of Network Upgrades in the GIA. The Commission therefore should accept PJM's proposed revisions to the Network Upgrades provisions of its Tariff as compliant.

C. *Revisions Eliminating “Reasonable Efforts” and Incorporating Study Delay Penalties*

In Order No. 2023, the Commission eliminated the “Reasonable Efforts” standard for conducting cluster studies, cluster restudies, facilities studies, and Affected System studies.²⁷ The Commission also added section 3.9 to the *pro forma* LGIP which imposed study delay penalties.²⁸

PJM's October 23 Filing proposed revisions to remove the terms “use Reasonable Efforts,” “exercise Reasonable Efforts,” or the like from multiple sections of Tariff, Part

²⁷ Order No. 2023 at P 965.

²⁸ *Id.* at P 962.

VIII.²⁹ The Commission found in the April 16 Order that these revisions partially comply with the directives of the July 24 Order, but rejected PJM’s proposal to have Tariff, Part VIII, Subpart B, section 403(B)(3) provide for the Application Review Phase “to extend for either 90 days ‘or the amount of time it takes to complete all Application review activities for the relevant Cycle, whichever is greater.’”³⁰

1. *Length of the Application Review Phase*

In compliance with the April 16 Order, PJM has revised Tariff, Part VIII, Subpart B, section 403(B)(3) to remove the phrase “or the amount of time it takes to complete all Application review activities for the relevant Cycle, whichever is greater,” so that the Application Review Phase extends only for 90 days.

2. *Study delay penalties revisions*

PJM, in the October 23 Filing, also submitted new Tariff, Part VIII, Subpart K, section 438 to incorporate the *pro forma* LGIP’s study delay penalty provisions.³¹ The Commission accepted much of the proposed new section 438 as consistent with the *pro forma* LGIP sections 3.9(2), 3.9(3), 3.9(4) and 3.9(6).³² The Commission rejected the independent entity variation PJM sought to allow it to unilaterally extend study deadlines up to 30 days and directed PJM to remove the unilateral extension provision of section 438.³³ Accordingly, PJM submits a revised Tariff, Part VIII, Subpart K, section 438(E) to

²⁹ October 23 Filing at 21 & n.64.

³⁰ April 16 Order at P 98 (quoting October 23 Filing proposed Tariff, Part VIII, Subpart B, section 403(B)(3)).

³¹ October 23 Filing at 22-23.

³² April 16 Order at P 99.

³³ *Id.*

remove the unilateral language and restore the mutual agreement language of the *pro forma* LGIP, section 3.9.³⁴

Finally, the Commission found that PJM's requested independent entity variation to permit it to pay any study delay penalties it incurs from the non-refundable portion of the Study Deposits it collects from Project Developers, as proposed in the October 23 Filing Tariff, is outside the scope of this Final Rule compliance proceeding.³⁵ PJM therefore removes Tariff, Part VIII, Subpart K, section 438(H).³⁶

These study delay penalty revisions are consistent with the April 16 Order's directives and the provisions of the Final Rule's *pro forma* LGIP, and the Commission therefore should accept them as just and reasonable and not unduly discriminatory.

D. Affected System Study Process Requirements

In Order No. 2023, the Commission established an affected system study process in the *pro forma* LGIP.³⁷ PJM submitted revisions to Tariff, Part VIII, Subpart G, section 434 adopting the Final Rule's required affected system study process with PJM-specific modifications. The revisions supplemented PJM's existing Affected System coordination rules and added provisions from the Commission's *pro forma* LGIP for initial screening by the host transmission provider; notification by the Affected System that it intends to study Interconnection Requests on the host transmission provider's system; tender of an ASCISA; Affected System Customer execution of that agreement and provision of the

³⁴ Proposed Tariff, Part VIII, Subpart K, section 438(E). PJM also revises Tariff, Part VIII, Subpart K, section 438 to remove section 438(F), which provided for a separate effective date for section 438.

³⁵ April 16 Order at P 100.

³⁶ Proposed Tariff, Part VIII, Subpart K, section 438(H).

³⁷ Order No. 2023 at P 1110.

required Affected System Impact Study Deposit, as well as the consequences of failure to do so; and the assignment of an Affected System Queue Position.³⁸

1. *Affected System terms and definitions*

The April 16 Order directed PJM to justify its Affected System terms and their associated definitions in both the proposed Tariff provisions and in the ASCISA under the independent entity variation standard.³⁹ PJM provides, as Attachment C to this filing, a table of Affected Systems terms and definitions used in the PJM Tariff and the corresponding *pro forma* LGIP and Affected System study agreement terms and definitions. As demonstrated in this table, the Affected System terms and definitions PJM uses in the Tariff are substantially similar to the Final Rule's terms and definitions. While the nomenclature varies from the terms used in the *pro forma* LGIP, the meanings of PJM's terms are generally the same as the *pro forma* LGIP's terms and the terms are all defined in Tariff, Part VIII, Subpart A, section 400, so that parties can readily determine their meanings. PJM seeks an independent entity variation to continue to use these Affected System-related terms and definitions, consistent with existing provisions of the Tariff. The Commission should find that, because they are substantially similar to the Final Rule's provisions, PJM's terms and definitions are just and reasonable, and not unduly discriminatory, and are consistent with the objectives of the Final Rule.

2. *Cost and schedule estimates for the Affected System Impact Study*

The Final Rule requires transmission providers to provide Affected System Customers a cost and schedule estimate for the Affected System impact study before

³⁸ October 23 Filing at 26 (citing proposed Tariff, Part VIII, Subpart G, section 434).

³⁹ April 16 Order at PP 132, 160.

tendering the study agreement.⁴⁰ The April 16 Order rejected PJM’s request for an independent entity variation to forego the provision of this information in advance of tendering an ASCISA, in the interests of time and efficiency.⁴¹

Accordingly, PJM revises Tariff, Part VIII, Subpart G, section 434(B)(2) to include an estimate of the time and cost of the Affected System Impact Study. As explained in the attached Affidavit of Lisa Krizenoskas on behalf of PJM Interconnection, L.L.C.,⁴² the study cost estimate is informed by years of experience overseeing Affected Systems studies and represents a close approximation of expected study costs. Similarly, the study durations are informed by past experience from both Affected Systems studies and the Cycle process.⁴³ The Commission should find that this information provides Affected System Customers and the Affected System Customers’ host transmission providers a non-binding good faith estimate of the cost and the schedule to complete the Affected System study, and therefore should accept this revision and grant PJM an independent entity variation to make this revision. The proposed Tariff revision represents a just and reasonable and not unduly discriminatory change to accommodate the volume of Affected System studies PJM is handling while still providing information to Affected System Customers, and thus is consistent with the objectives of the Final Rule.

⁴⁰ Order No. 2023 at PP 1110-1111; Order No. 2023-A at Appendix C, *pro forma* LGIP, section 9.2.1.

⁴¹ April 16 Order at PP 134-135.

⁴² Attachment D, Affidavit of Lisa Krizenoskas on Behalf of PJM Interconnection, L.L.C. ¶¶ 17-18 (“Krizenoskas Affidavit” or “Krizenoskas Aff.”).

⁴³ *Id.* ¶¶ 1, 4, 8 & 15.

3. *Deadline for Project Developers and Eligible Customers to demonstrate they have provided the Affected System agreement, Study Deposit, and technical information to Affected System Operator*

PJM proposed in the October 23 Filing, in Tariff, Part VIII, Subpart G, section 434(A)(3) to require Project Developers and Eligible Customers in PJM's Cycle process to enter into Affected System study agreements with, and provide the required Study Deposits and technical information to, the Affected System Operator no later than 25 Business Days after PJM sends notification of the need to enter into an Affected System study agreement, or the end of Decision Point I.⁴⁴ The Commission stated that PJM had not explained how tying a requirement to the conclusion of another part of the Cycle process accomplishes the purposes of the Final Rule.⁴⁵

PJM's purpose in requiring Project Developers in its Cycle process to enter into Affected System agreements with Affected System Operators prior to the end of Decision Point I was to ensure that projects under study in the Cycle process are meeting all their requirements to advance in the neighboring system's process and receive an Affected System study on a timely basis. The concern is that projects could become non-viable if they do not have an Affected System study at the appropriate time that allows them to move forward within the Cycle. A non-viable project should be removed once it is clear it is non-viable so that PJM can provide the remaining Project Developers within the Cycle with accurate and timely System Impact Study results.

As supported in the Krizenoskas Affidavit and based on its experience with the Cycle Process and its neighbors' adoption of Affected System Study processes compliant

⁴⁴ October 23 Filing, Attachment A at Tariff, Part VIII, Subpart G, section 434(A)(3).

⁴⁵ April 16 Order at P 136.

with the Final Rule,⁴⁶ PJM believes that this requirement should remain tied to the end of a decision point but that the relevant decision point is the end of Decision Point II.⁴⁷ As explained in the Krizenoskas Affidavit, recent experience has shown that putting this requirement later in the Cycle process allows Affected System Operators, Project Developers, and PJM the time needed to enter into the Affected System study process and provide actionable data, while still maintaining the integrity of the Cycle process.⁴⁸

4. *Timing for various Affected System process steps*

In the April 16 Order, the Commission noted that certain provisions of PJM's Affected System study process do not have equivalents in the *pro forma* LGIP, and directed PJM to either adopt the requirements of the *pro forma* LGIP or justify its departure from the Final Rule.⁴⁹

PJM submits new Tariff, Part VIII, Subpart G, section 434(B)(3)(b) to adopt a deficiency cure process very similar to that in the LGIP section 9.5 and in the PJM Cycle application process,⁵⁰ while requesting an independent entity variation to provide PJM with 15 Business Days to provide the initial notice of deficiency. This timing is necessary to reflect the volume of Affected System studies PJM undertakes, as explained in the Krizenoskas Affidavit, and also aligns with the deficiency notice timing in the Cycle process.

⁴⁶ Krizenoskas Aff. ¶ 16.

⁴⁷ Proposed Tariff, Part VIII, Subpart G, section 434(A)(3). PJM also has revised this provision to require that the Project Developer or Eligible Customer demonstrate to PJM that they have satisfied the Affected System Operator's process requirements rather than requiring them to take steps in the Affected System Operator's process.

⁴⁸ Krizenoskas Aff. ¶ 16.

⁴⁹ April 16 Order at PP 137, 138, 143.

⁵⁰ See Order No. 2023 at Appendix C, *pro forma* LGIP, section 9.5; Tariff, Part VIII, Subpart B, section 403(B)(1)(a); Proposed Tariff, Part VIII, Subpart G, section 434(B)(3)(b).

The incorporation of this explicit deficiency cure process also addresses the concern raised in the April 16 Order about the Tariff language (Tariff, Part VIII, Subpart G, section 434(B)(5)(a)) that provides PJM will not commence the Affected System Impact Study or Affected System Facilities Study until it has all the required information for each project in the Affected System Cluster. It does so in part by providing a definitive timeline within the Affected System process when all inputs, deposits and agreements are in place to allow PJM to move forward with studying the Affected System study Cluster. And, to the extent PJM does not receive all the necessary inputs, agreements, and deposits from an Affected System Customer, the new section 434(B)(3)(b) provides that the Affected System Customer's Affected System Queue Position will be forfeit and PJM can proceed with the Affected System Impact Study as provided in section 434(B)(5)(a). The provision that PJM will not commence study of an Affected System Cluster until it has all the necessary information, documentation, and security for the members of the cluster is simply a matter of efficiency: it is most efficient for PJM to perform one study for all members of an Affected System Cluster and start that work when all the required information has been received. The Commission should find that the new section 434(B)(3)(b) provides clarity as to the application deficiency review timing between PJM and the Affected System Customer(s) and establishes a definitive point at which PJM will commence study activities, while also recognizing the volume PJM encounters. As such, this variation from the *pro forma* LGIP is just, reasonable, and not unduly discriminatory, and satisfies the objectives of the Final Rule by providing transparency and certainty and making the Affected System study process more efficient. The Commission therefore should accept this revision.

5. *Requested independent entity variations*

PJM has removed from Tariff, Part VIII, Subpart G, section 434(B)(5)(a) the reference to the PJM Manuals and withdraws its request for an independent entity variation to reference the PJM Manuals for study parameter details as unnecessary.⁵¹ The provisions of section 434(B)(5)(b) contain language that is substantially similar to section 9.6 of the *pro forma* LGIP and thus nothing further is needed.

PJM requests independent entity variations with respect to a separate, 180-day Affected System Facilities Study period, meeting with an affected system customer to discuss the results of an affected system study, and *pro forma* LGIP section 11.2.1 (Delay in LGIA Execution, or Filing Unexecuted, to Await Affected System Study Report).⁵²

As Ms. Krizenoskas explains, a separate, 180-day period for the Affected System Customer Facilities Study is needed to accommodate the volume of Affected System studies PJM must perform.⁵³ PJM relied on its extensive experience in conducting Affected System studies and in performing the facilities studies of other New Service Requests to determine that it will reasonably require this duration to provide results for necessary upgrades.⁵⁴ Ms. Krizenoskas explains that, although PJM has made significant strides in the last several years in incorporating technology to speed up its interconnection process, it still has not reached the point in which it can constrict its study timelines to match the Final Rule *pro forma* LGIP's schedule.⁵⁵ As a result, if PJM were required to

⁵¹ See April 16 Order at P 139.

⁵² See *id.* at PP 140, 144, and 145.

⁵³ Krizenoskas Aff. ¶¶ 12-13.

⁵⁴ *Id.* ¶¶ 8-11, 13.

⁵⁵ *Id.* ¶ 9.

shorten the Affected System study or to limit the study to only the system impact component, then it will not be able to provide the same level of information to Affected System Customers it provides to Project Developers in the Cycle. For the same reasons the Commission provided PJM an independent entity variation to continue using its longer, three-phase Cycle process timelines,⁵⁶ i.e., to accommodate the volume of Interconnection Requests PJM must process, the Commission should permit PJM to have a separate, 180-day period for the Affected System Facilities Study, in addition to the period already provided for the Affected System Impact Study. As explained in the Krizenoskas Affidavit, PJM currently has five neighboring systems with which it exchanges Affected Systems studies, and has 161 projects under study as of April 2026.⁵⁷ This volume of studies and the number of counterparts with which PJM works makes completion of all Affected System Impact Studies and Affected System Facilities Study Reports within 150 days unduly burdensome, particularly when viewed in context with the Cycle and non-Cycle interconnection studies PJM must also complete in parallel with the Affected System study process.⁵⁸

PJM also requests an independent entity variation from the Final Rule's *pro forma* LGIP requirement to meet with an Affected System Customer to discuss the results of the Affected System Impact Study.⁵⁹ Given the volume of Affected System studies that PJM undertakes, a requirement to meet with each individual Affected System Customer would

⁵⁶ July 24 Order at PP 39, 45-46, 50.

⁵⁷ Krizenoskas Aff. ¶ 12.

⁵⁸ *Id.* ¶ 12. See also *New York Indep. Sys. Operator, Inc.*, 193 FERC ¶ 61,031, at P 104 (2025) (granting New York Independent System Operator's request for extension of Affected System study period).

⁵⁹ Order No. 2023 at Appendix C, *pro forma* LGIP, section 9.8.

be administratively burdensome and would delay the processing of other studies.⁶⁰ PJM provides Affected System Customers as well as Project Developers substantial process information through monthly Interconnection Process Subcommittee meetings, the PJM Manuals, and “frequently asked question” pages on PJM’s website. When that information is not sufficient to answer project-specific questions, PJM maintains an email address to which Affected System Customers and Project Developers can direct interconnection-related questions.⁶¹ When deemed more effective and efficient, PJM holds meetings with Affected System Customer as well as Project Developers to answer project-specific questions. Considering the large volume of Affected System studies PJM performs, taking the time to hold individual calls with each Affected System Customer is not consistent with the Final Rule’s objective of making generation interconnection faster and more efficient.⁶²

Finally, PJM requests an independent entity variation from the requirement in *pro forma* LGIP section 11.2.1, which allows an interconnection customer to delay executing and returning, or requesting that the Transmission Provider file unexecuted, its GIA beyond the required amount of time for doing so if parties are awaiting the Affected System study report. PJM processes all final agreements together, so that if one project is delayed, all projects are delayed.⁶³ This lock-step approach is required to accurately capture the scope and cost of underfunded Network Upgrades and to apply forfeited Readiness Deposits appropriately.⁶⁴ A delay at this late stage of the process would impede and could drastically

⁶⁰ Krizenoskas Aff. ¶ 19.

⁶¹ *Id.* ¶ 19.

⁶² Order No. 2023 at P 1 (“These revisions will ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner.”).

⁶³ Krizenoskas Aff. ¶ 13.

⁶⁴ *Id.* ¶ 13.

slow down PJM's Cycle processing, upending Project Developers' expectations as to when they will have final, effective agreements. Additionally, because certain Cycle phases cannot begin until phases in other, earlier Cycles have been completed, delays to any Cycle would cascade into successive Cycles. These outcomes would be contrary to the Final Rule's purpose of making generation interconnection faster and more efficient.⁶⁵

PJM submits that all of these variations from the *pro forma* LGIP are justified independent entity variations, because they are a just, reasonable, and not unduly discriminatory means to accommodate PJM's particular circumstances.

6. Adding technical details to the ASCISA

The Commission in the April 16 Order directed PJM to either add the information set forth in Article 5 of Appendices 9 and 10 of the *pro forma* LGIP to the *pro forma* ASCISA or justify the departure from the Final Rule.⁶⁶ Accordingly, PJM has revised the ASCISA to include the required information.⁶⁷

E. Multiple Generating Facilities Behind the Same Point of Interconnection

The Final Rule required transmission providers to allow more than one Generating Facility to "co-locate" on a shared site behind a single Point of Interconnection and share a single Interconnection Request.⁶⁸ The Commission clarified that interconnection customers may structure their Interconnection Requests for such generating facilities either as separate Interconnection Requests, or as a shared Interconnection Request.⁶⁹ The Final

⁶⁵ Order No. 2023 at P 1.

⁶⁶ April 16 Order at P 159.

⁶⁷ Proposed Tariff, Part IX, Subpart O, section 10.1.

⁶⁸ Order No. 2023 at P 1346.

⁶⁹ *Id.* at P 1351.

Rule also clarified that these generating facilities can be owned by a single interconnection customer, or by multiple interconnection customers that contract for shared use.⁷⁰

In its October 23 Filing, PJM submitted proposed revisions to Tariff, Part VIII, Subpart A, section 402 and Tariff, Part VIII, Subpart B, section 403 concerning submission of Applications for multiple Generating Facilities behind the same Point of Interconnection.⁷¹ This included a proposed new requirement in Tariff, Part VIII, Subpart B, Section 403(A)(1)(h), to clarify that if the Generating Facility will share Project Developer Interconnection Facilities with another Generating Facility, either existing or planned, the Project Developer must submit documentation with its Generation Interconnection Request that describes the proposed configuration of the Generating Facilities, the proposed ownership of the Project Developer Interconnection Facilities, the parties' division of rights and responsibilities with respect to operations, maintenance, and repair of the Project Developer Interconnection Facilities, and other information as may be specified in the PJM Manuals regarding the operation of the Generating Facilities proposing to share Project Developer Interconnection Facilities.⁷²

To promote greater transparency regarding co-located Generating Facilities, PJM also proposed revisions to the *pro forma* GIA to adopt a new Schedule N governing multiple Generating Facilities behind a single Point of Interconnection. The proposed Schedule N memorializes the terms and conditions governing the ownership, control and use of shared Project Developer Interconnection Facilities behind a single Point of Interconnection, and obligates each Project Developer to enter into an agreement, i.e.,

⁷⁰ *Id.* at P 1355.

⁷¹ October 23 Filing at 34-37.

⁷² *Id.*, Attachment A at Tariff, Part VIII, Subpart B, section 403(A)(1)(h).

(“Shared Facilities Agreement, to govern the ownership, control, and use of the Project Developer Interconnection Facilities.”⁷³ Schedule N also includes terms and conditions regarding metering, billing and payments, default, and notice requirements governing use of the shared Project Developer Interconnection Facilities.⁷⁴

While accepting some of the proposed revisions for multiple facilities behind a single Point of Interconnection, the April 16 Order rejected the proposed new GIA Schedule N for shared facilities and the requirement to submit documentation regarding shared facilities arrangements with the Application as outside the scope of the directives in the July 24 Order.⁷⁵ PJM therefore submits revised Tariff records to remove the provisions found to be outside the scope.⁷⁶ The Commission should accept these proposed revisions as consistent with the April 16 Order’s directives and thus just and reasonable, not unduly discriminatory, and consistent with the Final Rule.

F. Operating Assumptions for Interconnection Studies

In Order No. 2023, the Commission revised the *pro forma* LGIP and LGIA to require transmission providers, at the request of the interconnection customer, to use operating assumptions in interconnection studies that reflect the proposed charging behavior of electric storage resources unless good utility practice, including applicable reliability standards, otherwise requires the use of different operating assumptions.⁷⁷

⁷³ *Id.*, Attachment A at Tariff, Part IX, Subpart B, GIA, Schedule N.

⁷⁴ *Id.*, Attachment A at Tariff, Part IX, Subpart B, GIA, Schedule N.

⁷⁵ April 16 Order at P 170.

⁷⁶ Proposed Tariff, Part VIII, Subpart B, section 403; Proposed Tariff, Part IX, Subpart A, Application and Studies Agreement and Subpart B, GIA and GIA Specifications.

⁷⁷ Order No. 2023 at P 1509.

PJM's October 23 Filing included proposed revisions to Tariff, Part VIII, Subpart B, section 403 providing Project Developers the ability to opt in to their electric storage facilities being studied by PJM as charging 24 hours a day, i.e., charging at peak and stated that PJM will study the electric storage facilities of all other Project Developers (those that do not opt in to be studied as charging at peak) as charging only during off-peak periods, consistent with PJM's fuel-based dispatch assumptions in its Planning criteria, which are set forth in PJM Manual 14B.⁷⁸

The Commission accepted PJM's operating assumption revisions in part, but directed PJM to include revisions comparable to the Final Rule's Article 17.2 and Appendix H of the *pro forma* LGIA.⁷⁹ PJM therefore submits proposed revisions to add new section 4.6.2.4.1 to Tariff, Part IX, Subpart B, GIA, Appendix 2, to incorporate *pro forma* LGIA section 17.2, and to add to Schedule I to the GIA, Interconnection Specifications for an Energy Storage Resource, the provisions of the *pro forma* LGIA, Appendix H, to memorialize the charging assumptions under which the storage facility was studied. The Commission should accept these revisions as just and reasonable and consistent with the Final Rule, as PJM complies with the April 16 Order's directive as to storage operating assumptions.

G. Incorporating the Enumerated Alternative Transmission Technologies

In Order No. 2023, the Commission required transmission providers to revise their tariffs to include, in the feasibility study report and system impact study report, an explanation of the results of the evaluation of the enumerated alternative transmission

⁷⁸ October 23 Filing at 40.

⁷⁹ April 16 Order at P 182.

technologies for feasibility, cost, and time savings as an alternative to a traditional network upgrade.⁸⁰

PJM's October 23 Filing included revisions to Tariff, Part VIII, Subpart C, section 407(A)(1), adding a new subsection (f) to provide that PJM will evaluate an enumerated list of alternative transmission technologies (static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting) during the Phase II System Impact Study and the Phase III System Impact Study to determine, in its sole discretion, whether the specified technologies should be used in place of traditional transmission technologies, consistent with Good Utility Practice, Applicable Reliability Standards, and Applicable Laws and Regulations.⁸¹ The proposed section 407(A)(1)(f) also provided that PJM will include an explanation of the results of its evaluation of each specific alternative transmission technology in the Phase II System Impact Study Report and the Phase III System Impact Study Report.

In the April 16 Order, the Commission found that PJM's proposed Tariff provisions establishing a process for PJM to study an enumerated list of alternative transmission technologies in Phases II and III of its Cycle process are just and reasonable and accomplish the objectives of the Final Rule.⁸² However, the Commission denied PJM's requested independent entity variation to forego such studies in Phase I of its Cycle process and directed PJM to study the enumerated list of alternative technologies in its Phase I System

⁸⁰ Order No. 2023 at P 1581.

⁸¹ October 23 Filing at 42-43.

⁸² April 16 Order at PP 189-190.

Impact Study.⁸³ Accordingly, PJM files revisions to Tariff, Part VIII, Subpart B, section 403 and Tariff, Part VIII, Subpart C, sections 405, , 407, and 409 to provide that PJM will study the alternative technologies in Phases I, II, and III, when the Project Developer provides the necessary technical information regarding the alternative technologies to be studied in its Application and at Decision Point I, if applicable. The Commission should accept these revisions as consistent with the Final Rule and the Commission’s directives.

H. Ride Through Requirements for New Generating Facilities

The Final Rule revised the Ride Through Capability and Performance requirements of the *pro forma* LGIA⁸⁴ and required that all newly interconnecting large generating facilities provide frequency and voltage ride through capability consistent with standards and guidelines applied to other generating facilities in the balancing authority area on a comparable basis.⁸⁵

PJM submitted in its October 23 Filing revisions to Tariff, Part IX, Subpart B, GIA, Schedule H to require all new Generating Facilities to provide frequency and voltage ride through capability consistent with standards and guidelines applied to other Generating Facilities in the balancing authority area on a comparable basis. The Commission found, however, that PJM’s proposed revisions concerning ride through requirements applicable to non-synchronous Generating Facilities do not comply with the Final Rule and directed PJM to file revisions to incorporate the ride through requirements adopted in the Final Rule.⁸⁶

⁸³ *Id.* at P 191.

⁸⁴ Order No. 2023 at PP 1715-18.

⁸⁵ *Id.* at P 1733.

⁸⁶ April 16 Order at P 202.

Accordingly, PJM revises Tariff, Part IX, Subpart B, GIA, Schedule H to include the Final Rule’s ride through requirements for all new non-synchronous Generating Facilities, regarding active power production.⁸⁷ The Commission should accept these revisions as consistent with the Final Rule’s requirements and the April 16 Order’s directives.

II. REQUESTED EFFECTIVE DATE

The April 16 Order accepted PJM’s proposal in the October 23 Filing for the bulk⁸⁸ of its Final Rule compliance Tariff revisions to become effective at the commencement of the next Cycle after the issuance of that order.⁸⁹ The Commission in the April 16 Order indicated its expectation that “PJM’s proposed effective date will be sometime around end of January 2027, which is the projected timeline for the beginning of Phase II of Cycle No. 1.”⁹⁰ The Commission found that PJM’s proposal was sufficiently justified because having Tariff revisions become effective during a Cycle could cause uncertainty and significant administrative inefficiencies.⁹¹

The Application submission period for Cycle No. 1 closed 11 days after the issuance of the April 16 Order, on April 27, 2026, and the Application period for Cycle No. 2 opened the following day, on April 28, 2026.⁹² Project Developers are currently

⁸⁷ Proposed Tariff, Part IX, Subpart B, GIA, Schedule H.

⁸⁸ In the October 23 Filing, PJM proposed a later effective date for the Tariff revisions that remove “Reasonable Efforts” language and implement study delay penalties. October 23 Filing at 47-48. The Commission rejected that proposal, *see* April 16 Order at P 211, and PJM therefore proposes here a single effective date for all its Final Rule compliance Tariff records.

⁸⁹ April 16 Order at P 210.

⁹⁰ April 16 Order at P 210 n.375.

⁹¹ April 16 Order at P 210.

⁹² *See Planning: Interconnection Cycle Study Timeline*, PJM Interconnection, L.L.C. (Mar. 18, 2026), <https://www.pjm.com/planning> [<https://perma.cc/NQ7F-XWNW>] (last visited June 11, 2026) (scroll down page to “Cycle Timeline” and select Cycle 01).

submitting Applications for Cycle No. 2. This means the next Cycle to begin at the very beginning, upon the opening of its Application window, will be Cycle No. 3. PJM currently projects the Application window for Cycle No. 3 will open on June 22, 2027.⁹³

PJM therefore files Tariff records in compliance with the April 16 Order with an indefinite effective date and will, as directed in the April 16 Order, make a filing no earlier than 120 days before and no later than 60 days before the commencement of Cycle No. 3 in mid-2027 to establish the effective date for these compliance revisions to the Tariff.⁹⁴

III. DOCUMENTS INCLUDED IN THIS FILING

In addition to this transmittal letter, PJM encloses the following:

1. Attachment A: Redline Proposed Tariff;
2. Attachment B: Clean Proposed Tariff;
3. Attachment C: Table of Affected System-Related Terms and Definitions; and
4. Attachment D: Affidavit of Lisa Krizenoskas on Behalf of PJM Interconnection, L.L.C.

IV. SERVICE

PJM has served a copy of this filing on all PJM Members and on the affected state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the Commission's regulations,⁹⁵ PJM will post a copy of this filing to the FERC filings section on its internet site, <https://pjm.com/library/filing-order>, and will send an email on the same date as this filing to all PJM Members and all state utility regulatory

⁹³ See *Planning: Interconnection Cycle Study Timeline*, PJM Interconnection, L.L.C. (Mar. 18, 2026), <https://www.pjm.com/planning> [<https://perma.cc/NQ7F-XWNW>] (last visited June 11, 2026) (scroll down page to "Cycle Timeline" and select Cycle 02). PJM notes that the projected date for the opening of the Cycle No. 3 application window is estimated and may change as Cycle Nos. 1 and 2 are processed.

⁹⁴ April 16 Order at P 213.

⁹⁵ See 18 C.F.R. §§ 35.2(e), 385.2010(f)(3).

commissions in the PJM Region,⁹⁶ alerting them that this filing has been made by PJM and is available by following such link. If the document is not immediately available by using the referenced link, the document will be available through the referenced link within twenty-four hours of the filing.

V. CONCLUSION

For the reasons set forth above, the Commission should accept the Tariff revisions proposed in this filing and grant PJM the independent entity variations it seeks in this filing as just and reasonable, not unduly discriminatory, and in compliance with, and consistent with the goals of, the Final Rule and the April 16 Order.

Respectfully submitted,

/s/ Wendy B. Warren

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***Counsel for
PJM Interconnection, L.L.C.***

Dated: June 15, 2026

⁹⁶ PJM already maintains, updates, and regularly uses email lists for all PJM Members and affected state commissions.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C., this 15th day of June 2026.

/s/ Elizabeth P. Trinkle
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***Attorney for
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Attachment A

Revisions to the PJM Open Access Transmission Tariff

(Marked/Redline Format)

Tariff, Part VIII, Subpart A, section 400
Definitions S

Schedule of Work:

“Schedule of Work” shall mean that Schedule of Work set forth in GIA, Schedule L, section 8.0, or CSA, Appendix I, as applicable, setting forth the timing of work to be performed by the Constructing Entity(ies), based upon the System Impact Study(ies) and subject to modification, as required, in accordance with Transmission Provider’s scope change process for interconnection projects set forth in the PJM Manuals.

Scope of Work:

“Scope of Work” shall mean that scope of the work set forth in GIA, Specifications, section 3.0 to be performed by the Constructing Entity(ies) or scope of work set forth in CSA, Schedule C, provided that such Scope of Work may be modified, as required, in accordance with Transmission Provider’s scope change process for interconnection projects set forth in the PJM Manuals.

Secondary Systems:

“Secondary Systems” shall mean control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers.

Security:

“Security” shall mean the financial guaranty provided by the Project Developer, Eligible Customer or Upgrade Customer pursuant to Tariff, Part VIII, Subpart C, sections 406(A)(2) and (3), and Tariff, Part VIII, Subpart C 408(A)(2)(d), and Tariff, Part VIII, Subpart C, section 410(A)(1) to secure the Project Developer’s, Eligible Customer’s or Upgrade Customer responsibility for Costs under an interconnection-related agreement set forth in Tariff, Part IX.

Service Agreement:

“Service Agreement” shall mean the initial agreement and any amendments or supplements thereto entered into by the Transmission Customer and the Transmission Provider for service under the Tariff.

Site:

“Site” shall mean all of the real property including, but not limited to, any owned or leased real property, bodies of water and/or submerged land, and easements, or other forms of property rights acceptable to PJM, on which the Generating Facility or Merchant Transmission Facility is situated and/or on which the Project Developer Interconnection Facilities are to be located.

Site Control:

“Site Control” shall mean the evidentiary documentation provided by Project Developer in relation to a New Service Request demonstrating the requirements as set forth in the following Tariff, Part VIII, Subpart A, section 402, and Tariff, Part VIII, Subpart B, section 403, and Tariff, Part VIII, Subpart C, section 406 and Tariff, Part VIII, Subpart C, section 410.

Stand Alone Network Upgrades:

“Stand Alone Network Upgrades” shall mean Network Upgrades, which are not part of an Affected System, which a Project Developer may construct without affecting day-to-day operations of the Transmission System during their construction. Transmission Provider, Transmission Owner and Project Developer must agree as to what constitutes Stand Alone Network Upgrades and identify them in GIA, Specifications, section 3.0. If the Transmission Provider or Transmission Owner and Project Developer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider or Transmission Owner that disagrees with the Project Developer must provide the Project Developer a written technical explanation outlining why the Transmission Provider or Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

State:

“State” shall mean the District of Columbia and any State or Commonwealth of the United States.

State of Charge:

“State of Charge” shall mean the quantity of physical energy stored in an Energy Storage Resource Model Participant or in a storage component of a Hybrid Resource in proportion to its maximum State of Charge capability. State of Charge is quantified as defined in the PJM Manuals.

Station Power:

“Station Power” shall mean energy used for operating the electric equipment on the site of a generation facility located in the PJM Region or for the heating, lighting, air-conditioning and office equipment needs of buildings on the site of such a generation facility that are used in the operation, maintenance, or repair of the facility. Station Power does not include any energy (i) used to power synchronous condensers; (ii) used for pumping at a pumped storage facility; (iii) used in association with restoration or black start service; or (iv) that is Direct Charging Energy.

Study Deposit:

“Study Deposit” shall mean the payment in the form of cash required to initiate and fund any study provided for in Tariff, Part VIII, Subpart A, section 401.

Substation Network Upgrade:

“Substation Network Upgrade” shall mean a Network Upgrade required to establish the Point of Interconnection and enable a Generating Facility or Generating Facilities to interconnect to the Transmission System. Substation Network Upgrades include, but are not limited to, construction or modification of substations, circuit breakers, buswork, protection schemes, or other infrastructure necessary to create or reinforce the Point(s) of Interconnection in accordance with Good Utility Practice and applicable NERC standards. Substation Network Upgrades are designed to support the operation, reliability and stability of the Transmission System with or without the operation of the Generating Facility and are distinct from System Network Upgrades. Costs for Substation Network Upgrades ~~are~~ shall be allocated to the Project Developers within the same Cycle causing the need for the Substation Network Upgrade ~~on a per capita basis~~ provided in Tariff, Part VIII, Subpart C, section 404(A)(5)(d). Substation Network Upgrades are subject to the Site Control provisions in Tariff, Part VIII, Subpart A, section 402. A Substation Network Upgrade can be a Stand Alone Network Upgrade. Cost and schedule estimates for Substation Network Upgrades are provided in the Phase II Facilities Study.

Surplus Project Developer:

“Surplus Project Developer” shall mean either a Project Developer whose Generating Facility is already interconnected to or has executed (or requested to file unexecuted) an Interconnection Service Agreement or Generation Interconnection Agreement to interconnect to the PJM Transmission System or one of its affiliates, or an unaffiliated entity that submits a Surplus Interconnection Request to utilize Surplus Interconnection Service within the Transmission System in the PJM Region.

Surplus Service Request Number:

“Surplus Service Request Number” shall mean, when an Application from a Surplus Interconnection Service Customer results in a valid Surplus Interconnection Request, in accordance with Tariff, Part VIII, Subpart E, section 414, the assigned Surplus Service Request Number to such request as confirmed by Transmission Provider. The Request Number will indicate the serial position and priority.

Surplus Interconnection Request:

“Surplus Interconnection Request” shall mean a request submitted by a Surplus Project Developer, pursuant to Tariff, Part VIII, Subpart E, section 414, to utilize Surplus Interconnection Service within the Transmission System in the PJM Region. A Surplus Interconnection Request is not a New Service Request.

Surplus Interconnection Service:

“Surplus Interconnection Service” shall mean any unneeded portion of Interconnection Service established in an Interconnection Service Agreement or a Generation Interconnection Agreement, such that if Surplus Interconnection Service is utilized, the total amount of Interconnection Service at the Point of Interconnection would remain the same.

Surplus Interconnection Study Agreement:

“Surplus Interconnection Study Agreement” shall mean the form of the Surplus Interconnection Study Agreement set forth in Tariff, Part IX, Subpart I.

Switching and Tagging Rules:

“Switching and Tagging Rules” shall mean the switching and tagging procedures of Transmission Owners and Project Developer as they may be amended from time to time.

System Impact Study:

“System Impact Study” shall mean an assessment(s) by the Transmission Provider of (i) the adequacy of the Transmission System to accommodate a New Service Request, (ii) whether any additional costs may be incurred in order to provide such transmission service or to accommodate a New Service Request, and (iii) an estimated date that the New Service Requests can be interconnected with the Transmission System and an estimate of the cost responsibility for the interconnection of the New Service Request; and (iv) with respect to an Upgrade Request, the estimated cost of the requested system upgrades or expansion, or of the cost of the system upgrades or expansion, necessary to provide the requested incremental rights.

System Network Upgrades:

“System Network Upgrade” shall mean a Network Upgrade beyond the substation located at the Point of Interconnection required to mitigate flow gate violations, thermal overloads, voltage issues, or other reliability constraints identified in the System Impact Study due to the addition of one or more Generating Facilities. System Network Upgrades may include, but are not limited to, reconductoring, line upgrades, transformer replacements, or other modifications to enhance system capacity or stability. Costs for System Network Upgrades shall be allocated among Project Developers in the same Cycle using the Proportional Impact Method as provided in Tariff, Part VIII, Subpart C, section 404(A)(5)(d). A Project Developer is not required to obtain Site Control for a System Network Upgrade; however, Project Developers will bear the cost of land acquisition if land is required for the construction of the System Network Upgrade. A System Network Upgrade can be a Stand Alone Network Upgrade. Cost and schedule estimates for System Network Upgrades are provided in the Phase III Facilities Study.

System Protection Facilities:

“System Protection Facilities” shall refer to the equipment required to protect (i) the Transmission System, other delivery systems and/or other generating systems connected to the Transmission System from faults or other electrical disturbance occurring at or on the Generating

Facility, and (ii) the Generating Facility from faults or other electrical system disturbance occurring on the Transmission System or on other delivery systems and/or other generating systems to which the Transmission System is directly or indirectly connected. System Protection Facilities shall include such protective and regulating devices as are identified in the Applicable Technical Requirements and Standards or that are required by Applicable Laws and Regulations or other Applicable Standards, or as are otherwise necessary to protect personnel and equipment and to minimize deleterious effects to the Transmission System arising from the Generating Facility.

Tariff, Part VIII, Subpart B, section 403
Application Rules

A. Application Submission

For each New Service Request a Project Developer or Eligible Customer (collectively, “Applicant”) seeks to initiate, Applicant must submit the following information to the Transmission Provider: (i) a Project Developer Applicant electronically submits through the PJM web site, an Application and Studies Agreement (“Application”), a form of which is provided in Tariff, Part IX, Subpart A, (ii) an Eligible Customer Applicant electronically submits a Completed Application and subsequently executes an Application, a form of which is provided in Tariff, Part IX, Subpart A following the procedures outlined in Tariff, Parts II and III as applicable. Project Developers seeking to submit to a Cycle a Generating Facility where multiple units share a Site and sit behind the same Point of Interconnection may submit a single or multiple Generation Interconnection Request(s); however, each Generation Interconnection Request must individually comply with the requirements of the Tariff.

To be considered in a Cycle, a Project Developer must submit a completed and signed Application, including the required Study Deposit and Readiness Deposit, to Transmission Provider prior to the Cycle’s Application Deadline. To be considered in a Cycle, an Eligible Customer must submit a Completed Application, to Transmission Provider prior to the Cycle’s Application Deadline. Transmission Provider will post a firm Application Deadline for a Cycle at the beginning of Phase II of the immediately prior Cycle, no less than 180 days in advance of the Application Deadline. Only Completed New Service Requests received from Project Developers by the Application Deadline will be considered for the corresponding Cycle. Only Completed Applications received from Eligible Customers by the Application Deadline will be considered for the corresponding Cycle. Completed New Service Requests and Completed Applications shall be assigned a tentative Project Identifier. Transmission Provider will review and validate New Service Requests and the Project Identifier during the Application Phase, prior to Phase I of the corresponding Cycle. Only valid New Service Requests will proceed past the Application Phase.

1. Generation Interconnection Request Requirements

For Transmission Provider to consider an Application for a Generation Interconnection Request complete, Applicant must include at a minimum each of the following, as further described in the Application and PJM Manuals:

- a. Provide all Applicant information required in the Application, including parent company information, banking and wire transfer information, and surety information.
- b. Specify the location of the proposed Point of Interconnection to the Transmission System, including the substation name or the name of the

line to be tapped (including the voltage), the estimated distance from the substation endpoints of a line tap, address, and GPS coordinates.

- c. Provide information about the Generating Facility project or projects, including whether it is or they are (1) a proposed new Generating Facility/ies, (2) an increase in capability of an existing Generating Facility/ies, or (3) the replacement of an existing Generating Facility/ies.
- d. Indicate the type of Interconnection Service requested, whether (1) Energy Resource only or (2) Capacity Resource (includes Energy Resource) with Capacity Interconnection Rights.
- e. Specify the project location and provide a detailed site plan.
- f. Submit required evidence of Generating Facility/ies Site Control (including the location of the main step-up transformer), including a certification by an officer or authorized representative of Applicant; and, at Transmission Provider's request, copies of landowner attestations or county recordings.
- g. Provide information about Qualifying Facility status under the Public Utility Regulatory Policies Act, as applicable.
- h. ~~Submit required information and documentation if the Generating Facility will share Applicant's Interconnection Facilities with another Generating Facility.~~[Reserved]
- i. For a new Generating Facility/ies, specify requested Maximum Facility Output and Capacity Interconnection Rights.
- j. For a requested increase in generation capability of an existing Generating Facility, specify the existing Maximum Facility Output and Capacity Interconnection Rights, and requested increases.
- k. Provide a detailed description of the equipment configuration and electrical design specifications for the Generating Facility/ies.
- l. Specify the fuel type for the Generating Facility/ies; or, in the case of a multi-fuel Generating Facility/ies, the fuel types.
- m. For a multi-fuel Generating Facility/ies, provide a detailed description of the physical and electrical configuration.
- n. If the Generating Facility/ies will include a storage component, provide detailed information about (1) whether and how the storage device(s) will charge using energy from the Transmission System, (2) the primary

frequency response operating range for the storage device(s), (3) the MWh stockpile, (4) the hour class, as applicable, and (5) whether Project Developer requests that PJM study the storage component as charging 24 hours a day, i.e., charging at peak (if Project Developer does not opt in to 24-hour charging, Transmission Provider shall apply the charging operating assumptions contained in the fuel dispatch methodology as specified in PJM Manual 14B).

- o. Specify the proposed date that the project or uprate associated with the Application will be in service. This commercial operation date, which shall not exceed seven (7) years from the date the Generation Interconnection Request is received by Transmission Provider, shall be used to calculate the permissible extension of the commercial operation date prior to Project Developer executing a GIA or requesting that the GIA be filed unexecuted.
- p. For new Generating Facilities, submit required Dynamic Models and Dynamic Modeling Package in accordance with PJM Manual 14H.
- q. Provide other relevant information, including whether Applicant or an affiliate has submitted a previous Application for the Generating Facility; and, if an increase in generation capability, information about existing PJM Service Agreements and associated Queue Position Nos. or Project Identifier Nos.

2. Behind the Meter Generator Application Requirements

In addition to the above requirements for a Generating Facility, in order for Transmission Provider to consider an Application for behind-the-meter generation Interconnection Service complete, Applicant must include at a minimum each of the following, as further described in the Application and PJM Manuals:

- a. Specify gross output, behind the meter load, requested Maximum Facility Output, and requested Capacity Interconnection Rights.
- b. For a requested increase in generation capability of an existing Behind the Meter Generating Facility, specify existing and requested increase in gross output, behind the meter load, Maximum Facility Output, and Capacity Interconnection Rights.

3. Long Term Firm Transmission Service Application Requirements

For Transmission Provider to consider an Application for Long Term Firm Transmission Service complete, Applicant must include at a minimum each of the following, as further described in the Application and PJM Manuals:

- a. Provide all Applicant information required in the Application, including parent company information and banking and wire transfer information.
 - b. Specify the locations of the Point(s) of Receipt and Point(s) of Delivery.
 - c. Specify the requested Service Commencement Date and term of service.
 - d. Specify the transmission capacity requested for each Point of Receipt and each Point of Delivery on the Transmission System.
4. Merchant Transmission Application Requirements

For Transmission Provider to consider an Application for a Transmission Interconnection Request complete, Applicant must include at a minimum each of the following, as further described in the Application and PJM Manuals:

- a. Provide all Applicant information required in the Application, including parent company information and banking and wire transfer information.
- b. Specify the location of the proposed facilities, and the name and description of the substation where Applicant proposes to interconnect or add its facilities.
- c. Specify the proposed voltage and nominal capability of new facilities or increase in capability of existing facilities.
- d. Provide a detailed description of the equipment configuration and electrical design specifications for the project.
- e. Specify the proposed date that the project or increase in capability will be in service.
- f. Specify whether the proposed facilities will be either (1) merchant A.C., (2) Merchant D.C. Transmission Facilities, or (3) Controllable A.C. Merchant Transmission Facilities.
- g. If Merchant D.C. Transmission Facilities or Controllable A.C. Merchant Transmission Facilities, specify whether Applicant elects to receive (1) Firm or Non-Firm Transmission Injection Rights (TIR) and/or Firm or Non-Firm Transmission Withdrawal Rights (TWR) or (2) Incremental Delivery Rights, Incremental Auction Revenue Rights, and/or Incremental Capacity Transfer Rights.
 - i. If Applicant elects to receive TIRs or TWRs, specify (1) total project MWs to be evaluated as Firm (capacity) injection for TIR; (2) total project MWs to be evaluated as Non-firm (energy)

injection for TIR; (3) total project MWs to be evaluated as Firm (capacity) withdrawal for TWR; and (4) total project MWs to be evaluated as Non-firm (energy) withdrawal for TWR.

- ii. If Applicant elects to receive Incremental Delivery Rights, specify the location on the Transmission System where it proposes to receive Incremental Delivery Rights associated with its proposed facilities.
- h. If the proposed facilities will be Controllable A.C. Merchant Transmission Facilities, and provided that Applicant contractually binds itself in its interconnection-related service agreement always to operate its Controllable A.C. Merchant Transmission Facilities in a manner effectively the same as operation of D.C. transmission facilities, the interconnection-related service agreement will provide Applicant with the same types of transmission rights that are available under the Tariff for Merchant D.C. Transmission Facilities. In the Application, Applicant shall represent that, should it execute an interconnection-related service agreement for its project described in the Application, it will agree in the interconnection-related service agreement to operate its facilities continuously in a controllable mode.
- i. Specify the site where Applicant intends to install its major equipment, and provide a detailed site plan.
- j. Submit required evidence of Site Control for the major equipment, including a certification by an officer or authorized representative of Applicant; and, at Transmission Provider's request, copies of landowner attestations or county recordings.
- k. Provide evidence acceptable to Transmission Provider that Applicant has submitted a valid interconnection request with the adjacent Control Area(s) in which it is interconnecting, as applicable. Applicant shall maintain its queue position(s) with such adjacent Control Area(s) throughout the entire PJM Transmission Interconnection Request process for the relevant PJM Transmission Interconnection Request. If Applicant fails to maintain its queue position(s) with such adjacent Control Area(s) throughout the entire PJM Transmission Interconnection Request process for the relevant PJM Transmission Interconnection Request, the relevant PJM Transmission Interconnection Request shall be deemed to be terminated and withdrawn.

5. Additional Requirements Applicable to All Applications

- a. Study Deposit: For Transmission Provider to consider an Application complete, Transmission Provider must receive from the Applicant the

required Study Deposit by wire transfer, the amount of which is based on the size of the project or projects as described below. Applicant's wire transfer must specify the Application reference number to which the Study Deposit corresponds, or Transmission Provider will not review or process the Application.

- i. Ten percent of the Study Deposit is non-refundable. If Applicant withdraws its New Service Request, or the New Service Request is otherwise deemed rejected or terminated and withdrawn, any unused portion of the non-refundable deposit monies shall be used to fund:
 - (a) Any outstanding monies owed by Applicant in connection with outstanding invoices due to Transmission Provider, Transmission Owner(s), and/or third party contractors, as applicable, as a result of any failure of Applicant to pay actual costs associated with the New Service Request;
 - (b) Any restudies required as a result of the rejection, termination, and/or withdrawal of such New Service Request; and/or
 - (c) Any outstanding monies owed by Applicant in connection with outstanding invoices related to other New Service Requests.
- ii. Ninety percent of the Study Deposit is refundable, and Transmission Provider shall utilize, in no particular order, the refundable portion of each total deposit amount to cover the following:
 - (a) The cost of the Application review;
 - (b) The dollar amount of Applicant's cost responsibility for the System Impact Study; and
 - (c) If the New Service Request is modified, rejected, terminated, and/or withdrawn, refundable deposit money shall be applied to cover all of the costs incurred by Transmission Provider up to the point of the New Service Request being modified, rejected, terminated and/or withdrawn, and any remaining refundable deposit monies shall be applied to cover:

- (i) The costs of any restudies required as a result of the modification, rejection, termination, and/or withdrawal of the New Service Request;
 - (ii) Any outstanding monies owed by Applicant in connection with outstanding invoices due to Transmission Provider, Transmission Owner(s), and/or third party contractors, as applicable, as a result of any failure of Applicant to pay actual costs associated with the New Service Request; and/or
 - (iii) Any outstanding monies owed by Applicant in connection with outstanding invoices related to other New Service Requests.
 - (d) If any refundable deposit monies remain after all costs and outstanding monies owed, as described in this section, are covered, such remaining refundable deposit monies shall be returned to Applicant in accordance with the PJM Manuals.
- iii. The Study Deposit is non-binding, and actual study costs may exceed the Study Deposit.
 - (a) Applicant is responsible for, and must pay, all actual study costs.
 - (b) If Transmission Provider sends Applicant notification of additional study costs, then Applicant must either: (i) pay all additional study costs within 20 Business Days of Transmission Provider sending the notification of such additional study costs or (ii) withdraw its New Service Request. If Applicant fails to complete either (i) or (ii), then Transmission Provider shall deem the New Service Request to be terminated and withdrawn.
- iv. The Study Deposit shall be calculated as follows, based on the number of MW energy (e.g., Maximum Facility Output) or MW capacity (e.g., Capacity Interconnection Rights), whichever is greater:
 - (a) Up to 20 MW: \$75,000;
 - (b) Over 20 MW up to 50 MW: \$200,000;
 - (c) Over 50 MW up to 100 MW: \$250,000;

- (d) Over 100 MW up to 250 MW: \$300,000;
- (e) Over 250 MW up to 750 MW: \$350,000; and
- (f) Over 750 MW: \$400,000.

b. Readiness Deposit: For Transmission Provider to consider an Application complete, Applicant must submit to Transmission Provider the required Readiness Deposit by wire transfer, letter of credit, or surety bond. Applicant's wire transfer, letter of credit, or surety bond must specify the Application reference number to which the Readiness Deposit corresponds, or Transmission Provider will not review or process the Application. Only one form of payment (wire transfer, letter of credit, or surety bond) may be submitted for each Readiness Deposit, but different forms of payment may be used for different Readiness Deposits. Readiness Deposit No. 1 shall be an amount equal to \$4,000 per MW energy (e.g., Maximum Facility Output) or per MW capacity (e.g., Capacity Interconnection Rights), whichever is greater, as specified in the Application.

B. Application Review Phase

1. After the close of the Application Deadline, Transmission Provider will begin the Application Review Phase, wherein Transmission Provider reviews Applications received from Project Developers for completeness and then establishes the validity of such submitted Applications, beginning with a deficiency review, as follows:
 - a. Transmission Provider will inform Applicant of Application deficiencies within 15 Business Days after the Application Deadline.
 - b. Applicant then has 10 Business Days to respond to Transmission Provider's deficiency determination.
 - c. Transmission Provider then will review Applicant's response within 15 Business Days, and then will either validate or reject the Application.
2. After the close of the Application Deadline, Transmission Provider will begin the Application Review Phase, wherein Transmission Provider reviews Applications received from Eligible Customers for completeness and then establishes the validity of such submitted Applications.
3. Transmission Provider will only review an Application during the Application Review Phase following the Application Deadline for which the Application was submitted and deemed complete, which will extend for 90 days ~~or the amount of~~

~~time it takes to complete all Application review activities for the relevant Cycle, whichever is greater.~~

4. During the Application Review Phase, and at least 30 days prior to initiating Phase I of the Cycle, Transmission Provider will post the Phase I Base Case data for review, subject to CEII protocols. At the same time Transmission Provider posts the Phase I Base Case Data for review, Transmission Provider will post to its website the required information on the projects in the Cycle.
5. In the case of an Application for a Generating Facility, the Application Review Phase will include a Site Control review for the Generating Facility/ies. Specifically, Applicant shall provide Site Control evidence, as set forth in Tariff, Part VIII, Subpart A, section 402, for at least a one-year term beginning from the Application Deadline, for 100 percent of the Generating Facility/ies Site including the location of the high-voltage side of the Generating Facility's main power transformer(s). In addition, Applicant shall provide a certification, executed by an officer or authorized representative of Applicant, verifying that the Site Control requirement is met. Further, at Transmission Provider's request, Applicant shall provide copies of landowner attestations or county recordings. The Site Control requirement in the Application includes an acreage requirement for the Generating Facility/ies, as set forth in Manual 14H, Section 7 and on Transmission Provider's website under Planning.
6. In the case of an Application for Merchant Transmission, the Application Review Phase will include a Site Control review for the Site of the HVDC converter station(s), phase angle regulator (PAR), and/or variable frequency transformer, as applicable. Specifically, Applicant shall provide Site Control evidence, as set forth in Tariff, Part VIII, Subpart A, section 402 for at least a one-year term beginning from the Application Deadline, for 100 percent of the Site. In addition, Applicant shall provide a certification, executed by an officer or authorized representative of Applicant, verifying that the Site Control requirement is met. Further, at Transmission Provider's request, Applicant shall provide copies of landowner attestations or county recordings.

C. Scoping Meetings

1. During the Application Review Phase, Transmission Provider will hold a single, or several, scoping meetings for projects in each Transmission Owner zone, unless Applicants, Transmission Owner, and Transmission Provider mutually agree that a scoping meeting is not necessary.
2. Scoping meetings may include discussion of potential Affected System needs, whereby Transmission Provider may coordinate with Affected System Operators the conduct of required studies.

D. Other Requirements

1. Applicant must submit any claim for Capacity Interconnection Rights from deactivating generation units with the Application, and it must be received by Transmission Provider prior to the Application Deadline.
2. For Project Developers submitting one or more Generation Interconnection Requests resulting in multiple Generating Facilities, either existing or planned, behind a single Point of Interconnection, all such Generating Facilities must share Project Developer Interconnection Facilities. ~~Such Generation Interconnection Request(s) are subject to the additional shared Interconnection Facilities requirements and co-located generating facilities requirements in Tariff, Part VIII, Subpart B, section 403(A)(1)(h) and Tariff, Part IX, Subpart B, Schedule M.~~ This provision does not relieve Project Developers from any obligations concerning Site Control under Tariff, Part VIII, Subpart B, section 402.
3. When an Application results in a valid New Service Request, Transmission Provider shall confirm the assigned Project Identifier to the New Service Request, in accordance with Tariff, Part VIII, Subpart E, section 412. Applicant and Transmission Provider shall reference the Project Identifier in all correspondence, submissions, wire transfers, documents, and other materials relating to the New Service Request.
4. Evaluation of Alternative Transmission Technologies. Project Developer may request that Transmission Provider evaluate, as part of the Phase I System Impact Study, the use of static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting. Project Developer must request in its Application that the evaluation be made and must provide to Transmission Provider by the Application Deadline all the requisite model information to allow Transmission Provider to evaluate the requested technology. Failure to provide required technical modeling information, as specified in Manual 14H, by the Application Deadline will terminate the Project Developer's request to evaluate the specific alternative transmission technology.

Tariff, Part VIII, Subpart C, section 404
Introduction

A. Phase I, Phase II and Phase III System Impact Studies

1. Introduction

Tariff, Part VIII, Subpart C sets forth the procedures and other terms governing the Transmission Provider's administration of the studies and procedures required under the Cycle process, and the nature and timing of such studies. The Cycle process set forth in Tariff, Part VIII includes three study Phases and the three Decision Points:

- a. Phase I System Impact Study
- b. Decision Point I
- c. Phase II System Impact Study
- d. Decision Point II
- e. Phase III System Impact Study
- f. Decision Point III.

Procedures and other terms relative to the three study Phases are set forth separately below in Tariff, Part VIII, Subpart C, sections 405, 407, and 409.

2. Overview of System Impact Studies

- a. The Phase I, Phase II and Phase III System Impact Studies are a regional analysis of the effect of adding to the Transmission System the new facilities and services proposed by valid New Service Requests and an evaluation of their impact on deliverability to the aggregate of PJM Network Load.
 - i. These studies identify the system constraints, identified with specificity by transmission element or flowgate, relating to the New Service Requests included therein and any resulting Interconnection Facilities, Network Upgrades, and/or Contingent Facilities required to accommodate such New Service Requests.
 - ii. These studies provide estimates of cost responsibility and construction lead times for new facilities required to interconnect the project and system upgrades.

- iii. Transmission Provider, in its sole discretion, can aggregate multiple New Service Requests at the same Point of Interconnection for purposes of Phase I, Phase II and Phase III System Impact Studies.
- iv. The scope of the studies may include (a) an assessment of sub-area import deliverability, (b) an assessment of sub-area export deliverability, (c) an assessment of project related system stability issues (only occurs in Phase II and Phase III); (d) an assessment of project-related short circuit duty issues (only occurs in Phase II and Phase III), (e) a contingency analysis consistent with NERC's and each Applicable Regional Entity's reliability criteria and the transmission planning criteria, methods and procedures described in the "FERC Form No. 715 - Annual Transmission Planning and Evaluation Report" for each Applicable Regional Entity, (f) an assessment of regional transmission upgrades that most effectively meet identified needs, and (g) an analysis to determine cost allocation responsibility for required facilities and upgrades.
- v. For purposes of determining necessary Interconnection Facilities and Network Upgrades, these studies shall consider the level of service requested in the New Service Request unless otherwise required to study the full electrical capability of the New Service Request due to safety or reliability concerns.
- vi. The studies' results shall include the list and facility loading of all reliability criteria violations specific to the New Service Requests.
- vii. If applicable, the studies for a Transmission Project Developer New Service Request shall also include a preliminary estimate of the Incremental Deliverability Rights associated with the Transmission Project Developer's proposed Merchant Transmission Facilities.

3. Contingent Facilities

Transmission Provider shall identify the Contingent Facilities in the System Impact Studies by reviewing unbuilt Interconnection Facilities and/or Network Upgrades, upon which the New Service Request's cost, timing and study findings are dependent and, if delayed or not built, could cause a need for interconnection restudies of the New Service Request or reassessment of the Network Upgrades. The method for identifying Contingent Facilities shall be sufficiently transparent to determine why a specific Contingent Facility was identified and how it relates to the New Service Request. Transmission Provider shall include the list of the Contingent Facilities in the System Impact Study(ies) and Generator Interconnection Agreement, including why a specific Contingent Facility was

identified and how it relates to the New Service Request. Transmission Provider shall also provide, upon request of the Project Developer or Eligible Customer, the estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time of each identified Contingent Facility when this information is readily available and non-commercially sensitive.

a. Minimum Thresholds to Identify Contingent Facilities

i. Load Flow Violations

Load flow violations will be identified based on an impact on an overload of at least five percent distribution factor (DFAX) or contributing at least five percent of the facility rating in the applicable model.

ii. Short Circuit Violations

Short circuit violations will be identified based on the following criteria: any contribution to an overloaded facility where the New Service Request increases the fault current impact by at least one percent or greater of the rating in the applicable model.

iii. Stability and Dynamic Criteria Violations

Stability and dynamic criteria violations will be identified based on any contribution to a stability violation.

4. Additional System Impact Study Procedures for Eligible Customers

The following provisions apply to System Impact Studies conducted for Eligible Customers:

- a. The Transmission Provider will notify Eligible Customers of the need to conduct a System Impact Study whenever the Transmission Provider determines that available transmission capability may not be sufficient to provide the requested firm service(s). The purpose of the System Impact Study will be to determine the effect the requested service(s) will have on system operations, identify any system constraints, redispatch options and whether system expansion will be required to provide the requested service(s).
- b. The Commission's comparability standard will be applied in evaluating the impact of all requests. Specifically, the Transmission Provider will use the same due diligence in completing System Impact Studies for Eligible Customers that it uses when completing studies for any Transmission Owner that requests service from the Transmission Provider.

- c. Requests for long-term firm transmission service will be evaluated, to the extent possible, as a part of the on-going planning process for Bulk Transmission Supply in the PJM Region. Appropriate planning studies will be conducted annually to assess the capability of the PJM Region Transmission System to deliver the planned Network Resources to the Forecasted Network Loads of the existing load serving entities and any prior committed Firm Point-to-Point Service transmission customers. The loads and resources of Eligible Customers requesting new or additional service during the normal planning cycle will be incorporated into this aggregate planning process along with the loads and resources of all other Firm Point-to-Point and load serving entities for which prior commitments to provide service have been made. Requests for long-term firm service made at times that will not permit the evaluation of impacts as part of the normal planning process, and requests for short-term firm service, will require that special impact studies be completed.
- d. The Transmission Provider plans and evaluates the PJM Region Transmission System in strict compliance with the following:
 - i. North American Electric Reliability Council ("NERC") Reliability Principles and Guides
 - ii. Applicable Standards
 - iii. Transmission planning criteria, methods and procedures described in the "FERC Form No. 715 - Annual Transmission Planning and Evaluation Report" for each Applicable Regional Entity.
- e. In evaluating the impact of any request for new or additional service(s), the Transmission Provider will first determine the capability of the system to reliably provide prior committed Network and Point-to-Point service for the term of the requested new or additional service(s), or the normal planning horizon (generally 10 years), whichever is shorter. Requests for new or additional service(s) will then be incorporated into the system representation data and the appropriate system analyses will be completed to evaluate the impacts of the requested services.

5. Cost Allocation for Network Upgrades

- a. General: Each Project Developer and Eligible Customer shall be obligated to pay for 100 percent of the costs of the minimum amount of Network Upgrades necessary to accommodate its New Service Request and that would not have been incurred under the Regional Transmission Expansion Plan but for such New Service Request, net of benefits resulting from the construction of the upgrades, such costs not to be less than zero. Such costs and benefits shall include costs and benefits such as those associated

with accelerating, deferring, or eliminating the construction of Network Upgrades included in the Regional Transmission Expansion Plan either for reliability, or to relieve one or more transmission constraints and which, in the judgment of the Transmission Provider, are economically justified; the construction of Network Upgrades resulting from modifications to the Regional Transmission Expansion Plan to accommodate the New Service Request; or the construction of Supplemental Projects.

- b. Cost Responsibility for Accelerating Network Upgrades included in the Regional Transmission Expansion Plan: Where the New Service Request calls for accelerating the construction of Network Upgrades that is included in the Regional Transmission Expansion Plan and provided that the party(ies) with responsibility for such construction can accomplish such an acceleration, the Project Developer or Eligible Customer shall pay all costs that would not have been incurred under the Regional Transmission Expansion Plan but for the acceleration of the construction of the upgrade. The Responsible Customer(s) designated pursuant to Schedule 12 of the Tariff as having cost responsibility for such Network Upgrade shall be responsible for payment of only those costs that the Responsible Customer(s) would have incurred under the Regional Transmission Expansion Plan in the absence of the New Service Request to accelerate the construction of the Network Upgrade.
- c. The Transmission Provider shall determine the minimum amount of Network Upgrades required to resolve each reliability criteria violation in each Cycle, by studying the impact of the projects the Cycle in their entirety, and not incrementally. Interconnection Facilities and Network Upgrades shall be studied in their entirety and according to the following process:

The Transmission Provider shall identify the New Service Requests in the Cycle contributing to the need for the required Network Upgrades within the Cycle. All New Service Requests that contribute to the need for a Network Upgrade will receive cost allocation for that Network Upgrade in accordance with the Tariff.

There will be no inter-Cycle cost allocation for Interconnection Facilities or Network Upgrades identified in the System Impact Study; all such costs shall be allocated to New Service Requests in that Cycle.

d. Cost allocation:

- i. Substation Network Upgrades, including all switching stations, shall be allocated first per capita to Interconnection Facilities interconnecting to the substation at the same voltage level, and

then per capita to each New Service Request sharing the Interconnection Facilities.

- ii. System Network Upgrades shall be allocated based on the Proportional Impact Method applied to each individual New Service Request in the Cycle. This proportional allocation methodology will apply, but is not limited to, the following categories: (i) thermal, which will be cost allocated per the pro rata share of MW impact of Cycle projects on the constraints being alleviated by the System Network Upgrade, as further described in the PJM Manual 14H; or (2) non-thermal, which will be cost allocated per the pro rata share of impact of Cycle projects on the constraints being alleviated by the System Network Upgrade, as further described in PJM Manual 14H.

6. Interconnection Facilities

A Project Developer shall be responsible for all costs of the Interconnection Facilities necessary to accommodate its Generating Facility's interconnection to the Transmission System. Where Project Developers in the Cycle agree to share Interconnection Facilities, the cost of such Interconnection Facilities shall be allocated based on the number of Generating Facilities sharing use of such Interconnection Facilities on a per capita basis.

7. Facilities Study Procedures

The Facilities Studies will include good faith estimates of the cost, determined in accordance with Tariff, Part VIII, Subpart C, section 404(A)(5), (a) to be charged to each affected New Service Customer for the Interconnection Facilities and Network Upgrades that are necessary to accommodate each New Service Request evaluated in the study; (b) the time required to complete detailed design and construction of the facilities and upgrades; (c) a description of any site-specific environmental issues or requirements that could reasonably be anticipated to affect the cost or time required to complete construction of such facilities and upgrades.

The Facilities Study will document the engineering design work necessary to begin construction of any required transmission facilities, including estimating the costs of the equipment, engineering, procurement and construction work needed to implement the conclusions of the System Impact Study in accordance with Good Utility Practice and, when applicable, identifying the electrical switching configuration of the connection equipment, including without limitation: the transformer, switchgear, meters, and other station equipment; and the nature and estimated costs of Interconnection Facilities and Network Upgrades necessary to accommodate the New Service Request.

For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Facilities Study shall consider the level of Interconnection Service requested by the Project Developer unless otherwise required to study the full electrical capability of the Generating Facility or Merchant Transmission Facility due to safety or reliability concerns. The Facilities Study will also identify any potential control equipment for requests for Interconnection Service that are lower than the full electrical capability of the Generating Facility or Merchant Transmission Facility.

Tariff, Part VIII, Subpart C, section 405
Phase I

A. Phase I Rules

1. This Tariff, Part VIII, Subpart C, section 405 sets forth the procedures and other terms governing the Transmission Provider's administration of Phase I of the Cycle process. After the Application Phase of a Cycle is completed and a group of valid New Service Requests is established therein, Phase I of a Cycle will commence. During Phase I of a Cycle, the Transmission Provider shall conduct a Phase I System Impact Study.

a. The Phase I System Impact Study is conducted on an aggregate basis within a New Services Request's Cycle, and results are provided in a single Cycle format. The Phase I System Impact Study Results will be publicly available on Transmission Provider's website; Project Developers must obtain the results from the website.

b. Start and Duration of Phase I

i. Phase I shall start on the first Business Day immediately following the end of the Application Review phase, but no earlier than 30 days following the distribution of the Phase I Base Case Data. Transmission Provider shall complete Phase I within 120 calendar days from the date such phase commenced. If the 120th day does not fall on a Business Day, Phase I shall be extended to the end of the next Business Day. If Transmission Provider is unable to complete Phase I within 120 calendar days, Transmission Provider shall notify all impacted Project Developers and Eligible Customers simultaneously by posting on Transmission Provider's website a revised estimated completion date along with an explanation of the reasons why additional time is required to complete Phase I.

ii. During Phase I, and at least 30 days prior to initiating Decision Point I of the Cycle, Transmission Provider will post an estimated start date for Decision Point I in order for Project developers and Eligible Customers to prepare to meet their Decision Point I requirements.

c. Evaluation of Alternative Technologies.

i. If requested by a Project Developer in its Application, Transmission Provider will evaluate alternative technologies, as specified in Tariff, Part VIII, Subpart B, section 403(D)(4).

- ii. Transmission Provider shall evaluate each duly requested alternative transmission technology and determine in its sole discretion whether the specified technologies should be used, consistent with Good Utility Practice, Applicable Reliability Standards, and Applicable Laws and Regulations, as an alternative to traditional network upgrades. Transmission Provider shall include an explanation of the results of the Transmission Provider's evaluation, consistent with its Technical Reference Guides for advanced technologies, for each duly requested technology in the Phase I System Impact Study Report.

Tariff, Part VIII, Subpart C, section 407
Phase II

A. Phase II Rules

1. This Tariff, Part VIII, Subpart C, section 407 sets forth the procedures and other terms governing the Transmission Provider's administration of Phase II of the Cycle process. After the Decision Point I phase of a Cycle is completed and a group of valid New Service Requests is established therein, Phase II of a Cycle will commence. During Phase II of a Cycle, the Transmission Provider shall conduct the Phase II System Impact Study. Only New Service Requests meeting the requirements of Tariff, Part VIII, Subpart C, section 406, Decision Point I phase, will be included in the Phase II System Impact Study.
 - a. The Phase II System Impact Study analysis will retool load flow results based on decisions made during Decision Point I, and perform short circuit and stability analyses as required. Transmission Provider will post the Phase II Base Case data for review, subject to CEII protocols.
 - b. The Phase II System Impact Study will identify Affected Systems, if applicable.
 - i. If an Affected System Study Agreement is required, the Transmission Provider shall notify the Project Developer or Eligible Customer prior to the end of Phase II by posting on the Transmission Provider's website of the need for Project Developer or Eligible Customer to enter into an Affected System Study Agreement.
 - c. The Phase II System Impact Study Results will be publicly available on Transmission Provider's website; Project Developers and Eligible Customers must obtain the results from the website.
 - d. Facilities Study. During the Phase II System Impact Study, a Facilities Study shall also be conducted pursuant to Tariff, Part VIII, Subpart C, section 404(A)(7). The Phase II Facilities Study shall identify any needed Substation Network Upgrades and Interconnection Facilities, including any required easement routing.
 - e. Start and Duration of Phase II
 - i. Phase II shall start on the first Business Day immediately following the end of the Decision Point I unless the Decision Point III of the immediately preceding Cycle is still open. In no event shall Phase II of a Cycle commence before the conclusion of the Decision Point III Phase of the immediately preceding Cycle.

ii. The Transmission Provider shall complete Phase II within 180 days from the date such Phase II commenced. If the 180th day does not fall on a Business Day, Phase II shall be extended to end on the next Business Day. If the Transmission Provider is unable to complete Phase II within 180 days, the Transmission Provider shall notify all impacted Project Developers simultaneously by posting on Transmission Provider's website a revised estimated completion date along with an explanation of the reasons why additional time is required to complete Phase II.

f. Evaluation of Alternative Technologies.

i. If requested by a Project Developer at the appropriate time and with the requisite information, Transmission Provider will evaluate alternative technologies, as specified in Tariff, Part VIII, Subpart B, section 403(D)(4) and Tariff, Part VIII, Subpart C, section 406(A)(1)(i), ~~for the benefit of all projects in the Cycle.~~

ii. Transmission Provider shall evaluate each duly requested alternative transmission technology and determine in its sole discretion whether the specified technologies should be used, consistent with Good Utility Practice, Applicable Reliability Standards, and Applicable Laws and Regulations, as an alternative to traditional network upgrades. Transmission Provider shall include an explanation of the results of the Transmission Provider's evaluation, consistent with its Technical Reference Guides for advanced technologies, for each duly requested technology in the Phase II System Impact Study Report.

Tariff, Part VIII, Subpart C, section 409
Phase III

A. Phase III Rules

1. This Tariff, Part VIII, Subpart C, section 409 sets forth the procedures and other terms governing the Transmission Provider's administration of Phase III of the Cycle process. After Decision Point II of a Cycle is completed and a group of valid New Service Requests is established therein, Phase III of a Cycle will commence. During Phase III of a Cycle, the Transmission Provider shall conduct a Phase III System Impact Study. Only New Service Requests meeting the requirements of Tariff, Part VIII, Subpart C, section 408, Decision Point II, will be included in the Phase III System Impact Study.
 - a. The Phase III System Impact Study analysis will retool load flow, short circuit, and stability results based on decisions made in Decision Point II. Transmission Provider will post the Phase III Base Case data for review, subject to CEII protocols.
 - b.
 - i. The Phase III System Impact Study will include a final Affected System study, if applicable.
 - ii. The Phase III System Impact Study may include further evaluation as to alternative technologies, as specified in Tariff, Part VIII, Subpart B, section 403(D)(4) and Tariff, Part VIII, Subpart C, section 406(A)(1)(i), that Transmission Provider has been asked to evaluate pursuant to Tariff, Part VIII, Subpart C, section 405(A)(1)(c) or section 407(A)(1)(f), and, if so, the Phase III System Impact Study Report will include an explanation of the results of the Transmission Provider's evaluation, consistent with its Technical Reference Guides for advanced technologies, for each technology.
 - c. Phase III System Impact Study results will be publicly available on Transmission Provider's website; Project Developers and Eligible Customers must obtain the results from the website.
 - d. Facilities Study. During the Phase III System Impact Study, a Facilities Study shall also be conducted pursuant to Tariff, Part VIII, Subpart C, section 404(A)(7). The Phase III Facilities Study shall identify any needed System Network Upgrades.
 - e. Start and Duration of Phase III

- i. Phase III shall start on the first Business Day immediately following the end of Decision Point II unless the Final Agreement Negotiation Phase of the immediately preceding Cycle is still open. In no event shall Phase III of a Cycle commence before the conclusion of the Final Agreement Negotiation Phase of the immediately preceding Cycle.
- ii. The Transmission Provider shall complete Phase III within 180 days from the date such Phase III commenced. If the 180th day does not fall on a Business Day, Phase III shall be extended to end on the next Business Day. If the Transmission Provider is unable to complete Phase III within 180 days, the Transmission Provider shall notify all impacted Project Developers or Eligible Customers simultaneously by posting on Transmission Provider's website a revised estimated completion date along with an explanation of the reasons why additional time is required to complete Phase III.

f. Draft Agreement

Prior to the Final Agreement Negotiation Phase, Transmission Provider shall provide in electronic form a draft interconnection related agreement from Tariff, Part IX, as applicable to the Project Developer's or Eligible Customer's New Service Request, along with any applicable draft schedules, to the parties to such interconnection related agreement.

Tariff, Part VIII, Subpart G, section 434
Coordination with Affected Systems

- A. Transmission Provider will coordinate with Affected System Operators the conduct of any studies required to determine the impact of New Service Requests on Affected Systems in accordance with this Tariff and its joint operating agreements and joint reliability coordination agreements with Affected System Operators.
1. Initial Notification. Transmission Provider shall perform an initial screening study to determine potential Affected System impacts caused by the New Service Requests in a Cycle and provide to Affected System Operator a list of New Service Requests with potential Affected System impacts within thirty (30) calendar days of commencement of Phase I.
 2. Affected System Operator Response. Affected System Operator will provide to Transmission Provider within the time frame specified in Affected System Operator's open access transmission tariff or its joint operating agreements or joint reliability coordination agreements with Transmission Provider a list of the New Service Requests with potential Affected System impacts that Affected System Operator intends to study, with a request for contact information for the Project Developers and Eligible Customers that have made those New Service Requests. Transmission Provider shall notify Project Developer or Eligible Customer of the Affected System Operator's inclusion of its New Service Request on its list of New Service Requests the Affected System Operator intends to study.
 - a. Transmission Provider will include such Affected System Operators, subject to appropriate standards of conduct or non-disclosure agreements, in all meetings held with Project Developer as required in this Tariff, Part VIII.
 - b. The Project Developer or Eligible Customer will cooperate with the Transmission Provider in all matters related to the conduct of studies by Affected System Operators and the determination of modifications to Affected Systems needed to accommodate the New Service Request.
 - c. Transmission Provider shall contact any potential Affected System Operators and provide or otherwise coordinate information regarding each relevant New Service Request as required for the Affected System Operator's studies of the effects of such request.
 3. Study Agreement. If an affected system study agreement is required by the Affected System Operator, in order to remain in the relevant Cycle, Project Developer or Eligible Customer shall demonstrate to Transmission Provider that the Project Developer or Eligible Customer continues to meet the requirements of the Affected System Operator's process, including, but not limited to providing

~~evidence of a fully executed affected systems study agreement and acceptance of any required technical data and study deposits from the Affected System Operator enter into an affected system study agreement with the Affected System Operator and provide any required technical data and study deposit to the Affected System Operator~~ no later than: ~~(i) the conclusion of Decision Point II of the relevant Cycle, or (ii) twenty-five (25) Business Days after Transmission Provider sending notification to Project Developer or Eligible Customer of the need to enter into such Affected System Customer Impact Study Agreement.~~ If Project Developer or Eligible Customer fails to comply with these requirements, its New Service Request at issue shall be deemed terminated and withdrawn.

4. The Affected System Impact Study Report will be provided by Phase II of the relevant Cycle, if available. To the extent Affected System Impact Study results are included in the Phase II System Impact Study, the Project Developer shall be provided the opportunity to review such study results consistent with Tariff, Part VIII, Subpart C, section 407(A)(1)(c), as applicable
5. Notification of Changes in New Service Requests. Transmission Provider shall inform the Affected System Operator of any withdrawals of or modifications to the New Service Requests the Affected System Operator is studying for potential Affected System impacts within thirty (30) calendar days of the close of Decision Point I, the close of Decision Point II, and the close of Decision Point III, as applicable.
6.
 - a. The Project Developer or Eligible Customer shall be responsible for the costs of any identified facilities commensurate with the Affected System Operator's tariff's allocation of responsibility for such costs to such Project Developer or Eligible Customer if their project request had been initiated pursuant to such Affected System Operator's tariff.
 - b. Neither the Transmission Provider, the relevant Transmission Owner(s) associated with such New Service Request, nor the Affected System Operator shall be responsible for making arrangements for any necessary engineering, permitting, and/or construction of transmission or distribution facilities on any Affected System or for obtaining any regulatory approval for such facilities.
 - i. The Transmission Provider and the relevant Transmission Owner(s) will assist the Project Developer or Eligible Customer in obtaining such arrangements, including, without limitation, providing any information or data required by such other Affected System Operator pursuant to Good Utility Practice.

7. In no event shall the need for upgrades to an Affected System delay Initial Operation of a Project Developer's Generating Facility or Merchant Transmission Facility. Notwithstanding the start of Initial Operation, Transmission Provider reserves the right to limit Generating Facility injections in the event of potential Affected System impacts, in accordance with Good Utility Practice. Total injections may be limited pending coordination and completion of any necessary deliverability studies by the Affected System Operator.
- B. When Transmission Provider's system may be affected by a proposed interconnection on another transmission provider's transmission system (the host transmission provider), Transmission Provider shall cooperate with the host transmission provider in all matters related to the conduct of studies and the determination of modifications to Transmission Provider's Transmission System, consistent with any joint operating agreements or joint reliability coordination agreements Transmission Provider has with the host transmission provider.
1. Screening and Response to Host Transmission Provider's Initial Notification. When Transmission Provider receives initial notification that an Affected System Customer's proposed interconnection to its host transmission provider may affect Transmission Provider's Transmission System, Transmission Provider shall conduct a screening study of the proposed interconnection and respond to the host transmission provider in writing within twenty (20) Business Days whether it intends to conduct an Affected System Impact Study of the proposed interconnection and request the Affected System Customer's contact information.
 2. Affected System Customer Impact Study Agreement. Transmission Provider estimates that the Affected System Impact Study will require approximately 120 days after Transmission Provider receives all Affected System Customer's technical information and will cost approximately \$30,000. Unless otherwise agreed, Transmission Provider shall provide to Affected System Customer(s) an Affected System Customer Impact Study Agreement, in the form of Tariff, Part IX, Subpart O, within twenty-five (25) Business Days of Transmission Provider notifying the host transmission provider that it intends to conduct an Affected System Impact Study of the proposed interconnection.
 3. Execution of Agreement and Study Deposit. Affected System Customer(s) shall execute the Affected System Customer Impact Study Agreement, deliver the executed Affected System Customer Impact Study Agreement, and provide a \$30,000 Affected System Impact Study Deposit within ten (10) Business Days of receipt of the agreement.
 - a. The Affected System Impact Study Deposit amount is refundable and non-binding, and actual study costs may exceed the Affected System Impact Study Deposit amount. Affected System Customer is responsible for, and must pay, all actual study costs. If Transmission Provider sends Affected

System Customer notification of additional study costs, then Affected System Customer must either: (1) pay all additional study costs within 20 Business Days of Transmission Provider sending the notification of such additional study costs or (2) withdraw its Affected System Customer Impact Study Agreement. If Affected System Customer fails to complete either (1) or (2), then Transmission Provider shall deem the Affected System Customer Impact Study Agreement to be terminated and withdrawn. Transmission Provider shall inform the Affected System Operator of any such terminations and withdrawals of Affected System Customer Impact Study Agreements.

b. If Affected System Customer does not provide all required technical data when it delivers the Affected System Customer Impact Study Agreement, Transmission Provider shall notify the deficient Affected System Customer, as well as the host transmission provider with which Affected System Customer seeks to interconnect, of the technical data deficiency within fifteen (15) Business Days of the receipt of the executed Affected System Customer Impact Study Agreement and the deficient Affected System Customer shall cure the technical deficiency within ten (10) Business Days of receipt of the notice; provided, however, that such deficiency does not include failure to deliver the executed Affected System Customer Impact Study Agreement or deposit for the Affected System Customer Impact Study Agreement. If Affected System Customer does not cure the technical data deficiency within the cure period or fails to execute the Affected System Customer Impact Study Agreement or provide the deposit, the Affected System Customer shall lose its Affected System Queue Position.

4. Affected System Facility Identifier and Queue Position. Transmission Provider shall assign an Affected System Facility Identifier to each Affected System Facility that requires an Affected System Impact Study. Transmission Provider also shall assign a Queue Position to each Affected System Interconnection Customer that requires an Affected System Impact Study. Such Affected System Queue Position shall be determined based upon the queue priority date established in any joint operating agreements or joint reliability coordination agreements Transmission Provider has with the host transmission provider. In the event there is no such agreement or the agreement does not provide a queue priority date, Transmission Provider shall determine the Affected System Queue Position based upon the date of execution of the Affected System Customer Impact Study Agreement. This Affected System Queue Position shall be higher-queued than any Project Developer or Eligible Customer that has not yet received its Phase I System Impact Study Report and shall be lower-queued than any Project Developer or Eligible Customer that has already received its Phase I System Impact Study Report. Transmission Provider shall study the Affected System Customer(s) as a cluster and all Affected System Customers studied in the same

cluster under section 434(B)(5)(c) shall be equally queued. For Affected System Customers that are equally queued, the Affected System Queue Position shall have no bearing on the assignment of Affected System Network Upgrades identified in the applicable Affected System Impact Study Report.

5. Affected System Impact Study

- a. When all relevant Affected System Interconnection Customers have executed an Affected System Customer Impact Study Agreement, provided the associated deposit, and provided all the required technical data, Transmission Provider will perform the Affected System Impact Study. The Affected System Impact Study shall evaluate the impact that any Affected System Customer's proposed interconnection to another transmission provider's transmission system will have on the reliability of Transmission Provider's Transmission System and be completed in accordance with the joint operating agreement between Transmission Provider and Affected System Operator on file with the Commission PJM Manuals. Transmission Provider has no obligation to study impacts of Affected System Customers of which it is not notified.
- b. The Affected System Impact Study shall consist of power flow, stability, and short circuit analyses. The Affected System Impact Study Report will: state the assumptions upon which it is based; state the results of the analyses; and provide the potential impediments to Affected System Customer's receipt of interconnection service on its host transmission provider's transmission system, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. For purposes of determining necessary Affected System Network Upgrades, the Affected System Impact Study shall consider the level of interconnection service requested in megawatts by Affected System Customer, unless otherwise required to study the full generating facility capacity due to safety or reliability concerns.
- c. Transmission Provider shall use clustering in conducting the Affected System Impact Study and shall use existing studies to the extent practicable, when multiple Affected System Customers that are part of a single cluster may cause the need for Affected System Network Upgrades. Transmission Provider shall complete the Affected System Impact Study and provide the Affected System Impact Study Report to Affected System Customer(s) and the host transmission provider with whom interconnection has been requested within one hundred twenty (120) calendar days after it has received executed Affected System Customer Impact Study Agreements and the required deposits from all Affected System Customers in the cluster.

- d. Transmission Provider must study an Affected System Customer using the Energy Resource Interconnection Service modeling standard used for New Service Requests on its own Transmission System, regardless of the level of interconnection service that Affected System Customer is seeking from the host transmission provider with which it seeks to interconnect. PJM ~~also~~ shall apply the Individual Plant Deliverability test described in Manual 14B.
 - e. At the request of Affected System Customer, Transmission Provider shall notify Affected System Customer as to the status of the Affected System Impact Study. If Transmission Provider is unable to complete the Affected System Impact Study within the requisite time period, it shall notify Affected System Customer(s), as well as the transmission provider with which Affected System Customer seeks to interconnect, and shall provide an estimated completion date with an explanation of the reasons why additional time is required. If Transmission Provider does not meet the deadline in section 434(B)(5)(c), Transmission Provider shall be subject to financial penalties as described in section 438. Upon request, Transmission Provider shall provide Affected System Customer(s) with all supporting documentation and relevant power flow, short circuit and stability databases for the Affected System Impact Study, subject to confidentiality arrangements consistent with section 425.
 - f. If restudy of the Affected System Impact Study is required, Transmission Provider shall notify Affected System Customer(s) in writing within thirty (30) calendar days of discovery of the need for restudy. Such restudy shall take no longer than ninety (90) calendar days from the date of notice. Any cost of restudy shall be borne by the Affected System Customer(s) being restudied.
6. Allocation of Affected System Network Upgrade Costs. Transmission Provider shall allocate Affected System Network Upgrade costs identified during the Affected System Impact Study to Affected System Customer(s) using its Proportional Impact Method.
 7. Affected System Customer Facilities Study. If the Affected System Impact Study Report identifies Affected System Network Upgrades for which Affected System Customer is allocated costs, Transmission Provider shall tender to Affected System Customer an Affected System Customer Facilities Study Application and Agreement, in the form of Tariff, Part IX, Subpart L, within thirty (30) calendar days of providing the Affected System Impact Study Report. Within fifteen (15) Business Days of the receipt of the Affected System Customer Facilities Study Application and Agreement, the Affected System Interconnection Customer must execute the agreement and must provide the \$100,000 study deposit. Affected System Customer's failure to execute the Affected System Customer Facilities

Study Application and Agreement or its failure to provide the required study deposit shall result in the loss of its Affected System Queue Position and Transmission Provider shall inform the Affected System Operator of any such loss of Affected System Queue Position.

- a. The Affected System Customer Facilities Study deposit amount is refundable and non-binding, and actual study costs may exceed the deposit amount. Affected System Customer is responsible for, and must pay, all actual study costs. If Transmission Provider sends Affected System Customer notification of additional study costs, then Affected System Customer must either: (1) pay all additional study costs within 20 Business Days of Transmission Provider sending the notification of such additional study costs or (2) withdraw its Affected System Customer Facilities Study Application and Agreement. If Affected System Customer fails to complete either (1) or (2), then Transmission Provider shall deem the Affected System Customer Facilities Study Application and Agreement to be terminated and withdrawn. Transmission Provider shall inform the Affected System Operator of any such termination and withdrawal of an Affected System Customer Facilities Study Application and Agreement.
 - b. The Affected System Customer Facilities Study shall be completed and its results reported to the Affected System Customer and the host transmission provider with which interconnection has been requested within one hundred ~~twenty-eighty~~ (1820) calendar days after the receipt of the Affected System Customer Facilities Study Application and Agreement and deposit.
8. Construction/Cost Responsibility Agreements. Once Transmission Provider has issued and Affected System Customer has received the Affected System Customer Facility Study Report, Transmission Provider and Affected System Customer shall enter into a stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which are found in Tariff, Part IX) for the construction of the necessary Affected System Network Upgrades with each Transmission Owner responsible for constructing such upgrades if a Construction Service Agreement is required, or for each set of Common Use Upgrades on the system of such Transmission Owner if a Network Upgrade Cost Responsibility Agreement is required. Transmission Provider shall provide in electronic form a draft stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement.
- a. For purposes of applying the stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which are found in Tariff, Part IX) to the construction of such upgrades, the

developer of the Affected System Facility shall be deemed to be a Project Developer pursuant to Tariff, Part VIII.

- b. Such stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which are found in Tariff, Part IX) shall be negotiated and executed within 60 days of the Transmission Provider's issuance of a draft version thereof. If the 60th day does not fall on a Business Day, the phase shall be extended to end on the next Business Day. The 60 days shall run concurrently with the relevant Cycle process.
 - i. Security is required within 30 days of the Transmission Provider's issuance of the draft stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which are found in Tariff, Part IX). The Security obligation may be adjusted based on additional factors, including, but not limited to, New Service Requests or Upgrade Requests being withdrawn in the relevant Cycle. If the 30th day does not fall on a Business Day, the phase shall be extended to end on the next Business Day. If Affected System Customer does not post the full amount of the Security required, it will be withdrawn and shall lose its Affected System Queue Position and Transmission Provider shall inform the Affected System Operator of any such loss of Affected System Queue Position.
 - ii. Parties may use not more than 60 days to conduct negotiations concerning the draft Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement. Upon receipt of the draft agreement(s), Affected System Customer and Transmission Owner(s), as applicable, shall have no more than 20 Business Days to return written comments on the draft agreement(s). Transmission Provider shall have no more than 10 Business Days to respond and, if appropriate, provide revised draft(s) of the agreement(s) in electronic form. Transmission Provider, in its sole discretion, may allow more than 60 days for the Final Agreement Negotiation Phase.
- c. If the Affected System Customer or Transmission Owner, as applicable, determines that final agreement negotiations are at an impasse, such party shall notify the other parties of the impasse, and such party may request Transmission Provider to file the unexecuted Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement with FERC or request in writing dispute resolution as allowed under Tariff, Part I, section 12 or, if concerning the Regional Transmission Expansion Plan,

consistent with Operating Agreement, Schedule 5. If Transmission Provider, in its sole discretion, determines that the negotiations are at an impasse, Transmission Provider shall notify the other parties of the impasse, and may file the unexecuted Construction Service Agreement with the FERC.

- d. Not later than 15 Business Days after receipt of the final Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement, Project Developer or Affected System Customer shall either:
 - i. execute the final Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement in electronic form and return it to Transmission Provider electronically;
 - ii. request in writing dispute resolution as allowed under Tariff, Part I, section 12 or, if concerning the Regional Transmission Expansion Plan, consistent with Operating Agreement, Schedule 5; or
 - iii. request in writing that Transmission Provider file with FERC the final Construction Service Agreement or Network Upgrade Cost Responsibility Agreement unexecuted, with the unexecuted Construction Service Agreement or Network Upgrade Cost Responsibility Agreement containing terms and conditions deemed appropriate by Transmission Provider, and provide any required adjustments to Security.

- e. If Affected System Customer executes the final interconnection related service agreement, then, not later than 15 Business Days after PJM sends notification to the relevant Transmission Owner, the relevant Transmission Owner shall either:
 - i. execute the final Construction Service Agreement in electronic form and return it to Transmission Provider electronically;
 - ii. request in writing dispute resolution as allowed under Tariff, Part I, section 12 or, if concerning the Regional Transmission Expansion Plan, consistent with Operating Agreement, Schedule 5; or
 - iii. request in writing that Transmission Provider file with FERC the final Construction Service Agreement unexecuted, with the unexecuted Construction Service Agreement containing terms and conditions deemed appropriate by Transmission Provider, and provide any required adjustments to Security.

- f. Parties may not proceed under such Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement until: (i) 30 days after such agreement, if executed and nonconforming, has been filed with the Commission; (ii) such agreement, if unexecuted, has been filed with and accepted by the Commission; or (iii) the earlier of 30 days after such agreement, if conforming, has been executed or has been reported in Transmission Provider's Electronic Quarterly Reports.

Tariff, Part VIII, Subpart K, section 438
Penalties for Failure to Meet Study Deadlines

- A. Transmission Provider shall be subject to a penalty if it fails to complete a Phase I System Impact Study, Phase II System Impact Study (which may include the Affected System Impact Studies by other transmission providers where Transmission Provider is the host transmission provider and Facilities Studies that are part of the Phase II study and report), Phase III System Impact Study (which may include the Facilities Studies that are part of the Phase III study and report), or Affected System Study by the applicable deadline set forth in this Tariff, Part VIII. Transmission Provider must pay the penalty for each late Phase I System Impact Study, Phase II System Impact Study, and Phase III System Impact Study on a pro rata basis per New Service Request to all Project Developer(s) included in the relevant study that did not withdraw, or were not deemed withdrawn, from Transmission Provider's interconnection queue before the missed study deadline, in proportion to each Project Developer's final study cost. Transmission Provider must pay the penalty for a late Affected Systems Study on a pro rata basis per New Services Request to all Affected System Project Developer(s) included in the relevant Affected System Study that did not withdraw, or were not deemed withdrawn, from the host transmission provider's interconnection queue before the missed study deadline, in proportion to each Affected System Interconnection Customer's final study cost. The study delay penalty for each late study shall be distributed no later than forty-five (45) Calendar Days after the late study has been completed.
- B. For penalties assessed in accordance with this section 438, the penalty amount will be equal to: \$1,000 per Business Day for delays of Phase I System Impact Studies beyond the applicable deadline set forth in this Tariff, Part VIII; \$2,000 per Business Day for delays of Phase II System Impact Studies and Phase III System Impact Studies beyond the applicable deadline set forth in this Tariff, Part VIII; and \$2,000 per Business Day for delays of Affected System Studies beyond the applicable deadline set forth in this Tariff, Part VIII. The total amount of a penalty assessed under this section 438 shall not exceed: (1) one hundred percent (100%) of the initial study deposit(s) received for all of the New Service Requests in the Cycle for Phase I System Impact Studies, Phase II System Impact Studies, and Phase III System Impact Studies; and (2) one hundred percent (100%) of the study deposit(s) that Transmission Provider collects for conducting the Affected System Study.
- C. Transmission Provider may appeal to the Commission any penalties imposed under this section 438. Any such appeal must be filed no later than forty-five (45) Calendar Days after the late study has been completed. While an appeal to the Commission is pending, Transmission Provider shall remain liable for the penalty, but need not distribute the penalty until forty-five (45) Calendar Days after (1) the deadline for filing a rehearing request has ended, if no requests for rehearing of the appeal have been filed, or (2) the date that any requests for rehearing of the Commission's decision on the appeal are no longer pending before the Commission. The Commission may excuse Transmission Provider from penalties under this section 438 for good cause.

- D. No penalty will be assessed under this section 438 where a study is delayed by ten (10) Business Days or less. If the study is delayed by more than ten (10) Business Days, the penalty amount will be calculated from the first Business Day Transmission Provider misses the applicable study deadline.
- E. If (a) Transmission Provider needs to extend the deadline for a particular study subject to penalties under this Section and (b) all Project Developers or Affected System Customers included in the relevant study mutually agree to such an extension, the deadline for that study shall be extended thirty (30) Business Days from the original deadline. In such a scenario, no penalty will be assessed for Transmission Provider missing the original deadline. If Transmission Provider is delayed in completing (1) a Phase II System Impact Study by a delay in a neighboring transmission provider completing Affected System Studies where Transmission Provider is the host system; (2) a Phase I System Impact Study, Phase II System Impact Study, Phase III System Impact Study by a delay in a Transmission Owner's review of preliminary results of such study; or (3) a Phase II System Impact Study or Phase III System Impact Study by a delay in a Transmission Owner's performance of a Facilities Study, Transmission Provider may extend the deadline on a day-for-day basis, up to thirty (30) calendar days, for any of the delays referenced above. In such a scenario, no penalty will be assessed for Transmission Provider missing the original deadline. If the study is delayed by more than thirty (30) Business Days, the penalty amount will be calculated from the first Business Day Transmission Provider misses the applicable study deadline.
- F. ~~The penalty regime under this section 438 shall not be implemented until the start of studies for the third Cycle after the Commission approved effective date of Transmission Provider's filing made in compliance with the Final Rule in Docket No. RM22-14-000.[Reserved]~~
- G. Transmission Provider must maintain on its public website summary statistics related to penalties assessed under this section 438, updated semi-annually. For each reporting period, Transmission Provider must calculate and post (1) the total amount of penalties assessed under this section 438 during the previous reporting period and (2) the highest penalty assessed under this Section paid to a single Project Developer or Affected System Project Developer during the previous reporting period. Transmission Provider must post on its website these penalty amounts for each reporting period within thirty (30) Calendar Days. Consistent with section 438(F), Transmission Provider must maintain the semi-annual measures posted on its website for a rolling three (3) calendar years basis.
- H. ~~Subject to the appeal provisions in section 438(C), Transmission Provider shall pay any study delay penalty imposed on it from the non-refundable portion of the Study Deposits it collects from Project Developers.~~

Tariff, Part IX, Subpart A

**Form of
Application and Studies Agreement**

1. This Application and Studies Agreement (“Application” or “Agreement”), dated _____, is entered into by and between _____ (Project Developer or Eligible Customer, hereafter “Applicant”) and PJM Interconnection, L.L.C. (“Transmission Provider” or “PJM”) (individually a “Party” and together the “Parties”) pursuant to PJM Interconnection, L.L.C. Open Access Transmission Tariff (“Tariff”), Part VII, Subpart C or Part VIII, Subpart B. Capitalized terms used in this Application, unless otherwise indicated, shall have the meanings ascribed to them in Tariff, Part VII, Subpart A, section 300 or Part VIII, Subpart A, section 400.

2. Prior to the Application Deadline, Applicant must electronically provide to Transmission Provider through the PJM website or OASIS, as applicable, all applicable information identified below, which is then subject to validation during the Application Phase as set forth in Tariff, Part VII, Subpart C or Tariff, Part VIII, Subparts B and C and in the PJM Manuals. Only valid New Service Requests will proceed past the Application Phase.

3. Before Transmission Provider will review or process the Application, in addition to submitting a completed and signed Application prior to the Application Deadline, Applicant must electronically submit to Transmission Provider prior to the Application Deadline the (i) required cash Study Deposit by wire transfer and (ii) required Readiness Deposit by wire transfer, letter of credit, or surety bond. Applicant’s wire transfer(s), letter(s) of credit, or surety bond(s) must specify the Application reference number to which the Study Deposit and Readiness Deposit correspond, or Transmission Provider will not review or process the Application.

SECTION 1: APPLICANT INFORMATION

4. Name, address, telephone number, and e-mail address of Applicant. If Applicant has designated an agent, include the agent’s contact information.

Applicant

Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

Applicant’s Agent (if applicable)

Company Name: _____

Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Email: _____
Agent's contact person: _____

5. An Internal Revenue Service Form W-9 or comparable state-issued document for Applicant.
6. Documentation proving the existence of a legally binding relationship between Applicant and any entity with a vested interest in this Application and associated project (*e.g.*, a parent company, a subsidiary, or financing company acting as agent for Applicant). Such documentation may include, but is not limited to, Applicant's Articles of Organization and Operating Agreement describing the nature of the legally binding relationship.
7. Applicant's banking information, or the banking information of any entity with a legally binding relationship to Applicant that wishes to make payments and receive refunds on behalf of Applicant, in association with this Application and corresponding project:

Bank Name: _____
Account Holder Name: _____
ABA number: _____
Account Number: _____
Company: _____
Tax Reporting Name: _____
Tax ID: _____
Address: _____
City: _____
State: _____
Zip: _____
Phone: _____
Email: _____

8. If the Application is a request for long-term firm transmission service, see section 3.
9. Location of the proposed Point of Interconnection (POI) to the Transmission System, including the substation name or the name of the line to be tapped (including the voltage),

the estimated distance from the substation endpoints of a line tap, address, and GPS coordinates.

POI substation name: _____ or
POI line name: _____ (endpoint 1) to _____ (endpoint 2)
POI Distance from endpoint 1: _____ miles
POI Distance from endpoint 2: _____ miles
Interconnection voltage: _____ kV
Address: _____
City: _____ State: _____ Zip Code: _____
GPS Coordinates: _____ N _____ W

10. If the project is a Merchant Transmission Facility, see section 4.

SECTION 2: GENERATING FACILITY SPECIFICATIONS

11. Specify the nature of the Generating Facility project.

____ New Generating Facility

____ Increase in generation capability of an existing Generating Facility

____ Replacement of existing Generating Facility with no increase in generation capability

12. Specify the type of Interconnection Service requested for the Generating Facility.

____ Energy Resource only

____ Capacity Resource (includes Energy Resource) with Capacity Interconnection Rights

13. Provide the following information about the Generating Facility:

- a. Generating Facility location and site plan:

Provide a physical address or equivalent written description of the location of the Generating Facility, as well as global positioning system (GPS) coordinates. When known, provide GPS coordinates for the location of the Generating Facility's main power transformer(s).

Provide a current site plan in PDF depicting the (1) property boundaries; (2) Generating Facility layout, including the Generating Facility's collector substation (if applicable) or interconnection switchyard (if required); and (3) Interconnection Facilities extending from the Generating Facility's main power transformer(s) to the proposed POI.

b. Generating Facility Site Control:

In accordance with Tariff, Part VII, Subpart A, section 302 or Part VIII, Subpart A, section 402, provide evidence of an ownership interest in, or right to acquire or control through a deed, lease, or option for at least a one-year term beginning from the Application Deadline, 100 percent of the Site for the Generating Facility, including the location of the high-voltage side of the Generating Facility's main power transformer(s). In addition, provide a certification, executed by an officer or authorized representative of Applicant, verifying that the Site Control requirement is met. Further at PJM's request, Applicant shall provide copies of landowner attestations or county recordings.

c. Will the Generating Facility physically connect to distribution or sub-transmission facilities currently not subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC), for the purpose of injecting energy at the POI and engaging in FERC-jurisdictional Wholesale Transactions, as described in Tariff, Part VII, Subpart F or Tariff, Part VIII, Subpart F? (Y/N)

If yes, if available, provide with this Application a copy of the executed interconnection agreement between Applicant and the owner of the distribution or sub-transmission facilities to which the Generating Facility will physically connect. If the two-party interconnection agreement is not yet available, provide any available documentation demonstrating that Applicant has requested or applied for interconnection through the relevant non-jurisdictional process, and provide a status report.

d. For the Generating Facility, has Applicant obtained, or does Applicant intend to obtain, Qualifying Facility status under the Public Utility Regulatory Policies Act? (Y/N)

If yes, provide evidence of Qualifying Facility status or eligibility. Further, verify that Applicant intends that the Qualifying Facility will engage in Wholesale Transactions in PJM's FERC-jurisdictional wholesale markets (Y/N).

e. Will the Generating Facility share Project Developer's Interconnection Facilities with another Generating Facility, either existing or planned? (Y/N)

If yes, identify whether these projects that share the Project Developer's Interconnection Facilities are being submitted as a single New Service Request or multiple New Service Requests.

~~If yes, submit documentation that describes the proposed configuration of the Generating Facilities, the proposed ownership of the Interconnection Facilities, and the parties' division of rights and responsibilities with respect to operations, maintenance, and repair of the Interconnection Facilities.~~

~~If yes, demonstrate or affirm that the relevant parties have entered into, or will enter into, a shared facilities agreement with respect to the shared Interconnection Facilities.~~

f. Maximum Facility Output and Capacity Interconnection Rights:

i. For a new Generating Facility, provide the following information:

Total Requested Maximum Facility Output (maximum injection at the POI), in Megawatts	
Total Requested Capacity Interconnection Rights, in Megawatts	

ii. For a requested increase in generation capability of an existing Generating Facility, identify the Generating Facility and provide the following information:

	Existing	Requested Increase	Total
Maximum Facility Output (maximum injection at the POI), in Megawatts			
Capacity Interconnection Rights, in Megawatts			

iii. For a new Behind the Meter Generating Facility, provide the following information:

Gross Output in Megawatts	
---------------------------	--

Behind the Meter Load in Megawatts (the sum of auxiliary load and any other load to be served behind the meter)	
Total Requested Maximum Facility Output (maximum injection at the POI), in Megawatts	
Total Requested Capacity Interconnection Rights, in Megawatts	

- iv. For a requested increase in generation capability of an existing Behind the Meter Generating Facility, identify the Generating Facility and provide the following information:

	Existing	Increase	Total
Gross Output in Megawatts			
Behind the Meter Load in Megawatts (the sum of auxiliary load and any other load to be served behind the meter)			
Maximum Facility Output (maximum injection at the POI), in Megawatts			
Capacity Interconnection Rights, in Megawatts			

- g. Provide a description of the equipment configuration and electrical design specifications for the Generating Facility, as further defined in the PJM Manuals and reflected in the single-line diagram.
- h. Specify the fuel type of the Generating Facility.
- i. If the Generating Facility will be a multi-fuel Generating Facility, or if a proposed

increase in generation capability of an existing Generating Facility will create a multi-fuel Generating Facility, describe the physical and electrical configuration in as much detail as possible.

- j. If the Generating Facility will include storage component(s), (1) identify whether the storage component(s) will be charged using energy from the Transmission System; (2) specify the primary frequency response operating range for the storage component(s); (3) specify the MWh stockpile; (4) specify the hour class as applicable; and (5) state whether Project Developer requests that PJM study the storage component as charging 24 hours a day, i.e. charging at peak.

If the storage component(s) will be charged using energy from the Transmission System, specify the maximum that will be withdrawn from the Transmission System at any time: ___ MWh (or kWh)

- k. If the Generating Facility will include storage, provide the primary frequency response operating range for the electric storage component, as described in the PJM Manuals.

Minimum State of Charge: _____ Maximum State of Charge: _____

- l. For a Behind the Meter Generating Facility, provide the following information (note that all of the provisions in Tariff, Part VII, Subpart E, section 317 or Tariff, Part VIII, Subpart E, section 415 apply):

i. Identify the type and size of the load co-located (or to be co-located) with the Generating Facility, and attach a detailed single-line diagram in PDF depicting the electrical location of the load in relation to the Generating Facility.

ii. Describe the electrical connections between the Generating Facility and the co-located load, as shown in the single-line diagram.

- m. Provide the date that the new Generating Facility, or the increase in generation capability of an existing Generating Facility, will be in service.

- n. Submit the required Dynamic Models and Dynamic Modeling Package for the new Generating Facility in accordance with PJM Manual 14H.

- o. Provide other relevant information for the Generating Facility including, but not limited to, identifying whether Applicant has submitted a previous Application; and, if this Application proposes an increase in generation capability of a

Generating Facility, identify whether the Generating Facility is subject to an existing PJM Service Agreement; and, if so, provide those details.

p. If Project Developer requests that Transmission Provider evaluate, as part of the Phase I System Impact Study, the use of static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting:

i. State below which alternative transmission technology/ies Project Developer requests Transmission Provider to evaluate.

ii. Provide to Transmission Provider by the Application Deadline all the requisite model information to allow Transmission Provider to evaluate the requested technology/ies.

SECTION 3: LONG-TERM FIRM TRANSMISSION SERVICE

14. Request:

OASIS Request	Start	Stop	Amount	Path	Date & Time Request

15. PURPOSE: A Phase I System Impact Study, incorporated within a Cycle’s System Impact Studies, is used to determine whether the Transmission System is adequate to accommodate all or part of an Applicant’s request for long-term firm transmission service under Tariff, Part II (POINT-TO-POINT TRANSMISSION SERVICE) and Tariff, Part III (NETWORK INTEGRATION TRANSMISSION SERVICE). The FERC comparability standard is applied in evaluating the impact of all requests.

16. SCOPE OF WORK AND STUDY DEPOSIT: PJM will perform a Phase I System Impact Study to determine if the PJM network has sufficient capability to grant Applicant’s request for long-term firm transmission service, based on expected system conditions and topology. The required cash Study Deposit for the Phase I System Impact Study, as described in Tariff, Part VII, Subpart B, section 306(A) or Tariff, Part VIII, Subpart B, section 403(A), is due prior to the Application Deadline.

17. NETWORK ANALYSIS AND DELIVERABILITY TEST: PJM evaluates requests for long-term firm transmission service using deliverability tests commensurate with the

testing employed for evaluating Interconnection Requests. The energy from a Generating Facility or the energy delivered using long-term firm transmission service that is ultimately committed to meet resource requirements must be deliverable to where it is needed in the event of a system emergency. Therefore, there must be sufficient transmission network transfer capability within the control area. PJM determines the sufficiency of network transfer capability through a series of “deliverability tests.” All Interconnection Requests and long-term firm transmission service requests in PJM are subjected to the same deliverability tests. The FERC comparability standard is applied in evaluating the impact of all requests.

18. Skip to section 5.

SECTION 4: MERCHANT TRANSMISSION FACILITY SPECIFICATIONS

19. Applicant requests interconnection to the Transmission System of Merchant Transmission Facilities with the following specifications:

a. Location of proposed facilities:

b. Substation(s) where Applicant proposes to interconnect or add its facilities:

c. Proposed voltage and nominal capability of new facilities or increase in capability of existing facilities:

d. Description of proposed facilities and equipment:

e. Planned date the proposed facilities or increase in capability will be in service:

f. Will the proposed facilities be Merchant A.C. or Merchant D.C. Transmission Facilities or Controllable A.C. Merchant Transmission Facilities?

A.C. _____ or D.C. _____ or Controllable A.C. _____

i. If the proposed facilities will be Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities, does Applicant elect to receive either:

_____ (1) Firm or Non-Firm Transmission Injection Rights (TIR) and/or Firm or Non-Firm Transmission Withdrawal Rights (TWR)

OR

_____ (2) Incremental Deliverability Rights, Incremental Auction Revenue Rights, and Incremental Available Transfer Capability Revenue Rights.

If Applicant elects (1) above, provide the following:

_____ Total project MWs to be evaluated as Firm (capacity) injection for TIR.

_____ Total project MWs to be evaluated as Non-firm (energy) injection for TIR.

_____ Total project MWs to be evaluated as Firm (capacity) withdrawal for TWR.

_____ Total project MWs to be evaluated a Non-firm (energy) withdrawal for TWR.

If Applicant elects (2) above, state the location on the Transmission System where Applicant proposes to receive Incremental Deliverability Rights associated with its proposed facilities:

ii. If the proposed facilities will be Controllable A.C. Merchant Transmission Facilities, and provided that Applicant contractually binds itself in the Service Agreement related to its project always to operate its Controllable A.C. Merchant Transmission Facilities in a manner effectively the same as operation of D.C. transmission facilities, the Service Agreement will provide Applicant with the same types of transmission rights that are available under the Tariff for Merchant D.C. Transmission Facilities. For purposes of this Agreement, Applicant represents that, should it execute a Service Agreement for its project described herein, it will agree in the Service Agreement to operate its facilities continuously in a controllable mode.

iii. If the proposed facilities will be Merchant A.C. Transmission Facilities without continuous controllability as described in the preceding paragraph, specify the location on the Transmission System where Applicant proposes to

receive any Incremental Deliverability Rights associated with its proposed facilities:

20. Site Control: In accordance with Tariff, Part VII, Subpart A, section 302 or Part VIII, Subpart A, section 402, provide evidence of an ownership interest in, or right to acquire or control through a deed, lease, or option for at least a one-year term beginning from the Application Deadline, 100 percent of the Site for Applicant's major equipment (e.g., converter station). In addition, provide a certification, executed by an officer or authorized representative of Applicant, verifying that the Site Control requirement is met. Further at PJM's request, Applicant shall provide copies of landowner attestations or county recordings.

SECTION 5: SCOPE AND TIMING OF SYSTEM IMPACT STUDIES

21. Transmission Provider, in consultation with the affected Transmission Owner(s), will conduct System Impact Studies, in three phases, to provide Applicant with information on the required Interconnection Facilities and Network Upgrades needed to support Applicant's New Service Request.
22. Consistent with Tariff, Part VII, Subpart C or Tariff, Part VIII, Subparts C and D, the Phase I System Impact Study begins at the end of the 90-day Application Review Phase, and runs for 120 days followed by a 30-day Decision Point I period for withdrawal or modification. If no withdrawal, the Phase II System Impact Study begins at the end of the Decision Point I period and runs for 180 days followed by a 30-day Decision Point II period for withdrawal or modification. If no withdrawal, the Phase III System Impact Study begins at the end of the Decision Point II period and runs for 180 days followed by release of the Phase III System Impact Study report and the start of final agreement negotiations. If a phase or period does not end on a Business Day, the phase or period shall be extended to end on the next Business Day.
23. The System Impact Studies include good faith estimates that attempt to determine the cost of necessary facilities, and upgrades to existing facilities, to accommodate Applicant's New Service Request, and to identify Applicant's cost responsibility, but those estimates shall not be deemed final or binding. The scope of the System Impact Studies may include, but are not limited to, short circuit analyses, stability analyses, an interconnection facilities study, and a system upgrades facilities study.
24. The System Impact Studies necessarily will employ various assumptions regarding Applicant's New Service Request, other New Service Requests, and PJM's Regional Transmission Expansion Plan at the time of study. IN NO EVENT SHALL THIS AGREEMENT OR THE SYSTEM IMPACT STUDIES IN ANY WAY BE DEEMED TO OBLIGATE TRANSMISSION PROVIDER OR TRANSMISSION OWNERS TO CONSTRUCT ANY FACILITIES OR UPGRADES OR TO PROVIDE ANY TRANSMISSION OR INTERCONNECTION SERVICE TO OR ON BEHALF OF APPLICANT EITHER AT THIS POINT IN TIME OR IN THE FUTURE.

25. Consistent with Tariff, Part VII, Subpart G or Tariff, Part VIII, Subpart G, Transmission Provider will coordinate with Affected System Operators the conduct of studies required to determine the impact of a New Service Request on any Affected System, and will include those results in the Phase II System Impact Study if available from the Affected System. Applicant will cooperate with Transmission Provider in all matters related to the conduct of studies by Affected System Operators and the determination of modifications to Affected Systems needed to accommodate Applicant's New Service Request.

SECTION 6: CONFIDENTIALITY

26. Applicant agrees to provide all information requested by Transmission Provider necessary to complete and review this Application. Subject to this section 6, and to the extent required by Tariff Part VII, Subpart E, section 327 or Tariff, Part VIII, Subpart E, section 425, information provided pursuant to this Application shall be and remain confidential.
27. Upon completion of each System Impact Study for a New Service Request, the corresponding reports will be listed on Transmission Provider's website and, to the extent required by Tariff, Part VII, Subpart E, section 327 or Tariff, Part VIII, Subpart E, section 425 or Commission regulations, will be made publicly available. Applicant acknowledges and consents to such disclosures as may be required under Tariff, Part VIII, Subpart E, section 425 or Commission regulations.
28. Applicant acknowledges that, consistent with the confidentiality provisions of Tariff, Part VII, Subpart E, section 327 or Tariff, Part VIII, Subpart E, section 425, Transmission Provider may contract with consultants, including Transmission Owners, to provide services or expertise in the study process, and Transmission Provider may disseminate information as necessary to those consultants, and rely upon them to conduct part or all of the System Impact Studies.

SECTION 7: COST RESPONSIBILITY

29. Transmission Provider shall apply Applicant's Study Deposit in payment of the invoices for the costs of the System Impact Studies.
30. Actual study costs may exceed the Study Deposit. Notwithstanding the amount of the Study Deposit, Applicant shall reimburse Transmission Provider for all, or for Applicant's allocated portion of, the actual cost of the System Impact Studies in accordance with Applicant's cost responsibility. Applicant is responsible for, and must pay, all actual study costs. If Transmission Provider sends Applicant notification of additional study costs, then Applicant must either: (i) pay all additional study costs within 20 days (or, if the 20th day is not a Business Day, then the next Business Day) of Transmission Provider sending the notification of such additional study costs or (ii) withdraw its New Service Request. If Applicant fails to complete either (i) or (ii), then Transmission Provider shall deem the New Service Request to be terminated and

withdrawn.

SECTION 8: DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY

31. In completing the System Impact Studies, Transmission Provider, Transmission Owner(s), and any other subcontractors employed by Transmission Provider must rely on information provided by Applicant and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, NEITHER TRANSMISSION PROVIDER, TRANSMISSION OWNER(S), NOR ANY OTHER SUBCONTRACTORS EMPLOYED BY TRANSMISSION PROVIDER MAKES ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW, COURSE OF PERFORMANCE OR DEALING, CUSTOM, USAGE IN THE TRADE OR PROFESSION, OR OTHERWISE, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE ACCURACY, CONTENT, OR CONCLUSIONS OF THE SYSTEM IMPACT STUDIES. Applicant acknowledges that it has not relied on any representations or warranties not specifically set forth herein, and that no such representations or warranties have formed the basis of its bargain hereunder. Neither this Agreement nor the System Impact Studies prepared hereunder is intended, nor shall either be interpreted, to constitute agreement by Transmission Provider or Transmission Owner(s) to provide Interconnection Service or transmission service to or on behalf of Applicant either at this time or in the future.
32. In no event will Transmission Provider, Transmission Owner(s), or other subcontractors employed by Transmission Provider be liable for indirect, special, incidental, punitive, or consequential damages of any kind including loss of profits, whether under this agreement or otherwise, even if Transmission Provider, Transmission Owner(s), or other subcontractors employed by Transmission Provider have been advised of the possibility of such a loss. Nor shall Transmission Provider, Transmission Owner(s), or other subcontractors employed by Transmission Provider be liable for any delay in delivery or of the non-performance or delay in performance of Transmission Provider's obligations under this Agreement.

SECTION 9: MISCELLANEOUS

33. Any notice, demand, or request required or permitted to be given by any Party to another and any instrument required or permitted to be tendered or delivered by any Party in writing to another may be so given, tendered, or delivered electronically, or by recognized national courier or by depositing the same with the United States Postal Service, with postage prepaid for delivery by certified or registered mail addressed to the Party, or by personal delivery to the Party, at the address specified below.

Transmission Provider:

PJM Interconnection, L.L.C.

2750 Monroe Blvd.
Audubon, PA 19403
interconnectionagreementnotices@pjm.com

Applicant:

34. No waiver by either Party of one or more defaults by the other in performance of any of the provisions of this Agreement shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or different character.
35. This Agreement, or any part thereof, may not be amended, modified, or waived other than by a writing signed by all Parties.
36. This Agreement shall be binding upon the Parties, their heirs, executors, administrators, successors, and assigns.
37. This Agreement shall become effective on the date it is executed by both Parties and shall remain in effect until the earlier of (a) the date on which Applicant enters into a final Service Agreement with PJM (and Transmission Owner as applicable) in accordance with Tariff, Part VII, Subpart D or Tariff, Part VIII, Subpart D or (b) termination or withdrawal of this Application.
38. **Governing Law, Regulatory Authority, and Rules:**
This Agreement shall be deemed a contract made under, and the interpretation and performance of this Agreement and each of its provisions shall be governed and construed in accordance with, the applicable Federal laws and/or laws of the State of Delaware without regard to conflicts of law provisions that would apply the laws of another jurisdiction. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.
39. **No Third-Party Beneficiaries:**
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest, and where permitted their assigns.
40. **Multiple Counterparts:**
This Agreement may be executed in two or more counterparts, each of which is deemed an original but all of which constitute one and the same instrument.

41. **No Partnership:**
This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.
42. **Severability:**
If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.
43. **Reservation of Rights:**
Transmission Provider shall have the right to make a unilateral filing with the Federal Energy Regulatory Commission (“FERC”) to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC’s rules and regulations thereunder; and Applicant shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC’s rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC’s rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

Transmission Provider: PJM Interconnection, L.L.C.

By: _____
Name Title Date

Printed Name

Applicant: **[Name of Party]**

By: _____
Name Title Date

Printed Name

Service Agreement No. []

(Project Identifier #____)

GENERATION INTERCONNECTION AGREEMENT
By and Between
PJM INTERCONNECTION, L.L.C.
And

And

GENERATION INTERCONNECTION AGREEMENT

By and Between

PJM Interconnection, L.L.C.

And

[Name of Project Developer]

And

[Name of Transmission Owner]

(Project Identifier #__)

- 1.0 Parties. This Generation Interconnection Agreement (“GIA”) including the Specifications, Schedules and Appendices attached hereto and incorporated herein, is entered into by and between PJM Interconnection, L.L.C., the Regional Transmission Organization for the PJM Region (hereinafter “Transmission Provider” or “PJM”), _____ (“Project Developer” [OPTIONAL: or “[short name]”]) and _____ (“Transmission Owner” [OPTIONAL: or “[short name]”]). All capitalized terms herein shall have the meanings set forth in the appended definitions of such terms as stated in Part VII and Part VIII of the PJM Open Access Transmission Tariff (“Tariff”). [Use as/when applicable: This GIA supersedes the _____ {insert details to identify the agreement being superseded, the effective date of the agreement, the service agreement number designation, and the FERC docket number, if applicable, for the agreement being superseded.}]. [Use as/when applicable: Pursuant to the terms of an Agreement to Amend signed by all Parties effective {INSERT DATE}, this GIA amends the {ISA/GIA} entered into by {Party 1}, {Party 2}, and Transmission Provider effective {INSERT DATE} and designated as Service Agreement No. {INSERT NUMBER}.]
- 2.0 Authority. This GIA is entered into pursuant to the Generation Interconnection Procedures (“GIP”) set forth in [instruction: {use Part VII if this is a transition period GIA subject to Tariff, Part VII} {use Part VIII if this a new rules GIA subject to Part VIII}] of the Tariff. Project Developer has requested a GIA under the Tariff, and Transmission Provider has determined that Project Developer is eligible under the Tariff to obtain this GIA. The standard terms and conditions for interconnection as set forth in Appendix 2 to this GIA are hereby specifically incorporated as provisions of this GIA. Transmission Provider, Transmission Owner, and Project Developer agree to and assume all of the rights and obligations of the Transmission Provider, Transmission Owner, and Project Developer, respectively, as set forth in GIA, Appendix 2.
- 3.0 Generating Facility or Merchant Transmission Facility Specifications. Attached are Specifications for the Generating Facility or Merchant Transmission Facility that Project Developer proposes to interconnect with the Transmission System. Project Developer represents and warrants that, upon completion of construction of such facilities, it will own or control the Generating Facility or Merchant Transmission Facility identified in GIA, Specifications, section 1.0 attached hereto and made a part hereof. In the event that Project Developer will not own the Generating Facility or Merchant Transmission

Facility, Project Developer represents and warrants that it is authorized by the owner(s) thereof to enter into this GIA and to represent such control.

- 4.0 Effective Date. Subject to any necessary regulatory acceptance, this GIA shall become effective on the date it is executed by all Interconnection Parties, or, if the agreement is filed with FERC unexecuted, upon the date specified by FERC. This GIA shall terminate on such date as mutually agreed upon by the parties, unless earlier terminated in accordance with the terms set forth in GIA, Appendix 2. The term of the GIA shall be as provided in GIA, Appendix 2, section 1.3. Interconnection Service shall commence as provided in GIA, Appendix 2, section 1.
- 5.0 Security. In accord with the GIP, Project Developer shall provide the Transmission Provider (for the benefit of the Transmission Owner) with a letter of credit from an agreed provider or other form of security reasonably acceptable to the Transmissions Provider and that names the Transmission Provider as beneficiary (“Security”) in the amount of \$_____. Such Security can also be applied to unpaid Cancellation Costs and for completion of some or all of the required Transmission Owner Interconnection Facilities, and/or Customer-Funded Upgrades. This amount represents the sum of the estimated Costs, determined in accordance with the GIP for which the Project Developer will be responsible, less any Costs already paid by Project Developer. Project Developer acknowledges that its ultimate cost responsibility will be based upon the actual Costs of the facilities described in the Specifications, whether greater or lesser than the amount of the payment security provided under this section.
- 6.0 Project Specific Milestones. In addition to the milestones stated in the GIP as applicable, during the term of this GIA, Project Developer shall ensure that it meets each of the following development milestones:

[Specify Project Specific Milestones]

[As appropriate include the following standard Milestones, with any revisions necessary for the project at hand (sections should be renumbered as appropriate):]

- 6.1 Substantial Site work completed. On or before _____, Project Developer must demonstrate completion of at least 20 percent of project site construction. At this time, Project Developer must submit to Transmission Owner and Transmission Provider initial drawings, certified by a professional engineer, of the Project Developer Interconnection Facilities.
- 6.2 Delivery of major electrical equipment. On or before _____, Project Developer must demonstrate that ____ generating units have been delivered to Project Developer’s project site.
[Instructions: the following provisions can be used be as mutually agreed upon, and as an alternative to the milestones set forth in the GIP (renumber sections as appropriate):]

6.2.1____ Fuel delivery agreement and water agreement. On or before _____, Project Developer must demonstrate it has entered into a fuel delivery agreement and water agreement, if necessary, and that it controls any necessary rights-of-way for fuel and water interconnection.

6.2.2____ Local, county, and state site permits. On or before _____, Project Developer must demonstrate that it has obtained all necessary local, county, and state site permits.

[Instruction to be used if the Project Developer has not provided evidence of the 100 percent Site Control for the Project Developer's Interconnection Facilities, and any Transmission Owner's Interconnection Facilities or Transmission Owner Upgrades at the Point of Interconnection that the Project Developer will develop prior to entering to a GIA (renumber remaining sections as appropriate):]

6.2.3 Project Developer shall provide evidence of 100 percent Site Control for the Generating Facility or Merchant Transmission Facility, Interconnection Facilities, and, if applicable, the Stand Alone Network Upgrades necessary to interconnect the project to the Transmission System consistent with GIP no later than 180 days after the effective date of this GIA. Notwithstanding any other provisions of this GIA, no extension of this milestone shall be granted and if the Project Developer fails to meet this milestone, its Interconnection Request and this Agreement shall be deemed terminated and withdrawn. Transmission Provider shall take all necessary steps to effectuate this termination, including submitting the necessary filings with FERC.

6.3 Commercial Operation. On or before _____, Project Developer must demonstrate commercial operation of all generating units in order to achieve the full Maximum Facility Output set forth in section 1.0(c) of the Specifications to this GIA. Failure to achieve this Maximum Facility Output may result in a permanent reduction in Maximum Facility Output of the Generating Facility, and if, necessary, a permanent reduction of the Capacity Interconnection Rights, to the level achieved. Demonstrating commercial operation includes achieving Initial Operation in accordance with section 1.4 of Appendix 2 to this GIA and making commercial sales or use of energy, as well as, if applicable, obtaining capacity qualification in accordance with the requirements of the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region.

[Instructions: If this GIA is for an incremental increase in output for a facility that already is in commercial operation (i.e., an uprate), then, instead of the above, use the following language for the Commercial Operation milestone.]

[For an uprate where MFO and CIRs will increase, use this alternate language:]

Commercial Operation. On or before _____, Project Developer must demonstrate commercial operation of an incremental increase over Project Developer's previous interconnection, as set forth in Specifications, section 1.0(c) of this GIA for increases in Maximum Facility Output and in Specifications, section 2.1 of this GIA for increases in Capacity Interconnection Rights. This incremental increase is a result of the Interconnection Request associated with this GIA. Failure to achieve this Maximum Facility Output shall result in a permanent reduction in Maximum Facility Output of the Generating Facility, and if, necessary, a permanent reduction of the Capacity Interconnection Rights, to the level achieved. Demonstrating commercial operation includes making commercial sales or use of energy, as well as, if applicable, obtaining capacity qualification in accordance with the requirements of the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region.

[For CIR-only uprates, use the alternate language that follows. The September 1, _____ date for CIR-only uprates is meant to align with Summer Capability Testing for the unit(s). Without this Commercial Operation milestone that is specific to CIR-only uprates, it can be difficult to implement or enforce a Commercial Operation milestone for CIR-only uprates, because the unit is already in Commercial Operation at its specified MFO:]

Commercial Operation. On or before September 1, _____, Project Developer must demonstrate commercial operation of an incremental increase in Capacity Interconnection Rights over Project Developer's previous interconnection, as set forth in Specifications, section 2.1 of this GIA. Failure to achieve this level of Capacity Interconnection Rights shall result in a permanent reduction of the Capacity Interconnection Rights to the level achieved. This incremental increase in Capacity Interconnection Rights is a result of the Interconnection Request associated with this GIA. Demonstrating commercial operation includes making commercial sales or use of energy, as well as, if applicable, obtaining capacity qualification in accordance with the requirements of the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region.

[Additional instructions (separate from the Commercial Operation Date provisions): if a specific situation requires a separate Construction Service Agreement by a certain date then use the following:]

Construction Service Agreement. On or before _____, Project Developer must have either (a) executed a Construction Service Agreement for Interconnection Facilities or Transmission Owner Upgrades for which Project Developer has cost responsibility; (b) requested dispute resolution under section 12 of the PJM Tariff, or if concerning the Regional Transmission Expansion Plan, consistent with Schedule 5 of the Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement"); or (c) requested that the Transmission Provider file the Construction Service Agreement unexecuted with FERC.

- 6.4 Within one month following commercial operation of generating unit(s), Project Developer must provide certified documentation demonstrating that “as-built” Generating Facility or the Merchant Transmission Facilities, and Project Developer Interconnection Facilities are in accordance with applicable PJM studies and agreements. Project Developer must also provide PJM with “as-built” electrical modeling data or confirm that previously submitted data remains valid.

[Add Additional Project Specific Milestones as appropriate]

Project Developer shall demonstrate the occurrence of each of the foregoing milestones to Transmission Provider’s reasonable satisfaction. Transmission Provider may reasonably extend any such milestone dates, in the event of delays that Project Developer (i) did not cause and (ii) could not have remedied through the exercise of due diligence. Project Developer shall also have a one-time option to extend its milestone (other than any milestone related to Site Control) for a total period of one year regardless of cause. This option may only be applied one time for an Interconnection Request, and may only be applied to one single milestone specified in this GIA. Other milestone dates stated in this GIA shall be deemed to be extended coextensively with Project Developer’s use of this provision. Once this extension is used, it is no longer available with regard to any other milestones or other deadlines in this GIA. If the Project Developer fails to meet any of the milestones set forth above, including any extended milestones, its Interconnection Request shall be terminated and withdrawn, subject to the provisions of Appendix 2, sections 15 and 16. Transmission Provider shall take all necessary steps to effectuate this termination, including submitting the necessary filings with FERC.

- 7.0 Provision of Interconnection Service. Transmission Provider and Transmission Owner agree to provide for the interconnection to the Transmission System in the PJM Region of Project Developer’s Generating Facility or Merchant Transmission Facility identified in the Specifications in accordance with the GIP, the Operating Agreement, and this GIA, as they may be amended from time to time.
- 8.0 Assumption of Tariff Obligations. Project Developer agrees to abide by all rules and procedures pertaining to generation and transmission in the PJM Region, including but not limited to the rules and procedures concerning the dispatch of generation or scheduling transmission set forth in the Tariff, the Operating Agreement and the PJM Manuals.
- 9.0 System Impact Study(ies) and/or Facilities Study(ies). In analyzing and preparing the [System Impact Study(ies) and/or Facilities Study(ies)], and in designing and constructing the Distribution Upgrades, Network Upgrades, Stand Alone Network Upgrades and/or Transmission Owner Interconnection Facilities described in the Specifications attached to this GIA, Transmission Provider, the Transmission Owner(s),

and any other subcontractors employed by Transmission Provider have had to, and shall have to, rely on information provided by Project Developer and possibly by third parties and may not have control over the accuracy of such information. Accordingly, NEITHER TRANSMISSION PROVIDER, THE TRANSMISSION OWNER(s), NOR ANY OTHER SUBCONTRACTORS EMPLOYED BY TRANSMISSION PROVIDER OR TRANSMISSION OWNER MAKES ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW, COURSE OF PERFORMANCE OR DEALING, CUSTOM, USAGE IN THE TRADE OR PROFESSION, OR OTHERWISE, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE ACCURACY, CONTENT, OR CONCLUSIONS OF THE SYSTEM IMPACT STUDY(IES) AND/OR FACILITIES STUDY(IES) OF THE DISTRIBUTION UPGRADES, NETWORK UPGRADES, STAND ALONE NETWORK UPGRADES AND/OR TRANSMISSION OWNER INTERCONNECTION FACILITIES. Project Developer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

10.0 Construction of Transmission Owner Interconnection Facilities and Transmission Owner Upgrades

10.1. Cost Responsibility. Project Developer shall be responsible for and shall pay upon demand all Costs associated with the interconnection of the Generating Facility or Merchant Transmission Facility as specified in the GIP. These Costs may include, but are not limited to, a Distribution Upgrades charge, Network Upgrades charge, Stand Alone Network Upgrades charge, Transmission Owner Interconnection Facilities charge and other charges. A description of the facilities required and an estimate of the Costs of these facilities are included in sections 3.0 and 4.0 of the Specifications to this GIA.

10.2. Billing and Payments. Transmission Provider shall bill the Project Developer for the Costs associated with the facilities contemplated by this GIA, estimates of which are set forth in the Specifications to this GIA, and the Project Developer shall pay such Costs, in accordance with section 11 of Appendix 2 to this GIA and the applicable provisions of Schedule L. Upon receipt of each of Project Developer's payments of such bills, Transmission Provider shall reimburse the applicable Transmission Owner. Project Developer requests that Transmission Provider provide a quarterly cost reconciliation:

_____ Yes

_____ No

10.3. Contract Option. In the event that the Project Developer and Transmission Owner agree to utilize the Negotiated Contract Option as set forth in Schedule L, Appendix 1 to establish, subject to FERC acceptance, non-standard terms

regarding cost responsibility, payment, billing and/or financing, the terms of sections 10.1 and/or 10.2 of this section 10.0 shall be superseded to the extent required to conform to such negotiated terms, as stated in Schedule L to this GIA. The Negotiated Option can only be used in connection with a Network Upgrade subject to the Network Upgrade Cost Responsibility Agreement if all Project Developers and the relevant Transmission Owner agree.

_____ Yes

_____ No

10.4 Interconnection Construction Terms and Conditions

10.4.1 GIA, Schedule L sets forth the additional terms and conditions of service that apply in the event there are any Project Developer Interconnection Facilities, Transmission Owner Interconnection Facilities, or Transmission Owner Upgrades subject to this Agreement. In the event there is an additional Transmission Owner listed in GIA, Specifications, section 3.0(c), Transmission Provider, Project Developer and the additional Transmission Owner shall be required to enter into a separate Construction Service Agreement in the form set forth in Tariff, Part IX, Subpart J. In the event there are any Common Use Upgrades listed in GIA, Specifications, section 3.0, Transmission Provider and Project Developer, along with the other relevant Project Developers, shall also be required to enter into a separate Network Upgrade Cost Responsibility Agreement in the form set forth in Tariff, Part IX, Subpart H.

10.4.2 In the event that the Project Developer elects to construct some or all of the Transmission Owner Interconnection Facilities or Stand Alone Network Upgrades under the Option to Build, billing and payment for the Costs associated with the facilities contemplated by this GIA shall relate only to such portion of the Interconnection Facilities and Transmission Owner Upgrades as the Transmission Owner is responsible for building.

11.0 Interconnection Specifications

11.1 Point of Interconnection. The Point of Interconnection shall be as identified on the single-line diagram attached as GIA, Schedule B.

11.2 List and Ownership of Interconnection Facilities and Transmission Owner Upgrades. The Interconnection Facilities and Transmission Owner Upgrades to be constructed and ownership of the components thereof are identified in GIA, section 3.0.

11.3 Ownership and Location of Metering Equipment. The Metering Equipment to be constructed, the capability of the Metering Equipment to be constructed, and the ownership thereof, are identified on the attached GIA, Schedule C.

11.4 Applicable Technical Standards. The Applicable Technical Requirements and Standards that apply to the Generating Facility or Merchant Transmission Facility and the Interconnection Facilities and Transmission Owner Upgrades are identified in GIA, Schedule D.

12.0 Power Factor Requirement.

Consistent with section 4.6 of Appendix 2 to this GIA, the power factor requirement is as follows:

[For Generation Project Developers]

{The following language should be included for new large and small synchronous generation facilities that will have the Tariff specified power factor. This section does not apply if the Interconnection Request is for an incremental increase in generating capability.}

The Project Developer shall design its Generating Facility with the ability to maintain a power factor of at least 0.95 leading to 0.90 lagging measured at the [generator's terminals] [Point of Interconnection].

{Include the following language if the Interconnection Request is for an incremental increase in capacity or energy output to a synchronized generation facility}

The existing ___ MW portion of the Generating Facility shall retain its existing ability to maintain a power factor of at least 0.95 leading to 0.90 lagging measured at the [generator's terminals] [Point of Interconnection].

The increase of ___ MW to the Generating Facility associated with this GIA shall be designed with the ability to maintain a power factor of at least 1.0 (unity) to 0.90 lagging measured at the [generator's terminals] [Point of Interconnection].

{For new wind or non-synchronous generation facilities which have submitted a New Service Request. after November 1, 2016, the following applies:}

The Generation Project Developer shall design its [wind-powered] [non-synchronous] Generating Facility with the ability to maintain a power factor of at least 0.95 leading to 0.95 lagging measured at the high-side of the facility substation transformers.

{For all wind or non-synchronous Generating Facilities requesting an incremental increase in capacity or energy output which have submitted an Interconnection Request after November 1, 2016, and were not commercially operable prior to November 1, 2016

include the following requirements:}

The existing [wind-powered] [non-synchronous] __ MW portion of the Generating Facility shall retain the ability to maintain a power factor of at least 0.95 leading to 0.95 lagging measured at the high-side of the facility substation transformers.

The increase of __ MW to the [wind-powered] [non-synchronous] Generating Facility associated with this GIA shall be designed with the ability to maintain a power factor of at least 0.95 leading to 0.95 lagging measured at the high-side of the facility substation transformers.

[For Transmission Project Developers]

{The following language should be included only for new Merchant Transmission Facilities}

Transmission Project Developer shall design its Merchant D.C. Transmission Facilities and/ or Controllable A.C. Merchant Transmission Facilities, to maintain a power factor at the Point of Interconnection of at least 0.95 leading and 0.95 lagging, when such Generating Facility is operating at any level within its approved operating range.

- 13.0 Charges. In accordance with sections 10 and 11 of Appendix 2 to this GIA, the Project Developer shall pay to the Transmission Provider the charges applicable after Initial Operation, as set forth in Schedule E to this GIA. Promptly after receipt of such payments, the Transmission Provider shall forward such payments to the appropriate Transmission Owner.
- 14.0 Third Party Beneficiaries. No third party beneficiary rights are created under this GIA, except, however, that, subject to modification of the payment terms stated in section 10 of this GIA pursuant to the Negotiated Contract Option, payment obligations imposed on Project Developer under this GIA are agreed and acknowledged to be for the benefit of the Transmission Owner(s). Project Developer expressly agrees that the Transmission Owner(s) shall be entitled to take such legal recourse as it deems appropriate against Project Developer for the payment of any Costs or charges authorized under this GIA or the GIP with respect to Interconnection Service for which Project Developer fails, in whole or in part, to pay as provided in this GIA, the GIP and/or the Operating Agreement.
- 15.0 Waiver. No waiver by either party of one or more defaults by the other in performance of any of the provisions of this GIA shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or different character.
- 16.0 Amendment. Except as set forth in GIA, Appendix 2, this GIA or any part thereof, may not be amended, modified, or waived other than by a written document signed by all parties hereto. Parties acknowledge that, subsequent to execution of this agreement, errors may be corrected by replacing the page of the agreement containing the error with

a corrected page, as agreed to and signed by the parties without modifying or altering the original date of execution, dates of any milestones, or obligations contained therein.

- 17.0 Construction With Other Parts of The Tariff. This GIA shall not be construed as an application for service under Part II or Part III of the Tariff.
- 18.0 Notices. Any notice or request made by either party regarding this GIA shall be made, in accordance with the terms of Appendix 2 to this GIA, to the representatives of the other party and as applicable, to the Transmission Owner(s), as indicated below:

Transmission Provider:

PJM Interconnection, L.L.C.
2750 Monroe Blvd.
Audubon, PA 19403
interconnectionagreementnotices@pjm.com

Project Developer:

~~{If this GIA includes a shared facilities arrangement, use the following language:
See Schedule M}~~

Transmission Owner:

- 19.0 Incorporation of Other Documents. All portions of the Tariff and the Operating Agreement pertinent to the subject matter of this GIA and not otherwise made a part hereof are hereby incorporated herein and made a part hereof.
- 20.0 Addendum of Non-Standard Terms and Conditions for Interconnection Service. Subject to FERC approval, the parties agree that the terms and conditions set forth in Schedule F hereto are hereby incorporated herein by reference and be made a part of this GIA. In the event of any conflict between a provision of Schedule F that FERC has accepted and any provision of Appendix 2 to this GIA that relates to the same subject matter, the pertinent provision of Schedule F shall control.
- 21.0 Addendum of Project Developer's Agreement to Conform with IRS Safe Harbor Provisions for Non-Taxable Status. To the extent required, in accordance with section 24.1 of Appendix 2 to this GIA, Schedule G to this GIA shall set forth the Project Developer's agreement to conform with the IRS safe harbor provisions for non-taxable status.

22.0 Addendum of Interconnection Requirements for all Wind or Non-synchronous Generation Facilities. To the extent required, Schedule H to this GIA sets forth interconnection requirements for wind or non-synchronous generation facilities and is hereby incorporated by reference and made a part of this GIA.

~~22.1—Addendum of Requirements for Co-Located Generating Facilities. To the extent required, Schedule M to this GIA sets forth interconnection requirements for multiple generating facilities located behind the same Point of Interconnection.~~

23.0 Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. All Interconnection Parties agree to comply with all infrastructure security requirements of the North American Electric Reliability Corporation. All Transmission Providers, Transmission Owners, Market Participants, and Project Developers interconnected with electric systems are to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for electric system infrastructure and operational security, including physical, operational, and cyber-security practices.

24.0 This Agreement shall be deemed a contract made under, and the interpretation and performance of this Agreement and each of its provisions shall be governed and construed in accordance with, the applicable Federal and/or laws of the State of Delaware without regard to conflicts of laws provisions that would apply the laws of another jurisdiction.

IN WITNESS WHEREOF, Transmission Provider, Project Developer and Transmission Owner have caused this GIA to be executed by their respective authorized officials.

(Project Identifier # ___)

Transmission Provider: **PJM Interconnection, L.L.C.**

By: _____
Name Title Date

Printed name of signer: _____

Project Developer: **[Name of Party]**

By: _____
Name Title Date

Printed name of signer: _____

Transmission Owner: **[Name of Party]**

By: _____
Name Title Date

Printed name of signer: _____

**SPECIFICATIONS FOR
GENERATION INTERCONNECTION AGREEMENT**

**By and Among
PJM INTERCONNECTION, L.L.C.**

**And
[Name of Project Developer]
And
[Name of Transmission Owner]
(Project Identifier # ____)**

1.0 Description of [Generating Facility] [Merchant Transmission Facilities] to be interconnected with the Transmission System in the PJM Region:

a. Name of Generating Facility or Merchant Transmission Facility:

b. Location of Generating Facility or Merchant Transmission Facility:

c. Size in megawatts of Generating Facility or Merchant Transmission Facility:

{The following language should be included only for generating units

For Generation Project Developer:

{Use the following language for all resources}

Maximum Facility Output of _____ MW

{Include the following language for Energy Storage Resources}

Maximum load capacity of _____ MW)

Minimum State of Charge: _____; and

Maximum State of Charge: _____.

{The following language applies when a Generation Interconnection Request involves an increase of the capacity of an existing Generating Facility:

The stated size of the generating unit includes an increase in the Maximum Facility Output of the generating unit of ___ MW over Project Developer’s previous interconnection. This increase is a result of the Interconnection Request associated with this Generation Interconnection Agreement.}

{The following language should be included only for Merchant Transmission Facilities

For Transmission Project Developer:

Nominal Rated Capability: _____ MW}

d. Description of the equipment configuration:

2.0 Rights

[for Generation Project Developers]

2.1 Capacity Interconnection Rights: {Instructions: this section will not apply if the Generating Facility is exclusively an Energy Resource and thus is granted no CIRs; see alternate section 2.1 below}

Pursuant to and subject to the applicable terms of the GIP, the Project Developer shall have Capacity Interconnection Rights at the Point(s) of Interconnection specified in this Generation Interconnection Agreement in the amount of ___ MW. {Instructions: this number is the total of the Capacity Interconnection Rights that are granted as a result of the Interconnection Request, plus any prior Capacity Interconnection Rights}

{OR: Instructions: include the following options when the projected Initial Operation is in advance of the study year used for the System Impact Study and Capacity Interconnection Rights are only interim until the study year:}

Pursuant to and subject to the applicable terms of the GIP, the Project Developer shall have Capacity Interconnection Rights at the Point(s) of Interconnection specified in this Generation Interconnection Agreement in the amount of ___ MW commencing _____ {e.g., June 1, 2023}. During the time period from

the effective date of this GIA until _____ {e.g., May 31, 2023} (the “interim time period”), the Project Developer may be awarded interim Capacity Interconnection Rights in the amount not to exceed _____ MW. The availability and amount of such interim Capacity Interconnection Rights shall be dependent upon completion and the results of an interim deliverability study. To the extent applicable, during the interim time period, PJM reserves the right to limit total injections of the Generating Facility consistent with the results of the interim deliverability study (which may be less than the Maximum Facility Output). Any interim Capacity Interconnection Rights awarded during the interim time period shall terminate on _____ {e.g., May 31, 2023}.

{OR: Instructions: include the following options when there are a combination of previously awarded CIRs and interim CIRs that have a termination date or event:}

Pursuant to and subject to the applicable terms of the GIP, the Project Developer shall have Capacity Interconnection Rights at the Point(s) of Interconnection specified in this GIA in the amount of _____ MW commencing _____ {e.g., June 1, 2023}. From the effective date of this GIA until _____ {e.g., May 31, 2023} (the “interim time period”), in addition to the _____ MW of Capacity Interconnection Rights the Project Developer had at the same Point of Interconnection prior to its Interconnection Request associated with this GIA, the Project Developer also may be awarded interim Capacity Interconnection Rights in an amount not to exceed _____ MW. The availability and amount of such interim Capacity Interconnection Rights shall be dependent upon completion and results of an interim deliverability study. To the extent applicable, during the interim time period, PJM reserves the right to limit total injections of the Generating Facility consistent with the results of the interim deliverability study (which may be less than the Maximum Facility Output). Any interim Capacity Interconnection Rights awarded during the interim time period shall terminate on _____ {e.g., May 31, 2023}.

{OR: Instructions: include the following language in the case of combined Cycle Positions with a combination of (1) already studied, and confirmed deliverable, CIRs for the first Interconnection Request; and (2) potential interim CIRs for the second Interconnection Request, subject to an interim deliverability study:}

Pursuant to and subject to the applicable terms of the Tariff, the Project Developer shall have Capacity Interconnection Rights at the Point of Interconnection specified in this GIA in the amount of _____ MW commencing _____ {e.g., June 1, 2023}. From the effective date of this GIA until _____ {e.g., May 31, 2023} (the “interim time period”), in addition to the _____ MW of Capacity Interconnection Rights the Project Developer will have commencing _____ {e.g., June 1, 2022} at the Point of Interconnection pursuant to the _____ Interconnection Request, the Project Developer also may be awarded interim Capacity Interconnection Rights at the Point of Interconnection in an amount not to exceed _____ MW pursuant to the _____ Interconnection Request. Accordingly, during the interim time period, the Project Developer shall have _____ MW of previously studied and awarded

Capacity Interconnection Rights, and may be awarded interim Capacity Interconnection Rights in an amount not to exceed ____ MW. The availability and amount of such interim Capacity Interconnection Rights shall be dependent upon completion and results of an interim deliverability study. To the extent applicable, during the interim time period, PJM reserves the right to limit total injections of the Generating Facility consistent with the results of the interim deliverability study (which may be less than the Maximum Facility Output). Any interim Capacity Interconnection Rights awarded during the interim time period shall terminate on ____ {e.g., May 31, 2023}.

{Add to address partial deactivations:}

Pursuant to and subject to the applicable terms of the Tariff, the Interconnection Customer shall have Capacity Interconnection Rights at the Point of Interconnection specified in this Interconnection Service Agreement in the amount of ____ MW commencing ____ {e.g., June 1, 2022}. From the effective date of this GIA until ____ {e.g., May 31, 2023} (the "interim time period"), in addition to the ____ MW of Capacity Interconnection Rights the Interconnection Customer will have commencing ____ {e.g., June 1, 2023} at the Point of Interconnection pursuant to the ____ Interconnection Request, the Interconnection Customer also may be awarded interim Capacity Interconnection Rights at the Point of Interconnection in an amount not to exceed ____ MW pursuant to the ____ Interconnection Request. Accordingly, during the interim time period, the Interconnection Customer shall have ____ MW of previously studied and awarded Capacity Interconnection Rights, and may be awarded interim Capacity Interconnection Rights in an amount not to exceed ____ MW. The availability and amount of such interim Capacity Interconnection Rights shall be dependent upon completion and results of an interim deliverability study. To the extent applicable, during the interim time period, PJM reserves the right to limit total injections of the Generating Facility consistent with the results of the interim deliverability study (which may be less than the Maximum Facility Output). Any interim Capacity Interconnection Rights awarded during the interim time period shall terminate on ____ {e.g., May 31, 2023}.

{OR: Instruction: include the following language to the extent applicable for interconnection of additional generation at an existing Generating Facility:}

The amount of Capacity Interconnection Rights specified above (____ MW) includes ____ MW of Capacity Interconnection Rights that the Project Developer had at the same Point(s) of Interconnection prior to its Interconnection Request associated with this GIA, and ____ MW of Capacity Interconnection Rights granted as a result of such Interconnection Request.

{OR: Instructions: include the following language when the CIRs are only interim and have a termination date or event:}

Project Developer shall have ___ MW of Capacity Interconnection Rights for the time period from ___ to _____. These Capacity Interconnection Rights are interim and will terminate upon {Instructions: explain circumstances – e.g. interim agreement; completion of another facility, etc.}

- 2.1a To the extent that any portion of the Generating Facility described in Specifications, section 1.0 is not a Capacity Resource with Capacity Interconnection Rights, such portion of the Generating Facility shall be an Energy Resource. PJM reserves the right to limit total injections to the Maximum Facility Output in the event reliability would be affected by output greater than such quantity.

{Instructions: this alternate version of section 2.1 that appears below will be used in lieu of section 2.1 above when a Generating Facility will be an Energy Resource and therefore will not be granted any CIRs:}

- [2.1 The generating unit(s) described in Specifications, section 1.0 shall be an Energy Resource. Pursuant to this GIA, the generating unit will be permitted to inject ___ MW (nominal) into the system. PJM reserves the right to limit injections to this quantity in the event reliability would be affected by output greater than such quantity.]

[for Transmission Project Developers]

- 2.1 Transmission Injection Rights: [applicable only to Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities that interconnect with a control area outside PJM]

Pursuant to the GIP, Project Developer shall have Transmission Injection Rights at each indicated Point of Interconnection in the following quantity(ies):

- 2.2 Transmission Withdrawal Rights: [applicable only to Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities that interconnect with a control area outside PJM]

Pursuant to the GIP, Project Developer shall have Transmission Withdrawal Rights at each indicated Point of Interconnection in the following quantity(ies):

[Include section 2.2A only if customer is interconnecting Controllable A.C. Merchant Transmission Facilities]

- 2.2A Project Developer is interconnecting Controllable A.C. Merchant Transmission Facilities as defined in the Part I of the Tariff, and has elected, pursuant to the GIP, to receive Transmission Injection Rights and Transmission Withdrawal Rights in lieu of the other applicable rights for which it may be eligible the GIP. Accordingly, Project Developer hereby agrees that the Transmission Injection

Rights and Transmission Withdrawal Rights awarded to it pursuant to the GIP and this GIA are, and throughout the duration of this GIA shall be, conditioned on Project Developer's continuous operation of its Controllable A.C. Merchant Transmission Facilities in a controllable manner, i.e., in a manner effectively the same as operation of D.C. transmission facilities.

{Instructions – use for Merchant Transmission Developers as applicable}

2.3 Incremental Deliverability Rights:

Pursuant to Tariff, Part VIII, Subpart E, section 427(C), Project Developer shall have Incremental Deliverability Rights at each indicated Point of Interconnection in the following quantity(ies):

2.4 Incremental Auction Revenue Rights:

Pursuant to Tariff, Part VIII, Subpart E, section 427(A), Project Developer shall have Incremental Auction Revenue Rights in the following quantities:

2.5 Incremental Capacity Transfer Rights:

Pursuant to Tariff, Part VIII, Subpart E, section 427(B), Project Developer shall have Incremental Capacity Transfer Rights between the following associated source(s) and sink(s) in the indicated quantities:

3.0 Construction Responsibility and Ownership of Interconnection Facilities and Transmission Owner Upgrades/Scope of Work.

a. Project Developer.

(1) Project Developer shall construct and, unless otherwise indicated, shall own, the following Interconnection Facilities:

[Specify Facilities to Be Constructed or state "None"]

[Use the following if facilities are to be constructed or owned]

- i. Facilities for which the Project Developer has sole cost responsibility.
- ii. Facilities for which a Network Upgrade Cost Responsibility Agreement is required.

(2) In the event that Project Developer has exercised the Option to Build, it is hereby permitted to build in accordance with and subject to the conditions and limitations set forth in GIA, Schedule L, the following portions of the Transmission Owner Interconnection Facilities and Stand Alone Network

Upgrades which constitute or are part of the Generating Facility or Merchant Transmission Facility:

[Specify Facilities to Be Constructed or state “None”]

Ownership of the facilities built by Project Developer pursuant to the Option to Build shall be as provided in Schedule L.

- b. Transmission Owner {or Name of Transmission Owners if more than one Transmission Owner}

[Specify Facilities to Be Constructed and Owned or state “None”]

[Use the following if facilities are to be constructed or owned]

- i. Facilities for which the Project Developer has sole cost responsibility.
 - ii. Facilities for which a Network Upgrade Cost Responsibility Agreement is required.
- c. [if applicable, include the following][Name of any additional Transmission Owner constructing facilities with which Project Developer and Transmission Provider will also execute a Construction Service Agreement]

[Specify Facilities to Be Constructed and Owned]

[Use the following if facilities are to be constructed or owned]

- i. Facilities for which the Project Developer has sole cost responsibility.
 - ii. Facilities for which a Network Upgrade Cost Responsibility Agreement is required.
- d. [if applicable] Additional Contingent Facilities which must be completed prior to Commercial Operation of the Generating Facility or Merchant Transmission Facility

[Specify Facilities to Be Constructed and Owned]

e. Summary Table of Substation Network Upgrades and System Network Upgrades

<u>Facility</u>	<u>Substation Network Upgrade or System Network Upgrade</u>	<u>Project Developer Has Sole Responsibility or Network Upgrade Cost Responsibility</u>
-----------------	---	---

		<i><u>Agreement Required</u></i>

4.0 Subject to modification pursuant to the Negotiated Contract Option and/or the Option to Build, Project Developer shall be subject to the estimated charges detailed below, which shall be billed and paid in accordance with GIA, Appendix 2, section 11 and GIA, Schedule L, section 9.0 {instruction - to be included if there is an additional Transmission Owner that has a separate CSA [and in Appendix III, section 9 of the Construction Service Agreement with **[insert Transmission Owner name].**]} {Instruction - to be included if there is a Network Upgrade Cost Responsibility Agreement [and in **[insert reference to NUCRA provisions]**]}

4.1 Transmission Owner Interconnection Facilities Charge: \$ _____

[Optional: Provide Charge and Identify Transmission Owner]

4.2 Network Upgrades Charge: \$ _____

[Optional: Provide Breakdown of Charge Based on Transmission Owner responsibilities and costs subject to the Network Upgrade Cost Responsibility Agreement]

4.3 Option to Build Charges \$ _____

[Optional: Provide Breakdown of Charge Based on Transmission Owner responsibilities]

4.4 Distribution Upgrades Charge: \$ _____

[Optional: Provide Breakdown of Charge Based on Transmission Owner responsibilities]

4.5 Other Charges: \$ _____

[Optional: Provide Breakdown of Charge Based on Transmission Owner responsibilities]

4.6 Cost breakdown:

\$ Direct Labor
 \$ Direct Material
 \$ Indirect Labor

\$ Indirect Material
[Additional items for breakdown as necessary]

\$ Total

4.7 Security Amount Breakdown:

\$ Estimated Cost of Network Upgrades, Distribution Upgrades,
Transmission Owner Interconnection Facilities, and Other Charges

plus \$ Option to Build Security for Transmission Owner Interconnection
Facilities and Stand Alone Network Upgrades (including Cancellation Costs)

\$ Sum of Security required for Costs listed in GIA, Specifications sections
4.1 through 4.5

less \$ Portion of Costs already paid by Project Developer

\$ Net Security {Instructions: **if the resultant is negative, use:** reduction
with this GIA; **if the resultant is zero or positive use:** amount required} {Instructions:
this value should be in section 5.0 of this GIA}

APPENDICES:

- **APPENDIX 1 - DEFINITIONS**
- **APPENDIX 2 - STANDARD TERMS AND CONDITIONS FOR INTERCONNECTIONS**

SCHEDULES:

- **SCHEDULE A - GENERATING FACILITY LOCATION/SITE PLAN**
- **SCHEDULE B - SINGLE-LINE DIAGRAM**
- **SCHEDULE C - LIST OF METERING EQUIPMENT**
- **SCHEDULE D - APPLICABLE TECHNICAL REQUIREMENTS AND STANDARDS**
- **SCHEDULE E - SCHEDULE OF CHARGES**
- **SCHEDULE F - SCHEDULE OF NON-STANDARD TERMS & CONDITIONS**
- **SCHEDULE G - PROJECT DEVELOPER'S AGREEMENT TO CONFORM WITH IRS SAFE HARBOR PROVISIONS FOR NON-TAXABLE STATUS**
- **SCHEDULE H - RIDE THROUGH REQUIREMENTS FOR ALL GENERATING FACILITIES AND INTERCONNECTION REQUIREMENTS FOR ALL WIND, SOLAR AND NON-SYNCHRONOUS GENERATION FACILITIES**
- **SCHEDULE I – INTERCONNECTION SPECIFICATIONS FOR AN ENERGY STORAGE RESOURCE**
- **SCHEDULE J – SCHEDULE OF TERMS AND CONDITIONS FOR SURPLUS INTERCONNECTION SERVICE**
- **SCHEDULE K – REQUIREMENTS FOR INTERCONNECTION SERVICE BELOW FULL ELECTRICAL GENERATING CAPABILITY**
- **SCHEDULE L – INTERCONNECTION CONSTRUCTION TERMS AND CONDITIONS**
- **SCHEDULE L, APPENDIX 1 – NEGOTIATED CONTRACT OPTION TERMS**
- **SCHEDULE M – [RESERVED]**

~~SCHEDULE N SHARED INTERCONNECTION FACILITIES TERMS & CONDITIONS~~

4 Operations

4.1 General:

Each Interconnected Entity shall operate, or shall cause operation of, its facilities in a safe and reliable manner in accord with (i) the terms of this Appendix 2; (ii) Applicable Standards; (iii) applicable rules, procedures and protocols set forth in the Tariff and the Operating Agreement, as any or all may be amended from time to time; (iv) Applicable Laws and Regulations, and (v) Good Utility Practice.

4.1.1 Project Developer Initial Drawings:

On or before the applicable date specified in the Milestones of the Generation Interconnection Agreement, Project Developer shall submit to the Transmission Owner and Transmission Provider initial drawings, certified by a professional engineer, of the Project Developer Interconnection Facilities. Transmission Owner and Transmission Provider shall review the drawings to assess the consistency of Project Developer's design of the Project Developer Interconnection Facilities with the design that was analyzed in the planning model as described in PJM Manuals. After consulting with the Transmission Owner, Transmission Provider shall provide comments on the drawings to Project Developer within 45 days after its receipt thereof, after which time any drawings not subject to comment shall be deemed to be approved. All drawings provided hereunder shall be deemed to be Confidential Information.

4.1.1.1 Effect of Review:

Transmission Owner's and Transmission Provider's reviews of Project Developer's initial drawings of the Project Developer Interconnection Facilities shall not be construed as confirming, endorsing or providing a warranty as to the fitness, safety, durability or reliability of such facilities or the design thereof. At its sole cost and expense, Project Developer shall make such changes to the design of the Project Developer Interconnection Facilities as may reasonably be required by Transmission Provider, in consultation with the Transmission Owner, to ensure that the Project Developer Interconnection Facilities meet Applicable Standards and, to the extent that design of the Project Developer Interconnection Facilities is included in the System Impact Study(ies), to ensure that such facilities conform with the System Impact Study(ies).

4.1.2 Project Developer "As-Built" Drawings:

Within 120 days after the date of Initial Operation, unless the Interconnection Parties agree on another mutually acceptable deadline, the Project Developer shall deliver to the Transmission Provider and the Transmission Owner final, "as-built" drawings, information and documents regarding the Project Developer Interconnection Facilities, including, as and to the extent applicable: a one-line diagram, a site plan showing the Generating Facility or Merchant Transmission Facility and the Project Developer Interconnection Facilities, plan and elevation drawings showing the layout of the Project Developer Interconnection Facilities, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with the Project Developer's step-up transformers, the facilities connecting

the Generating Facility or Merchant Transmission Facility to the step-up transformers and the Project Developer Interconnection Facilities, and the impedances (determined by factory tests) for the associated step-up transformers and the Generating Facility or Merchant Transmission Facility. As applicable, the Project Developer shall provide Transmission Provider and the Transmission Owner Specifications for the excitation system, automatic voltage regulator, Generating Facility or Merchant Transmission Facility control and protection settings, transformer tap settings, and communications. Transmission Provider and Transmission Owner shall have the right to review such drawings, and charge Project Developer their actual costs of conducting such review.

4.2 Project Developer Obligations:

Project Developer shall obtain Transmission Provider's approval prior to either synchronizing with the Transmission System or energizing, as applicable per the determination of Transmission Provider, the Generating Facility or Merchant Transmission Facility or, except in an Emergency Condition, disconnecting the Generating Facility or Merchant Transmission Facility from the Transmission System, and shall coordinate such synchronizations, energizations, and disconnections with the Transmission Owner.

4.3 Transmission Project Developer Obligations:

A Transmission Project Developer that will be a Merchant Transmission Provider is subject to the terms and conditions in the GIP.

4.4 Permits and Rights-of-Way:

Each Interconnected Entity at its own expense shall maintain in full force and effect all permits, licenses, rights-of-way and other authorizations as may be required to maintain the Generating Facility or Merchant Transmission Facility and the Interconnection Facilities and Transmission Owner Upgrades that the entity owns, operates and maintains and, upon reasonable request of the other Interconnected Entity, shall provide copies of such permits, licenses, rights-of-way and other authorizations at its own expense to the requesting party.

4.5 No Ancillary Services:

Except as provided in section 4.6 of this Appendix 2, nothing in this Appendix 2 is intended to obligate the Project Developer to supply Ancillary Services to either Transmission Provider or the Transmission Owner.

4.6 Reactive Power and Primary Frequency Response

4.6.1 Reactive Power

4.6.1.1 Reactive Power Design Criteria

4.6.1.1.1 New Facilities:

For all new Generating Facilities to be interconnected pursuant to the Tariff, other than wind-powered and other non-synchronous generation facilities, the Generation Project Developer shall design its Generating Facility to maintain a composite power delivery at continuous rated power output at a power factor of at least 0.95 leading to 0.90 lagging. For all new wind-powered and other non-synchronous generation facilities the Generation Project Developer shall design its Generating Facility with the ability to maintain a composite power delivery at a power factor of at least 0.95 leading to 0.95 lagging across the full range of continuous rated power output. For all wind-powered and other non-synchronous generation facilities that submitted a New Services Request on or after November 1, 2016, the power factor requirement shall be measured at the high-side of the facility substation transformers. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two.

For new generation resources of more than 20 MW, other than wind-powered and other non-synchronous Generating Facilities, the power factor requirement shall be measured at the generator's terminals. For new generation resources of 20 MW or less the power factor requirement shall be measured at the Point of Interconnection. Any different reactive power design criteria that Transmission Provider determines to be appropriate for a wind-powered or other non-synchronous generation facility shall be stated in the Generation Interconnection Agreement.

A Transmission Project Developer interconnecting Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities shall design its Generating Facility to maintain a power factor at the Point of Interconnection of at least 0.95 leading and 0.95 lagging, when the Generating Facility is operating at any level within its approved operating range.

4.6.1.1.2 Increases in Generating Capacity or Energy Output:

All increases in the capacity or energy output of any generation facility interconnected with the Transmission System, other than wind-powered and other non-synchronous Generating Facilities, shall be designed with the ability to maintain a composite power delivery at continuous rated power output at a power factor for all incremental MW of capacity or energy output, of at least 1.0 (unity) to 0.90 lagging. Wind-powered generation facilities and other non-synchronous generation facilities that submitted a New Services Request on or after November 1, 2016, shall be designed with the ability to maintain a composite power delivery at a power factor for all incremental MW of capacity or energy output of at least 0.95 leading to 0.95 lagging measured at the high-side of the facility substation transformers across the full range of continuous rated power output. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two.

The power factor requirement associated with increases in capacity or energy output of more than 20 MW to synchronous generation facilities interconnected with the Transmission System

shall be measured at the generator's terminals. The power factor requirement associated with increases in capacity or energy output of 20 MW or less to synchronous generation facilities interconnected to the Transmission System shall be measured at the Point of Interconnection; however, if the aggregate capacity or energy output of Generating Facility is or will be more than 20 MW, the power factor requirement shall be measure at the generator's terminals.

4.6.1.2 Obligation to Supply Reactive Power:

Project Developer agrees, as and when so directed by Transmission Provider or when so directed by the Transmission Owner acting on behalf or at the direction of Transmission Provider, to operate the Generating Facility to produce reactive power within the design limitations of the Generating Facility pursuant to voltage schedules, reactive power schedules or power factor schedules established by Transmission Provider or, as appropriate, the Transmission Owner. Transmission Provider shall maintain oversight over such schedules to ensure that all sources of reactive power in the PJM Region, as applicable, are treated in an equitable and not unduly discriminatory manner. Project Developer agrees that Transmission Provider and the Transmission Owner, acting on behalf or at the direction of Transmission Provider, may make changes to the schedules that they respectively establish as necessary to maintain the reliability of the Transmission System.

4.6.1.3 Deviations from Schedules:

In the event that operation of the Generating Facility or Merchant Transmission Facility of a Project Developer causes the Transmission System or the Transmission Owner's facilities to deviate from appropriate voltage schedules and/or reactive power schedules as specified by Transmission Provider or the Transmission Owner's operations control center (acting on behalf or at the direction of Transmission Provider), or that otherwise is inconsistent with Good Utility Practice and results in an unreasonable deterioration of the quality of electric service to other customers of Transmission Provider or the Transmission Owner, the Project Developer shall, upon discovery of the problem or upon notice from Transmission Provider or the Transmission Owner, acting on behalf or at the direction of Transmission Provider, take whatever steps are reasonably necessary to alleviate the situation at its expense, in accord with Good Utility Practice and within the reactive capability of the Generating Facility or Merchant Transmission Facility. In the event that the Project Developer does not alleviate the situation within a reasonable period of time following Transmission Provider's or the Transmission Owner's notice thereof, the Transmission Owner, with Transmission Provider's approval, upon notice to the Project Developer and at the Project Developer's expense, may take appropriate action, including installation on the Transmission System of power factor correction or other equipment, as is reasonably required, consistent with Good Utility Practice, to remedy the situation cited in Transmission Provider's or the Transmission Owner's notice to the Project Developer under this section.

4.6.1.4 Payment for Reactive Power:

Any payments to the Project Developer for reactive power shall be in accordance with Tariff, Schedule 2.

4.6.2 Primary Frequency Response:

Generation Project Developer shall ensure the primary frequency response capability of its Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Generation Project Developer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Generating Facility’s real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Generating Facility’s real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Generation Project Developer shall notify Transmission Provider that the primary frequency response capability of the Generating Facility has been tested and confirmed during commissioning. Once Generation Project Developer has synchronized the Generating Facility with the Transmission System, Generation Project Developer shall operate the Generating Facility consistent with the provisions specified in sections 4.6.2.1 and 4.6.2.2 of this agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Generating Facilities.

4.6.2.1 Governor or Equivalent Controls:

Whenever the Generating Facility is operated in parallel with the Transmission System, Generation Project Developer shall operate the Generating Facility with its governor or equivalent controls in service and responsive to frequency. Generation Project Developer shall: (1) in coordination with Transmission Provider and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Generation Project Developer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant balancing authority upon request. If Generation Project Developer needs to operate the Generating Facility with its governor or equivalent controls not in service, Generation Project Developer shall immediately notify Transmission Provider and the relevant balancing authority, and provide both with the

following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Generation Project Developer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Generation Project Developer shall make Reasonable Efforts to keep outages of the Generating Facility's governor or equivalent controls to a minimum whenever the Generating Facility is operated in parallel with the Transmission System.

4.6.2.2 Timely and Sustained Response:

Generation Project Developer shall ensure that the Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Generating Facility has operating capability in the direction needed to correct the frequency deviation. Generation Project Developer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

4.6.2.3 Exemptions:

Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from sections 4.6.2, 4.6.2.1, and 4.6.2.2 of this agreement. Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in section 4.6.2, but shall be otherwise exempt from the operating requirements in sections 4.6.2, 4.6.2.1, 4.6.2.2, and 4.6.2.4 of this agreement.

4.6.2.4 Energy Storage Resources:

Generation Project Developer interconnecting an Energy Storage Resource shall establish an operating range in Schedule I of this GIA that specifies a minimum state of charge and a maximum state of charge between which the Energy Storage Resource will be required to provide primary frequency response consistent with the conditions set forth in sections 4.6.2, 4.6.2.1, 4.6.2.2, and 4.6.2.3 of this agreement. Schedule I shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations

outside of the deadband parameter in the interconnection; (4) the physical capabilities of the Energy Storage Resource; (5) operational limitations of the Energy Storage Resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Provider and Generation Project Developer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Schedule I must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Generation Project Developer's Energy Storage Resource is required to provide timely and sustained primary frequency response consistent with section 4.6.2.2 of this agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the Energy Storage Resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Generation Project Developer's Energy Storage Resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Generation Project Developer's Energy Storage Resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

4.6.2.4.1 Operating Assumptions. When Appendix I to this GIA memorializes the operating assumptions for the charging behavior of a Generating Facility that includes at least one electric storage resource that were studied, Transmission Provider may consider Project Developer to be in Breach of this GIA if Project Developer fails to operate the Generating Facility in accordance with those operating assumptions for charging behavior. However, if Project Developer operates contrary to the operating assumptions for charging behavior specified in Appendix I of this GIA at the direction of Transmission Provider, Transmission Provider shall not consider Project Developer in Breach of this GIA.

4.7 Under- and Over-Frequency and Under- and Over- Voltage Conditions:

The Generation Project Developer shall ensure "frequency ride through" capability and "voltage ride through" capability of its Generating Facility. The Generation Project Developer shall enable these capabilities such that its Generating Facility shall not disconnect automatically or instantaneously from the system or equipment of the Transmission Provider and any Affected Systems for a defined under-frequency or over-frequency condition, or an under-voltage or over-voltage condition, as tested pursuant to section 1.4.4 of Appendix 2 of this Generation Interconnection Agreement. The defined conditions shall be in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the PJM Region on a comparable basis. The Generating Facility's protective equipment settings shall comply with the Transmission Provider's automatic load-shed program. The Transmission Provider shall review the protective equipment settings to confirm compliance with the automatic load-shed program. The term "ride through" as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Provider and any Affected Systems during system disturbances

within a range of conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the Balancing Authority on a comparable basis. The term “frequency ride through” as used herein shall mean the ability of a Generation Project Developer’s Generating Facility to stay connected to and synchronized with the Transmission System or equipment of the Transmission Provider and any Affected Systems during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the PJM Region on a comparable basis. The term “voltage ride through” as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Provider and any Affected Systems during system disturbances within a range of under-voltage and over-voltage conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the PJM Region on a comparable basis.

The Transmission System is designed to automatically activate a load-shed program as required by NERC and each Applicable Regional Entity in the event of an under-frequency system disturbance. A Generation Project Developer shall implement under-frequency and over-frequency relay set points for the Generating Facility as required by NERC and each Applicable Regional Entity to ensure “frequency ride through” capability of the Transmission System. The response of a Generation Project Developer’s Generating Facility to frequency deviations of predetermined magnitudes, both under-frequency and over-frequency deviations shall be studied and coordinated with the Transmission Provider in accordance with Good Utility Practice.

4.8 System Protection and Power Quality:

4.8.1 System Protection:

Project Developer shall, at its expense, install, operate and maintain such System Protection Facilities as may be required in connection with operation of the Generating Facility or Merchant Transmission Facility and the Project Developer Interconnection Facilities consistent with Applicable Technical Requirements and Standards. Transmission Owner shall install any System Protection Facilities that may be required, as determined by Transmission Provider, on the Transmission Owner Interconnection Facilities and Transmission Owner Upgrades or the Transmission System in connection with the operation of the Generating Facility or Merchant Transmission Facility and the Project Developer Interconnection Facilities. Responsibility for the cost of any System Protection Facilities required on the Transmission Owner Interconnection Facilities and Transmission Owner Upgrades or the Transmission System shall be allocated as provided in the GIP.

4.8.2 Power Quality:

The Generating Facility or Merchant Transmission Facility and Project Developer Interconnection Facilities shall not cause excessive deviations from the power quality criteria set forth in the Applicable Technical Requirements and Standards.

4.9 Access Rights:

Each Interconnected Entity shall provide the other Interconnected Entity access to areas under its control as reasonably necessary to permit the other Interconnected Entity to perform its obligations under this Appendix 2, including operation and maintenance obligations. An Interconnected Entity that obtains such access shall comply with all safety rules applicable to the area to which access is obtained. Each Interconnected Entity agrees to inform the other Interconnected Entity's representatives of safety rules applicable to an area.

4.10 Switching and Tagging Rules:

The Interconnected Entities shall comply with applicable Switching and Tagging Rules in obtaining clearances for work or for switching operations on equipment. Such Switching and Tagging Rules shall be developed in accordance with OSHA standards codified at 29 C.F.R. part 1910, or successor standards. Each Interconnected Entity shall provide the other Interconnected Entity a copy of its Switching and Tagging Rules that are applicable to the other Interconnected Entity's activities.

4.11 Communications and Data Protocol:

The Interconnected Entities shall comply with any communications and data protocol that the Transmission Provider may establish.

4.12 Nuclear Generating Facilities:

In the event that the Generating Facility is a nuclear Generating Facility, the Interconnection Parties shall agree to such non-standard terms and conditions as are reasonably necessary to accommodate the Project Developer's satisfaction of Nuclear Regulatory Commission requirements relating to the safety and reliability of operations of such facilities.

SCHEDULE H

RIDE THROUGH REQUIREMENTS FOR ALL GENERATING FACILITIES AND INTERCONNECTION REQUIREMENTS FOR ALL WIND, SOLAR AND NON-SYNCHRONOUS GENERATION FACILITIES

A. Ride Through Requirements for All Generating Facilities

The Transmission System is designed to automatically activate a load-shed program as required by the NERC in the event of an under-frequency/voltage system disturbance. Project Developer shall implement under-frequency/under-voltage and over-frequency/over-voltage relay set points for the Generating Facility as required by NERC to ensure “ride through” capability of the Transmission System. The term “ride through” as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of conditions, in accordance with Good Utility Practice.

[AND]

{Include the following language when the Generating Facility is a wind, solar or non-synchronous generation facility}

B. Voltage and Frequency Ride Through Requirements

~~The Generating Facility shall be designed to remain in service (not trip) for voltages and times as specified for the Eastern Interconnection in Attachment 1 of NERC Reliability Standard PRC-024-1, and successor Reliability Standards, for both high and low voltage conditions, irrespective of generator size, subject to the permissive trip exceptions established in PRC-024-1 (and successor Reliability Standards). For abnormal frequency conditions and voltage conditions within the “no trip zone” defined by Reliability Standard PRC-024-3, or successor mandatory ride through reliability standards, the non-synchronous Large Generating Facility must ensure that, within any physical limitations of the Large Generating Facility, its control and protection settings are configured or set to (1) continue active power production during disturbance and post disturbance periods at pre-disturbance levels, unless reactive power priority mode is enabled or unless providing primary frequency response or fast frequency response; (2) minimize reductions in active power and remain within dynamic voltage and current limits, if reactive power priority mode is enabled, unless providing primary frequency response or fast frequency response; (3) not artificially limit dynamic reactive power capability during disturbances; and (4) return to pre-disturbance active power levels without artificial ramp rate limits if active power is reduced, unless providing primary frequency response or fast frequency response.~~

~~C.~~ **Frequency Ride Through Requirements**

~~The Generating Facility shall be designed to remain in service (not trip) for frequencies and times as specified in Attachment 2 of NERC Reliability Standard PRC-024-1, and successor Reliability Standards, for both high and low frequency condition, irrespective of generator size, subject to the permissive trip exceptions established in PRC-024-1 (and successor Reliability Standards).~~

DC. **Supervisory Control and Data Acquisition (“SCADA”) Capability**

The wind, solar or non-synchronous generation facility shall provide SCADA capability to transmit data and receive instructions from the Transmission Provider to protect system reliability. The Transmission Provider and the wind, solar or non-synchronous generation facility Project Developer shall determine what SCADA information is essential for the proposed wind, solar or non-synchronous generation facility, taking into account the size of the facility and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

ED. **Meteorological Data Reporting Requirement (Applicable to wind generation facilities only)**

The wind generation facility shall, at a minimum, be required to provide the Transmission Provider with site-specific meteorological data including:

- Temperature (degrees Fahrenheit)
- Wind speed (meters/second)
- Wind direction (degrees from True North)
- Atmosphere pressure (hectopascals)
- Forced outage data (wind turbine and MW unavailability)

FE. **Meteorological Data Reporting Requirement (Applicable to solar generation facilities only)**

The solar generation facility shall, at a minimum, be required to provide the Transmission Provider with site-specific meteorological data including:

- Temperature (degrees Fahrenheit)
- Irradiance
- Forced outage data

The Transmission Provider and Project Developer may mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Provider. Such additional mutually agreed upon requirements for meteorological and

forced outage data are set forth below: [STATE "NOT APPLICABLE UNDER THIS GIA" OR SPECIFY THE AGREED UPON METEOROLOGICAL AND FORCED OUTAGE DATA REQUIREMENTS]

SCHEDULE I
INTERCONNECTION SPECIFICATIONS FOR AN
ENERGY STORAGE RESOURCE

{Include the appropriate language from the alternatives below.}

{Include the following language if the Generating Facility is not an Energy Storage Resource:}

Not Required

{Include the following language if the Generating Facility is an Energy Storage Resource:}

This Schedule I specifies information for Energy Storage Resource will be required to provide primary frequency response consistent with the conditions set forth in GIA, Appendix 2, sections 4.6.2 (Primary Frequency Response), 4.6.2.1 (Governor or Equivalent Controls), 4.6.2.2 (Timely and Sustained Response), 4.6.2.3 (Exemptions), and 4.6.2.4 (Energy Storage Resource).

1.0 Minimum State of Charge and Maximum State of Charge

Primary frequency response operating range for Energy Storage Resources:

Minimum State of Charge: _____; and

Maximum State of Charge: _____.

2.0 Static or Dynamic Operating Range

{Specify whether the operating range is static or dynamic. If the operating range is dynamic, then this Schedule I must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.}

3.0 Operating Assumptions

{insert operating assumptions that reflect the charging behavior of the Generating Facility that includes at least one electric storage resource as it was studied, i.e., studied as charging only off-peak or studied as charging 24 hours}

SCHEDULE A

SITE PLAN

SCHEDULE B

SINGLE-LINE DIAGRAM

{If Municipality/Cooperative: Make sure the point of common coupling is designated in the Single-Line Diagram *in addition to* the Point of Interconnection.}

SCHEDULE C

LIST OF METERING EQUIPMENT

{Include the following language if not required:}

Not Required.

{If Municipality/Cooperative: Make sure to account for the fact that metering may be installed at the point of common coupling. *For example:*

Wholesale Market Participant shall be responsible for the installation of metering and telemetry at the point of common coupling (as shown in Schedule B) between the Generating Facility and the [insert name of Municipality/Cooperative] system as required by PJM Manuals M-01 and M14D. [Insert name of Municipality/Cooperative] and Wholesale Market Participant will together determine meter ownership.

Wholesale Market Participant shall make its metering data at the point of common coupling available to [insert name of Municipality/Cooperative], or its affiliate, via telemetry for use by [insert name of Municipality/Cooperative] and Transmission Owner for balancing, settlement, and audit purposes. Wholesale Market Participant may purchase and install its own backup metering.}

SCHEDULE D

LIST OF NETWORK UPGRADES

{Include the following language if not required:}

Not Required.

{Otherwise, list the System Network Upgrades and Substation Network Upgrades identified through the System Impact Studies in the summary table below, with Stand Alone Network Upgrades, if any, listed separately after the table, and include the sentence below.}

Summary Table of Substation Network Upgrades and System Network Upgrades

<u>Facility</u>	<u>System or Substation Network Upgrade</u>

[List of Stand-Alone Network Upgrades]

Construction of these Network Upgrades listed in Schedule D of this WMPA is subject to the terms and conditions of a separate facilities construction agreement between Wholesale Market Participant and Transmission Owner.

SCHEDULE E

APPLICABLE TECHNICAL REQUIREMENTS AND STANDARDS

{Include the following language if not required:}

Not Required.

{Otherwise, include the following language:}

Except as otherwise provided in the Interconnection Agreement, as applicable, the following technical requirements and standards shall apply. To the extent that these Applicable Technical Requirements and Standards conflict with the terms and conditions of the Tariff or any other provision of this WMPA, the Tariff and/or this WMPA shall control.

*{Instructions: If the relevant TO Applicable Technical Requirements and Standards **are** posted on the PJM website, use the following language:}*

[Name of TO Standards] [version number (if known and applicable)] dated [insert effective date of the Standards] shall apply. The [Name of TO Standards] [version number (if known and applicable)] dated [insert effective date of the Standards] is available on the PJM website.

*{Instructions. If the relevant TO Applicable Technical Requirements and Standards **are not** posted on the PJM website, use the following language, subject to modifications as appropriate:}*

[Name of TO Standards] [version number (if known and applicable)] dated [insert effective date of the Standards] shall apply.

SCHEDULE F

SCHEDULE OF NON-STANDARD TERMS & CONDITIONS

{Include the following language if not required:}

Not Required.

Tariff, Part IX, Subpart O

**FORM OF
AFFECTED SYSTEM CUSTOMER IMPACT STUDY AGREEMENT**

AFFECTED SYSTEM CUSTOMER IMPACT STUDY AGREEMENT

Among

PJM Interconnection, L.L.C.

And

{Affected System Customer legal name}

(Affected System Operator Identifier: {Affected System Operator and interconnection request number})

RECITALS

1. This Affected System Customer Impact Study Agreement (the “Agreement”), is entered into by and between {Affected System Customer legal name} (“Affected System Customer”) and PJM Interconnection, L.L.C. (“PJM” or “Transmission Provider”) (individually, a “Party,” and together, the “Parties”) in accordance with the PJM Interconnection, L.L.C. Open Access Transmission Tariff (“Tariff”).
2. Affected System Customer desires that Transmission Provider determine whether to commence an Affected System Customer Impact Study (the “Impact Study”) in connection with the following non-PJM interconnection request to {Affected System Operator legal name}'s (“{Affected System Operator acronym}” or “Affected System Operator”) transmission system: {Affected System Operator and interconnection request number} (“Affected System Interconnection Request”) pursuant to Tariff, {Part VII/VIII}, Subpart G (Affected System rules) and the PJM Manuals.
3. Pursuant to Tariff, {Part VII/VIII}, Subpart G (Affected System rules), Affected System Customer is responsible for an Affected System Facility that may require Network Upgrades to Transmission Provider’s Transmission System, and Transmission Provider has notified Affected System Customer of the need to enter into this Agreement.
4. Unless otherwise specified, when used in this Agreement with initial capitalizations, the terms specified shall have the meanings indicated in Tariff, Part I, Article I or {Part VII/VIII}.

PURPOSE AND SCOPE OF THE AGREEMENT

5. Transmission Provider, in consultation with Affected System Customer and the affected Transmission Owner(s), shall commence an Impact Study to determine any impacts by the Affected System Interconnection Request to the Transmission System. Any reference to the Impact Study shall include any restudies as provided in section 0 of this Agreement.
6. Scope of Impact Study. The scope of work for this Agreement is to perform an Affected System Study, which shall include as applicable, but not be limited to, a thermal analysis, voltage analysis, short circuit analysis, and a stability analysis, of the Affected System Facilities associated with the Affected System Interconnection Request interconnecting to {POI name and location} to assess the impact of the Affected System Facility on the Transmission Provider’s Transmission System. The Impact Study will include an assessment of whether any Network Upgrades to Transmission Provider’s Transmission

System may be required to mitigate the impacts resulting from the Affected System Facility.

7. Technical Information. The Impact Study will be based upon the technical information provided by Affected System Customer and Affected System Operator, which shall be due upon execution of this Agreement. Transmission Provider reserves the right to request additional technical information from Affected System Customer as may reasonably become necessary during the Impact Study. Delays in providing the additional technical information to Transmission Provider may cause delays in Affected System Customer receiving the results of the Impact Study as estimated in section 0 of this Agreement. Affected System Customer shall provide the requested information to Transmission Provider within ten (10) Business Days of Transmission Provider's request for the additional technical information. If Affected System Customer fails to provide any requested information to Transmission Provider within ten (10) Business Days of Transmission Provider's request, then this Agreement shall be terminated.
8. Impact Study Time Estimate. Transmission Provider shall complete the Impact Study on or before the first Business Day 120 days after Transmission Provider receives all Affected System Customer's technical information pursuant to this Agreement, section 7. Transmission Provider may extend the time to complete the Impact Study, in Transmission Provider's sole discretion, due to a need for restudy as provided in this Agreement, section 9.
9. Restudy. Transmission Provider may conduct a restudy at any time if Transmission Provider determines, in Transmission Provider's sole discretion, that there is a change in the case assumption, including but not limited to a withdrawal of an Interconnection Request in Transmission Provider's interconnection queue or a material change in the Impact Study's technical information. Transmission Provider shall notify Affected System Customer of the need for a restudy within 10 Business days of such a determination and complete any restudy within 90 days of such notice.
10. The Impact Study will employ various assumptions, including assumptions regarding the Affected System Interconnection Request, other pending Interconnection Request(s), and PJM's Regional Transmission Expansion Plan at the time of the Impact Study, which shall be outlined in the PJM Manuals. IN NO EVENT SHALL THIS AGREEMENT OR THE IMPACT STUDY IN ANY WAY BE DEEMED TO OBLIGATE TRANSMISSION PROVIDER TO CONDUCT AN AFFECTED SYSTEM CUSTOMER FACILITIES STUDY OR TO PROVIDE ANY TRANSMISSION OR INTERCONNECTION SERVICE TO OR ON BEHALF OF AFFECTED SYSTEM CUSTOMER EITHER AT THIS POINT IN TIME OR IN THE FUTURE.

10.1 The Impact Study will provide one or more of the following:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the Affected System Interconnection Request;
- identification of any thermal overload or voltage limit violations resulting from the Affected System Interconnection Request;

- identification of any instability or inadequately damped response to system disturbances resulting from the Affected System Interconnection Request;
- a non-binding, good faith estimated cost and time required to construct facilities required on Transmission Provider's Transmission System to accommodate the interconnection of the Affected System Facility/ies to the transmission system of the host transmission provider; and
- description of how such facilities will address the identified short circuit, instability, and power flow issues.

CONFIDENTIALITY

11. Affected System Customer agrees to provide all information requested by Transmission Provider necessary to complete the Impact Study. Subject to these provisions of the Agreement entitled "CONFIDENTIALITY" and to the extent required by Tariff, Part VII, Subpart E, section 327, or Tariff, Part VIII, Subpart E, section 425, as applicable, information provided pursuant to this Agreement shall be and remain confidential.
12. Until completion of the Impact Study, Transmission Provider shall keep confidential all information provided to it by Affected System Customer. Upon completion of the Impact Study, Transmission Provider shall notify Affected System Customer of the results of the Impact Study along with related work papers, but only to the extent consistent with Transmission Provider's confidentiality obligations in PJM Operating Agreement, section 18.17. Affected System Customer acknowledges and consents to such other, additional disclosures of information as may be required under the Tariff or the Federal Energy Regulatory Commission's ("FERC") rules and regulations.
13. Affected System Customer acknowledges that the affected Transmission Owner(s) may participate in the Impact Study and that Transmission Provider may disseminate information to the affected Transmission Owner(s) and may consult with them regarding part or all of the Impact Study.

COST RESPONSIBILITY

14. Concurrent with execution of this Agreement, Affected System Customer shall provide to Transmission Provider a deposit of \$30,000 in cash through electronic wire transfer ("Impact Study Deposit"). Affected System Customer shall include the project identification or reference number assigned by the Affected System Operator and attach the relevant documentation that identifies the need for the Impact Study.

Actual Impact Study costs may exceed the Impact Study Deposit. Notwithstanding the amount of the Impact Study Deposit, Affected System Customer shall reimburse Transmission Provider for all actual costs of the Impact Study. If Transmission Provider sends Affected System Customer notification of additional costs, then Affected System Customer must pay all additional costs within twenty (20) Business Days of Transmission Provider's sending of the notification. If Affected System Customer fails

to pay the Impact Study Deposit or any additional costs within the timeframe provided in this section 0, then this Agreement shall be terminated.

Any difference between the Impact Study Deposit and the actual cost of the Impact Study or restudy, if necessary, shall be paid by or refunded to Affected System Customer, as applicable, including interest calculated in accordance with 18 C.F.R. §35.19a(a)(2).

15. If Affected System Customer elects to cancel the Impact Study prior to its completion, then Affected System Customer shall notify Transmission Provider with at least five (5) Business Days prior written notice. Affected System Customer shall reimburse Transmission Provider for the total actual costs incurred by Transmission Provider for work associated with the Impact Study prior to the notification to cancel the Impact Study as well as any actual costs incurred by Transmission Provider in administering the cancellation process. Transmission Provider shall, as soon as practicable after receiving the notification to cancel the Impact Study, return the amount, if any, by which the Impact Study Deposit exceeds the total actual costs. If such costs, including applicable overheads, exceed the Impact Study Deposit, Transmission Provider shall submit to Affected System Customer a written invoice for the amount due, payable to Transmission Provider.

DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY

16. In conducting the Impact Study, Transmission Provider, affected Transmission Owner(s), and any other subcontractors employed by Transmission Provider shall have to rely on information provided by Affected System Customer and possibly by third parties and may not have control over the accuracy of such information. Accordingly, NEITHER THE TRANSMISSION PROVIDER, THE TRANSMISSION OWNERS, NOR ANY OF THEIR RESPECTIVE BOARD MEMBERS, EMPLOYEES, AGENTS, CONTRACTORS, OR SUBCONTRACTORS (TOGETHER, THE "TRANSMISSION ENTITIES") MAKE ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW, COURSE OF PERFORMANCE OR DEALING, CUSTOM, USAGE IN THE TRADE OR PROFESSION, OR OTHERWISE, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE ACCURACY, CONTENT, OR CONCLUSIONS OF THE IMPACT STUDY. Affected System Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder. Neither this Agreement nor the results of the Impact Study prepared hereunder is intended, nor shall either be interpreted, to constitute agreement by Transmission Provider or affected Transmission Owner(s) to provide Interconnection Service or Transmission Service to or on behalf of Affected System Customer either at this time or in the future.
17. In no event will the Transmission Entities be liable for any indirect, special, incidental, punitive, or consequential damages of any kind including loss of profits, arising under or in connection with this Agreement or the Impact Study, even if the Transmission Entities have been advised of the possibility of such a loss. Nor shall the Transmission Entities

be liable for any delay in delivery, or for the non-performance or delay in performance of, Transmission Provider's obligations under this Agreement.

18. Without limitation of the foregoing, Affected System Customer further agrees that the affected Transmission Owner(s) and others employed by Transmission Provider to prepare or assist in the preparation of any Impact Study shall be deemed third-party beneficiaries of this Agreement.

NOTICES

19. Any notice, demand, or request required or permitted to be given by any Party to another and any instrument required or permitted to be tendered or delivered by any Party in writing to another may be so given, tendered, or delivered electronically, or by recognized national courier or by depositing the same with the United States Postal Service, with postage prepaid for delivery by certified or registered mail addressed to the Party, or by personal delivery to the Party, at the address specified below.

Transmission Provider:

PJM	Interconnection,	L.L.C.
2750	Monroe	Boulevard
Audubon,	PA	19403
interconnectionagreementnotices@pjm.com		

Affected System Customer:

MISCELLANEOUS

20. Waiver. No waiver by either Party of one or more defaults by the other in performance of any of the provisions of this Agreement shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or different character.
21. Amendment and Assignment. This Agreement or any part thereof, may not be amended, modified, assigned, or waived other than by a writing signed by all Parties hereto.
22. Successors and Assigns. This Agreement shall be binding upon the Parties hereto, their heirs, executors, administrators, successors, and assigns.
23. Construction with Other Parts of the Tariff. Neither this Agreement nor the Impact Study performed hereunder shall be construed as an application for service under Tariff, Part II or Tariff, Part III. The results of the Impact Study are not intended for use in participating in the Transmission Provider's energy, capacity, or any other market.
24. Incorporation of Other Documents. The provisions of Tariff, Part VII or Tariff, Part VIII, as applicable, and the PJM Operating Agreement pertinent to the subject matter of this Agreement are incorporated herein and made a part hereof.

25. **Effective Date.** This Agreement shall become effective on the date it is executed by all Parties and shall remain in effect until the earlier of (a) the date on which Transmission Provider tenders the results of the Impact Study and, as applicable, a proposed Affected System Customer Facilities Study Application and Agreement to Affected System Customer, (b) termination and withdrawal of the Affected System Interconnection Request, or (c) termination by Transmission Provider under section 0 of this Agreement.
26. **No Third-Party Beneficiaries.** Unless otherwise specified in this Agreement, this Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.
27. **Multiple Counterparts.** This Agreement may be executed in two or more counterparts, each of which is deemed an original but all of which constitute one and the same instrument.
28. **No Partnership.** This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.
29. **Severability.** If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.
30. **Governing Law, Regulatory Authority, and Rules.** This Agreement shall be deemed a contract made under, and the interpretation and performance of this Agreement and each of its provisions shall be governed and construed in accordance with, the applicable Federal and/or laws of the Commonwealth of Pennsylvania without regard to conflicts of laws provisions that would apply the laws of another jurisdiction. This Agreement is subject to all Applicable Laws and Regulations.
31. **Reservation of Rights.** Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; and Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that Affected System Customer shall have the right to protest any such filing and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of

the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, Transmission Provider and Affected System Customer have caused this Agreement to be executed by their respective authorized officials as of the latest date stated with _____ all _____ parties' _____ signatures.

Affected System Operator identifier: {Affected System Operator and interconnection request number}

Transmission Provider: PJM Interconnection, L.L.C.

Name Title Date

Printed Name

Affected System Customer: {Affected System Customer legal name}

Name Title Date

Printed Name

Attachment B

Revisions to the
PJM Open Access Transmission Tariff

(Clean Format)

Tariff, Part VIII, Subpart A, section 400
Definitions S

Schedule of Work:

“Schedule of Work” shall mean that Schedule of Work set forth in GIA, Schedule L, section 8.0, or CSA, Appendix I, as applicable, setting forth the timing of work to be performed by the Constructing Entity(ies), based upon the System Impact Study(ies) and subject to modification, as required, in accordance with Transmission Provider’s scope change process for interconnection projects set forth in the PJM Manuals.

Scope of Work:

“Scope of Work” shall mean that scope of the work set forth in GIA, Specifications, section 3.0 to be performed by the Constructing Entity(ies) or scope of work set forth in CSA, Schedule C, provided that such Scope of Work may be modified, as required, in accordance with Transmission Provider’s scope change process for interconnection projects set forth in the PJM Manuals.

Secondary Systems:

“Secondary Systems” shall mean control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers.

Security:

“Security” shall mean the financial guaranty provided by the Project Developer, Eligible Customer or Upgrade Customer pursuant to Tariff, Part VIII, Subpart C, sections 406(A)(2) and (3), and Tariff, Part VIII, Subpart C 408(A)(2)(d), and Tariff, Part VIII, Subpart C, section 410(A)(1) to secure the Project Developer’s, Eligible Customer’s or Upgrade Customer responsibility for Costs under an interconnection-related agreement set forth in Tariff, Part IX.

Service Agreement:

“Service Agreement” shall mean the initial agreement and any amendments or supplements thereto entered into by the Transmission Customer and the Transmission Provider for service under the Tariff.

Site:

“Site” shall mean all of the real property including, but not limited to, any owned or leased real property, bodies of water and/or submerged land, and easements, or other forms of property rights acceptable to PJM, on which the Generating Facility or Merchant Transmission Facility is situated and/or on which the Project Developer Interconnection Facilities are to be located.

Site Control:

“Site Control” shall mean the evidentiary documentation provided by Project Developer in relation to a New Service Request demonstrating the requirements as set forth in the following Tariff, Part VIII, Subpart A, section 402, and Tariff, Part VIII, Subpart B, section 403, and Tariff, Part VIII, Subpart C, section 406 and Tariff, Part VIII, Subpart C, section 410.

Stand Alone Network Upgrades:

“Stand Alone Network Upgrades” shall mean Network Upgrades, which are not part of an Affected System, which a Project Developer may construct without affecting day-to-day operations of the Transmission System during their construction. Transmission Provider, Transmission Owner and Project Developer must agree as to what constitutes Stand Alone Network Upgrades and identify them in GIA, Specifications, section 3.0. If the Transmission Provider or Transmission Owner and Project Developer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider or Transmission Owner that disagrees with the Project Developer must provide the Project Developer a written technical explanation outlining why the Transmission Provider or Transmission Owner does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

State:

“State” shall mean the District of Columbia and any State or Commonwealth of the United States.

State of Charge:

“State of Charge” shall mean the quantity of physical energy stored in an Energy Storage Resource Model Participant or in a storage component of a Hybrid Resource in proportion to its maximum State of Charge capability. State of Charge is quantified as defined in the PJM Manuals.

Station Power:

“Station Power” shall mean energy used for operating the electric equipment on the site of a generation facility located in the PJM Region or for the heating, lighting, air-conditioning and office equipment needs of buildings on the site of such a generation facility that are used in the operation, maintenance, or repair of the facility. Station Power does not include any energy (i) used to power synchronous condensers; (ii) used for pumping at a pumped storage facility; (iii) used in association with restoration or black start service; or (iv) that is Direct Charging Energy.

Study Deposit:

“Study Deposit” shall mean the payment in the form of cash required to initiate and fund any study provided for in Tariff, Part VIII, Subpart A, section 401.

Substation Network Upgrade:

“Substation Network Upgrade” shall mean a Network Upgrade required to establish the Point of Interconnection and enable a Generating Facility or Generating Facilities to interconnect to the Transmission System. Substation Network Upgrades include, but are not limited to, construction or modification of substations, circuit breakers, buswork, protection schemes, or other infrastructure necessary to create or reinforce the Point(s) of Interconnection in accordance with Good Utility Practice and applicable NERC standards. Substation Network Upgrades are designed to support the operation, reliability and stability of the Transmission System with or without the operation of the Generating Facility and are distinct from System Network Upgrades. Costs for Substation Network Upgrades shall be allocated to the Project Developers within the same Cycle causing the need for the Substation Network Upgrade as provided in Tariff, Part VIII, Subpart C, section 404(A)(5)(d). Substation Network Upgrades are subject to the Site Control provisions in Tariff, Part VIII, Subpart A, section 402. A Substation Network Upgrade can be a Stand Alone Network Upgrade. Cost and schedule estimates for Substation Network Upgrades are provided in the Phase II Facilities Study.

Surplus Project Developer:

“Surplus Project Developer” shall mean either a Project Developer whose Generating Facility is already interconnected to or has executed (or requested to file unexecuted) an Interconnection Service Agreement or Generation Interconnection Agreement to interconnect to the PJM Transmission System or one of its affiliates, or an unaffiliated entity that submits a Surplus Interconnection Request to utilize Surplus Interconnection Service within the Transmission System in the PJM Region.

Surplus Service Request Number:

“Surplus Service Request Number” shall mean, when an Application from a Surplus Interconnection Service Customer results in a valid Surplus Interconnection Request, in accordance with Tariff, Part VIII, Subpart E, section 414, the assigned Surplus Service Request Number to such request as confirmed by Transmission Provider. The Request Number will indicate the serial position and priority.

Surplus Interconnection Request:

“Surplus Interconnection Request” shall mean a request submitted by a Surplus Project Developer, pursuant to Tariff, Part VIII, Subpart E, section 414, to utilize Surplus Interconnection Service within the Transmission System in the PJM Region. A Surplus Interconnection Request is not a New Service Request.

Surplus Interconnection Service:

“Surplus Interconnection Service” shall mean any unneeded portion of Interconnection Service established in an Interconnection Service Agreement or a Generation Interconnection Agreement, such that if Surplus Interconnection Service is utilized, the total amount of Interconnection Service at the Point of Interconnection would remain the same.

Surplus Interconnection Study Agreement:

“Surplus Interconnection Study Agreement” shall mean the form of the Surplus Interconnection Study Agreement set forth in Tariff, Part IX, Subpart I.

Switching and Tagging Rules:

“Switching and Tagging Rules” shall mean the switching and tagging procedures of Transmission Owners and Project Developer as they may be amended from time to time.

System Impact Study:

“System Impact Study” shall mean an assessment(s) by the Transmission Provider of (i) the adequacy of the Transmission System to accommodate a New Service Request, (ii) whether any additional costs may be incurred in order to provide such transmission service or to accommodate a New Service Request, and (iii) an estimated date that the New Service Requests can be interconnected with the Transmission System and an estimate of the cost responsibility for the interconnection of the New Service Request; and (iv) with respect to an Upgrade Request, the estimated cost of the requested system upgrades or expansion, or of the cost of the system upgrades or expansion, necessary to provide the requested incremental rights.

System Network Upgrades:

“System Network Upgrade” shall mean a Network Upgrade beyond the substation located at the Point of Interconnection required to mitigate flow gate violations, thermal overloads, voltage issues, or other reliability constraints identified in the System Impact Study due to the addition of one or more Generating Facilities. System Network Upgrades may include, but are not limited to, reconductoring, line upgrades, transformer replacements, or other modifications to enhance system capacity or stability. Costs for System Network Upgrades shall be allocated among Project Developers in the same Cycle using the Proportional Impact Method as provided in Tariff, Part VIII, Subpart C, section 404(A)(5)(d). A Project Developer is not required to obtain Site Control for a System Network Upgrade; however, Project Developers will bear the cost of land acquisition if land is required for the construction of the System Network Upgrade. A System Network Upgrade can be a Stand Alone Network Upgrade. Cost and schedule estimates for System Network Upgrades are provided in the Phase III Facilities Study.

System Protection Facilities:

“System Protection Facilities” shall refer to the equipment required to protect (i) the Transmission System, other delivery systems and/or other generating systems connected to the Transmission System from faults or other electrical disturbance occurring at or on the Generating Facility, and (ii) the Generating Facility from faults or other electrical system disturbance occurring on the Transmission System or on other delivery systems and/or other generating systems to which the Transmission System is directly or indirectly connected. System Protection Facilities shall include such protective and regulating devices as are identified in the Applicable Technical Requirements and Standards or that are required by Applicable Laws and Regulations

or other Applicable Standards, or as are otherwise necessary to protect personnel and equipment and to minimize deleterious effects to the Transmission System arising from the Generating Facility.

Tariff, Part VIII, Subpart B, section 403
Application Rules

A. Application Submission

For each New Service Request a Project Developer or Eligible Customer (collectively, “Applicant”) seeks to initiate, Applicant must submit the following information to the Transmission Provider: (i) a Project Developer Applicant electronically submits through the PJM web site, an Application and Studies Agreement (“Application”), a form of which is provided in Tariff, Part IX, Subpart A, (ii) an Eligible Customer Applicant electronically submits a Completed Application and subsequently executes an Application, a form of which is provided in Tariff, Part IX, Subpart A following the procedures outlined in Tariff, Parts II and III as applicable. Project Developers seeking to submit to a Cycle a Generating Facility where multiple units share a Site and sit behind the same Point of Interconnection may submit a single or multiple Generation Interconnection Request(s); however, each Generation Interconnection Request must individually comply with the requirements of the Tariff.

To be considered in a Cycle, a Project Developer must submit a completed and signed Application, including the required Study Deposit and Readiness Deposit, to Transmission Provider prior to the Cycle’s Application Deadline. To be considered in a Cycle, an Eligible Customer must submit a Completed Application, to Transmission Provider prior to the Cycle’s Application Deadline. Transmission Provider will post a firm Application Deadline for a Cycle at the beginning of Phase II of the immediately prior Cycle, no less than 180 days in advance of the Application Deadline. Only Completed New Service Requests received from Project Developers by the Application Deadline will be considered for the corresponding Cycle. Only Completed Applications received from Eligible Customers by the Application Deadline will be considered for the corresponding Cycle. Completed New Service Requests and Completed Applications shall be assigned a tentative Project Identifier. Transmission Provider will review and validate New Service Requests and the Project Identifier during the Application Phase, prior to Phase I of the corresponding Cycle. Only valid New Service Requests will proceed past the Application Phase.

1. Generation Interconnection Request Requirements

For Transmission Provider to consider an Application for a Generation Interconnection Request complete, Applicant must include at a minimum each of the following, as further described in the Application and PJM Manuals:

- a. Provide all Applicant information required in the Application, including parent company information, banking and wire transfer information, and surety information.
- b. Specify the location of the proposed Point of Interconnection to the Transmission System, including the substation name or the name of the line

to be tapped (including the voltage), the estimated distance from the substation endpoints of a line tap, address, and GPS coordinates.

- c. Provide information about the Generating Facility project or projects, including whether it is or they are (1) a proposed new Generating Facility/ies, (2) an increase in capability of an existing Generating Facility/ies, or (3) the replacement of an existing Generating Facility/ies.
- d. Indicate the type of Interconnection Service requested, whether (1) Energy Resource only or (2) Capacity Resource (includes Energy Resource) with Capacity Interconnection Rights.
- e. Specify the project location and provide a detailed site plan.
- f. Submit required evidence of Generating Facility/ies Site Control (including the location of the main step-up transformer), including a certification by an officer or authorized representative of Applicant; and, at Transmission Provider's request, copies of landowner attestations or county recordings.
- g. Provide information about Qualifying Facility status under the Public Utility Regulatory Policies Act, as applicable.
- h. [Reserved]
- i. For a new Generating Facility/ies, specify requested Maximum Facility Output and Capacity Interconnection Rights.
- j. For a requested increase in generation capability of an existing Generating Facility, specify the existing Maximum Facility Output and Capacity Interconnection Rights, and requested increases.
- k. Provide a detailed description of the equipment configuration and electrical design specifications for the Generating Facility/ies.
- l. Specify the fuel type for the Generating Facility/ies; or, in the case of a multi-fuel Generating Facility/ies, the fuel types.
- m. For a multi-fuel Generating Facility/ies, provide a detailed description of the physical and electrical configuration.
- n. If the Generating Facility/ies will include a storage component, provide detailed information about (1) whether and how the storage device(s) will charge using energy from the Transmission System, (2) the primary frequency response operating range for the storage device(s), (3) the MWh stockpile, (4) the hour class, as applicable, and (5) whether Project Developer requests that PJM study the storage component as charging 24

hours a day, i.e., charging at peak (if Project Developer does not opt in to 24-hour charging, Transmission Provider shall apply the charging operating assumptions contained in the fuel dispatch methodology as specified in PJM Manual 14B).

- o. Specify the proposed date that the project or uprate associated with the Application will be in service. This commercial operation date, which shall not exceed seven (7) years from the date the Generation Interconnection Request is received by Transmission Provider, shall be used to calculate the permissible extension of the commercial operation date prior to Project Developer executing a GIA or requesting that the GIA be filed unexecuted.
- p. For new Generating Facilities, submit required Dynamic Models and Dynamic Modeling Package in accordance with PJM Manual 14H.
- q. Provide other relevant information, including whether Applicant or an affiliate has submitted a previous Application for the Generating Facility; and, if an increase in generation capability, information about existing PJM Service Agreements and associated Queue Position Nos. or Project Identifier Nos.

2. Behind the Meter Generator Application Requirements

In addition to the above requirements for a Generating Facility, in order for Transmission Provider to consider an Application for behind-the-meter generation Interconnection Service complete, Applicant must include at a minimum each of the following, as further described in the Application and PJM Manuals:

- a. Specify gross output, behind the meter load, requested Maximum Facility Output, and requested Capacity Interconnection Rights.
- b. For a requested increase in generation capability of an existing Behind the Meter Generating Facility, specify existing and requested increase in gross output, behind the meter load, Maximum Facility Output, and Capacity Interconnection Rights.

3. Long Term Firm Transmission Service Application Requirements

For Transmission Provider to consider an Application for Long Term Firm Transmission Service complete, Applicant must include at a minimum each of the following, as further described in the Application and PJM Manuals:

- a. Provide all Applicant information required in the Application, including parent company information and banking and wire transfer information.
- b. Specify the locations of the Point(s) of Receipt and Point(s) of Delivery.

- c. Specify the requested Service Commencement Date and term of service.
- d. Specify the transmission capacity requested for each Point of Receipt and each Point of Delivery on the Transmission System.

4. Merchant Transmission Application Requirements

For Transmission Provider to consider an Application for a Transmission Interconnection Request complete, Applicant must include at a minimum each of the following, as further described in the Application and PJM Manuals:

- a. Provide all Applicant information required in the Application, including parent company information and banking and wire transfer information.
- b. Specify the location of the proposed facilities, and the name and description of the substation where Applicant proposes to interconnect or add its facilities.
- c. Specify the proposed voltage and nominal capability of new facilities or increase in capability of existing facilities.
- d. Provide a detailed description of the equipment configuration and electrical design specifications for the project.
- e. Specify the proposed date that the project or increase in capability will be in service.
- f. Specify whether the proposed facilities will be either (1) merchant A.C., (2) Merchant D.C. Transmission Facilities, or (3) Controllable A.C. Merchant Transmission Facilities.
- g. If Merchant D.C. Transmission Facilities or Controllable A.C. Merchant Transmission Facilities, specify whether Applicant elects to receive (1) Firm or Non-Firm Transmission Injection Rights (TIR) and/or Firm or Non-Firm Transmission Withdrawal Rights (TWR) or (2) Incremental Delivery Rights, Incremental Auction Revenue Rights, and/or Incremental Capacity Transfer Rights.
 - i. If Applicant elects to receive TIRs or TWRs, specify (1) total project MWs to be evaluated as Firm (capacity) injection for TIR; (2) total project MWs to be evaluated as Non-firm (energy) injection for TIR; (3) total project MWs to be evaluated as Firm (capacity) withdrawal for TWR; and (4) total project MWs to be evaluated as Non-firm (energy) withdrawal for TWR.

- ii. If Applicant elects to receive Incremental Delivery Rights, specify the location on the Transmission System where it proposes to receive Incremental Delivery Rights associated with its proposed facilities.
 - h. If the proposed facilities will be Controllable A.C. Merchant Transmission Facilities, and provided that Applicant contractually binds itself in its interconnection-related service agreement always to operate its Controllable A.C. Merchant Transmission Facilities in a manner effectively the same as operation of D.C. transmission facilities, the interconnection-related service agreement will provide Applicant with the same types of transmission rights that are available under the Tariff for Merchant D.C. Transmission Facilities. In the Application, Applicant shall represent that, should it execute an interconnection-related service agreement for its project described in the Application, it will agree in the interconnection-related service agreement to operate its facilities continuously in a controllable mode.
 - i. Specify the site where Applicant intends to install its major equipment, and provide a detailed site plan.
 - j. Submit required evidence of Site Control for the major equipment, including a certification by an officer or authorized representative of Applicant; and, at Transmission Provider's request, copies of landowner attestations or county recordings.
 - k. Provide evidence acceptable to Transmission Provider that Applicant has submitted a valid interconnection request with the adjacent Control Area(s) in which it is interconnecting, as applicable. Applicant shall maintain its queue position(s) with such adjacent Control Area(s) throughout the entire PJM Transmission Interconnection Request process for the relevant PJM Transmission Interconnection Request. If Applicant fails to maintain its queue position(s) with such adjacent Control Area(s) throughout the entire PJM Transmission Interconnection Request process for the relevant PJM Transmission Interconnection Request, the relevant PJM Transmission Interconnection Request shall be deemed to be terminated and withdrawn.
- 5. Additional Requirements Applicable to All Applications
 - a. Study Deposit: For Transmission Provider to consider an Application complete, Transmission Provider must receive from the Applicant the required Study Deposit by wire transfer, the amount of which is based on the size of the project or projects as described below. Applicant's wire transfer must specify the Application reference number to which the Study Deposit corresponds, or Transmission Provider will not review or process the Application.

- i. Ten percent of the Study Deposit is non-refundable. If Applicant withdraws its New Service Request, or the New Service Request is otherwise deemed rejected or terminated and withdrawn, any unused portion of the non-refundable deposit monies shall be used to fund:
 - (a) Any outstanding monies owed by Applicant in connection with outstanding invoices due to Transmission Provider, Transmission Owner(s), and/or third party contractors, as applicable, as a result of any failure of Applicant to pay actual costs associated with the New Service Request;
 - (b) Any restudies required as a result of the rejection, termination, and/or withdrawal of such New Service Request; and/or
 - (c) Any outstanding monies owed by Applicant in connection with outstanding invoices related to other New Service Requests.

- ii. Ninety percent of the Study Deposit is refundable, and Transmission Provider shall utilize, in no particular order, the refundable portion of each total deposit amount to cover the following:
 - (a) The cost of the Application review;
 - (b) The dollar amount of Applicant's cost responsibility for the System Impact Study; and
 - (c) If the New Service Request is modified, rejected, terminated, and/or withdrawn, refundable deposit money shall be applied to cover all of the costs incurred by Transmission Provider up to the point of the New Service Request being modified, rejected, terminated and/or withdrawn, and any remaining refundable deposit monies shall be applied to cover:
 - (i) The costs of any restudies required as a result of the modification, rejection, termination, and/or withdrawal of the New Service Request;
 - (ii) Any outstanding monies owed by Applicant in connection with outstanding invoices due to Transmission Provider, Transmission Owner(s), and/or third party contractors, as applicable, as a result of any failure of Applicant to pay actual costs associated with the New Service Request; and/or

- (iii) Any outstanding monies owed by Applicant in connection with outstanding invoices related to other New Service Requests.
 - (d) If any refundable deposit monies remain after all costs and outstanding monies owed, as described in this section, are covered, such remaining refundable deposit monies shall be returned to Applicant in accordance with the PJM Manuals.
 - iii. The Study Deposit is non-binding, and actual study costs may exceed the Study Deposit.
 - (a) Applicant is responsible for, and must pay, all actual study costs.
 - (b) If Transmission Provider sends Applicant notification of additional study costs, then Applicant must either: (i) pay all additional study costs within 20 Business Days of Transmission Provider sending the notification of such additional study costs or (ii) withdraw its New Service Request. If Applicant fails to complete either (i) or (ii), then Transmission Provider shall deem the New Service Request to be terminated and withdrawn.
 - iv. The Study Deposit shall be calculated as follows, based on the number of MW energy (e.g., Maximum Facility Output) or MW capacity (e.g., Capacity Interconnection Rights), whichever is greater:
 - (a) Up to 20 MW: \$75,000;
 - (b) Over 20 MW up to 50 MW: \$200,000;
 - (c) Over 50 MW up to 100 MW: \$250,000;
 - (d) Over 100 MW up to 250 MW: \$300,000;
 - (e) Over 250 MW up to 750 MW: \$350,000; and
 - (f) Over 750 MW: \$400,000.
- b. Readiness Deposit: For Transmission Provider to consider an Application complete, Applicant must submit to Transmission Provider the required Readiness Deposit by wire transfer, letter of credit, or surety bond. Applicant's wire transfer, letter of credit, or surety bond must specify the

Application reference number to which the Readiness Deposit corresponds, or Transmission Provider will not review or process the Application. Only one form of payment (wire transfer, letter of credit, or surety bond) may be submitted for each Readiness Deposit, but different forms of payment may be used for different Readiness Deposits. Readiness Deposit No. 1 shall be an amount equal to \$4,000 per MW energy (e.g., Maximum Facility Output) or per MW capacity (e.g., Capacity Interconnection Rights), whichever is greater, as specified in the Application.

B. Application Review Phase

1. After the close of the Application Deadline, Transmission Provider will begin the Application Review Phase, wherein Transmission Provider reviews Applications received from Project Developers for completeness and then establishes the validity of such submitted Applications, beginning with a deficiency review, as follows:
 - a. Transmission Provider will inform Applicant of Application deficiencies within 15 Business Days after the Application Deadline.
 - b. Applicant then has 10 Business Days to respond to Transmission Provider's deficiency determination.
 - c. Transmission Provider then will review Applicant's response within 15 Business Days, and then will either validate or reject the Application.
2. After the close of the Application Deadline, Transmission Provider will begin the Application Review Phase, wherein Transmission Provider reviews Applications received from Eligible Customers for completeness and then establishes the validity of such submitted Applications.
3. Transmission Provider will only review an Application during the Application Review Phase following the Application Deadline for which the Application was submitted and deemed complete, which will extend for 90 days.
4. During the Application Review Phase, and at least 30 days prior to initiating Phase I of the Cycle, Transmission Provider will post the Phase I Base Case data for review, subject to CEII protocols. At the same time Transmission Provider posts the Phase I Base Case Data for review, Transmission Provider will post to its website the required information on the projects in the Cycle.
5. In the case of an Application for a Generating Facility, the Application Review Phase will include a Site Control review for the Generating Facility/ies. Specifically, Applicant shall provide Site Control evidence, as set forth in Tariff, Part VIII, Subpart A, section 402, for at least a one-year term beginning from the Application Deadline, for 100 percent of the Generating Facility/ies Site including the location of the high-voltage side of the Generating Facility's main power

transformer(s). In addition, Applicant shall provide a certification, executed by an officer or authorized representative of Applicant, verifying that the Site Control requirement is met. Further, at Transmission Provider's request, Applicant shall provide copies of landowner attestations or county recordings. The Site Control requirement in the Application includes an acreage requirement for the Generating Facility/ies, as set forth in Manual 14H, Section 7 and on Transmission Provider's website under Planning.

6. In the case of an Application for Merchant Transmission, the Application Review Phase will include a Site Control review for the Site of the HVDC converter station(s), phase angle regulator (PAR), and/or variable frequency transformer, as applicable. Specifically, Applicant shall provide Site Control evidence, as set forth in Tariff, Part VIII, Subpart A, section 402 for at least a one-year term beginning from the Application Deadline, for 100 percent of the Site. In addition, Applicant shall provide a certification, executed by an officer or authorized representative of Applicant, verifying that the Site Control requirement is met. Further, at Transmission Provider's request, Applicant shall provide copies of landowner attestations or county recordings.

C. Scoping Meetings

1. During the Application Review Phase, Transmission Provider will hold a single, or several, scoping meetings for projects in each Transmission Owner zone, unless Applicants, Transmission Owner, and Transmission Provider mutually agree that a scoping meeting is not necessary.
2. Scoping meetings may include discussion of potential Affected System needs, whereby Transmission Provider may coordinate with Affected System Operators the conduct of required studies.

D. Other Requirements

1. Applicant must submit any claim for Capacity Interconnection Rights from deactivating generation units with the Application, and it must be received by Transmission Provider prior to the Application Deadline.
2. For Project Developers submitting one or more Generation Interconnection Requests resulting in multiple Generating Facilities, either existing or planned, behind a single Point of Interconnection, all such Generating Facilities must share Project Developer Interconnection Facilities. This provision does not relieve Project Developers from any obligations concerning Site Control under Tariff, Part VIII, Subpart B, section 402.
3. When an Application results in a valid New Service Request, Transmission Provider shall confirm the assigned Project Identifier to the New Service Request, in accordance with Tariff, Part VIII, Subpart E, section 412. Applicant and

Transmission Provider shall reference the Project Identifier in all correspondence, submissions, wire transfers, documents, and other materials relating to the New Service Request.

4. Evaluation of Alternative Transmission Technologies. Project Developer may request that Transmission Provider evaluate, as part of the Phase I System Impact Study, the use of static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting. Project Developer must request in its Application that the evaluation be made and must provide to Transmission Provider by the Application Deadline all the requisite model information to allow Transmission Provider to evaluate the requested technology. Failure to provide required technical modeling information, as specified in Manual 14H, by the Application Deadline will terminate the Project Developer's request to evaluate the specific alternative transmission technology.

Tariff, Part VIII, Subpart C, section 404
Introduction

A. Phase I, Phase II and Phase III System Impact Studies

1. Introduction

Tariff, Part VIII, Subpart C sets forth the procedures and other terms governing the Transmission Provider's administration of the studies and procedures required under the Cycle process, and the nature and timing of such studies. The Cycle process set forth in Tariff, Part VIII includes three study Phases and the three Decision Points:

- a. Phase I System Impact Study
- b. Decision Point I
- c. Phase II System Impact Study
- d. Decision Point II
- e. Phase III System Impact Study
- f. Decision Point III.

Procedures and other terms relative to the three study Phases are set forth separately below in Tariff, Part VIII, Subpart C, sections 405, 407, and 409.

2. Overview of System Impact Studies

- a. The Phase I, Phase II and Phase III System Impact Studies are a regional analysis of the effect of adding to the Transmission System the new facilities and services proposed by valid New Service Requests and an evaluation of their impact on deliverability to the aggregate of PJM Network Load.
 - i. These studies identify the system constraints, identified with specificity by transmission element or flowgate, relating to the New Service Requests included therein and any resulting Interconnection Facilities, Network Upgrades, and/or Contingent Facilities required to accommodate such New Service Requests.
 - ii. These studies provide estimates of cost responsibility and construction lead times for new facilities required to interconnect the project and system upgrades.

- iii. Transmission Provider, in its sole discretion, can aggregate multiple New Service Requests at the same Point of Interconnection for purposes of Phase I, Phase II and Phase III System Impact Studies.
- iv. The scope of the studies may include (a) an assessment of sub-area import deliverability, (b) an assessment of sub-area export deliverability, (c) an assessment of project related system stability issues (only occurs in Phase II and Phase III); (d) an assessment of project-related short circuit duty issues (only occurs in Phase II and Phase III), (e) a contingency analysis consistent with NERC's and each Applicable Regional Entity's reliability criteria and the transmission planning criteria, methods and procedures described in the "FERC Form No. 715 - Annual Transmission Planning and Evaluation Report" for each Applicable Regional Entity, (f) an assessment of regional transmission upgrades that most effectively meet identified needs, and (g) an analysis to determine cost allocation responsibility for required facilities and upgrades.
- v. For purposes of determining necessary Interconnection Facilities and Network Upgrades, these studies shall consider the level of service requested in the New Service Request unless otherwise required to study the full electrical capability of the New Service Request due to safety or reliability concerns.
- vi. The studies' results shall include the list and facility loading of all reliability criteria violations specific to the New Service Requests.
- vii. If applicable, the studies for a Transmission Project Developer New Service Request shall also include a preliminary estimate of the Incremental Deliverability Rights associated with the Transmission Project Developer's proposed Merchant Transmission Facilities.

3. Contingent Facilities

Transmission Provider shall identify the Contingent Facilities in the System Impact Studies by reviewing unbuilt Interconnection Facilities and/or Network Upgrades, upon which the New Service Request's cost, timing and study findings are dependent and, if delayed or not built, could cause a need for interconnection restudies of the New Service Request or reassessment of the Network Upgrades. The method for identifying Contingent Facilities shall be sufficiently transparent to determine why a specific Contingent Facility was identified and how it relates to the New Service Request. Transmission Provider shall include the list of the Contingent Facilities in the System Impact Study(ies) and Generator Interconnection Agreement, including why a specific Contingent Facility was identified and how it relates to the New Service Request. Transmission Provider shall also provide, upon request of the Project Developer or Eligible Customer, the

estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time of each identified Contingent Facility when this information is readily available and non-commercially sensitive.

a. Minimum Thresholds to Identify Contingent Facilities

i. Load Flow Violations

Load flow violations will be identified based on an impact on an overload of at least five percent distribution factor (DFAX) or contributing at least five percent of the facility rating in the applicable model.

ii. Short Circuit Violations

Short circuit violations will be identified based on the following criteria: any contribution to an overloaded facility where the New Service Request increases the fault current impact by at least one percent or greater of the rating in the applicable model.

iii. Stability and Dynamic Criteria Violations

Stability and dynamic criteria violations will be identified based on any contribution to a stability violation.

4. Additional System Impact Study Procedures for Eligible Customers

The following provisions apply to System Impact Studies conducted for Eligible Customers:

- a. The Transmission Provider will notify Eligible Customers of the need to conduct a System Impact Study whenever the Transmission Provider determines that available transmission capability may not be sufficient to provide the requested firm service(s). The purpose of the System Impact Study will be to determine the effect the requested service(s) will have on system operations, identify any system constraints, redispatch options and whether system expansion will be required to provide the requested service(s).
- b. The Commission's comparability standard will be applied in evaluating the impact of all requests. Specifically, the Transmission Provider will use the same due diligence in completing System Impact Studies for Eligible Customers that it uses when completing studies for any Transmission Owner that requests service from the Transmission Provider.
- c. Requests for long-term firm transmission service will be evaluated, to the extent possible, as a part of the on-going planning process for Bulk

Transmission Supply in the PJM Region. Appropriate planning studies will be conducted annually to assess the capability of the PJM Region Transmission System to deliver the planned Network Resources to the Forecasted Network Loads of the existing load serving entities and any prior committed Firm Point-to-Point Service transmission customers. The loads and resources of Eligible Customers requesting new or additional service during the normal planning cycle will be incorporated into this aggregate planning process along with the loads and resources of all other Firm Point-to-Point and load serving entities for which prior commitments to provide service have been made. Requests for long-term firm service made at times that will not permit the evaluation of impacts as part of the normal planning process, and requests for short-term firm service, will require that special impact studies be completed.

- d. The Transmission Provider plans and evaluates the PJM Region Transmission System in strict compliance with the following:
 - i. North American Electric Reliability Council ("NERC") Reliability Principles and Guides
 - ii. Applicable Standards
 - iii. Transmission planning criteria, methods and procedures described in the "FERC Form No. 715 - Annual Transmission Planning and Evaluation Report" for each Applicable Regional Entity.
- e. In evaluating the impact of any request for new or additional service(s), the Transmission Provider will first determine the capability of the system to reliably provide prior committed Network and Point-to-Point service for the term of the requested new or additional service(s), or the normal planning horizon (generally 10 years), whichever is shorter. Requests for new or additional service(s) will then be incorporated into the system representation data and the appropriate system analyses will be completed to evaluate the impacts of the requested services.

5. Cost Allocation for Network Upgrades

- a. General: Each Project Developer and Eligible Customer shall be obligated to pay for 100 percent of the costs of the minimum amount of Network Upgrades necessary to accommodate its New Service Request and that would not have been incurred under the Regional Transmission Expansion Plan but for such New Service Request, net of benefits resulting from the construction of the upgrades, such costs not to be less than zero. Such costs and benefits shall include costs and benefits such as those associated with accelerating, deferring, or eliminating the construction of Network Upgrades included in the Regional Transmission Expansion Plan either for

reliability, or to relieve one or more transmission constraints and which, in the judgment of the Transmission Provider, are economically justified; the construction of Network Upgrades resulting from modifications to the Regional Transmission Expansion Plan to accommodate the New Service Request; or the construction of Supplemental Projects.

b. Cost Responsibility for Accelerating Network Upgrades included in the Regional Transmission Expansion Plan: Where the New Service Request calls for accelerating the construction of Network Upgrades that is included in the Regional Transmission Expansion Plan and provided that the party(ies) with responsibility for such construction can accomplish such an acceleration, the Project Developer or Eligible Customer shall pay all costs that would not have been incurred under the Regional Transmission Expansion Plan but for the acceleration of the construction of the upgrade. The Responsible Customer(s) designated pursuant to Schedule 12 of the Tariff as having cost responsibility for such Network Upgrade shall be responsible for payment of only those costs that the Responsible Customer(s) would have incurred under the Regional Transmission Expansion Plan in the absence of the New Service Request to accelerate the construction of the Network Upgrade.

c. The Transmission Provider shall determine the minimum amount of Network Upgrades required to resolve each reliability criteria violation in each Cycle, by studying the impact of the projects the Cycle in their entirety, and not incrementally. Interconnection Facilities and Network Upgrades shall be studied in their entirety and according to the following process:

The Transmission Provider shall identify the New Service Requests in the Cycle contributing to the need for the required Network Upgrades within the Cycle. All New Service Requests that contribute to the need for a Network Upgrade will receive cost allocation for that Network Upgrade in accordance with the Tariff.

There will be no inter-Cycle cost allocation for Interconnection Facilities or Network Upgrades identified in the System Impact Study; all such costs shall be allocated to New Service Requests in that Cycle.

d. Cost allocation:

i. Substation Network Upgrades, including all switching stations, shall be allocated first per capita to Interconnection Facilities interconnecting to the substation at the same voltage level, and then per capita to each New Service Request sharing the Interconnection Facilities.

- ii. System Network Upgrades shall be allocated based on the Proportional Impact Method applied to each individual New Service Request in the Cycle. This proportional allocation methodology will apply, but is not limited to, the following categories: (i) thermal, which will be cost allocated per the pro rata share of MW impact of Cycle projects on the constraints being alleviated by the System Network Upgrade, as further described in the PJM Manual 14H; or (2) non-thermal, which will be cost allocated per the pro rata share of impact of Cycle projects on the constraints being alleviated by the System Network Upgrade, as further described in PJM Manual 14H.

6. Interconnection Facilities

A Project Developer shall be responsible for all costs of the Interconnection Facilities necessary to accommodate its Generating Facility's interconnection to the Transmission System. Where Project Developers in the Cycle agree to share Interconnection Facilities, the cost of such Interconnection Facilities shall be allocated based on the number of Generating Facilities sharing use of such Interconnection Facilities on a per capita basis.

7. Facilities Study Procedures

The Facilities Studies will include good faith estimates of the cost, determined in accordance with Tariff, Part VIII, Subpart C, section 404(A)(5), (a) to be charged to each affected New Service Customer for the Interconnection Facilities and Network Upgrades that are necessary to accommodate each New Service Request evaluated in the study; (b) the time required to complete detailed design and construction of the facilities and upgrades; (c) a description of any site-specific environmental issues or requirements that could reasonably be anticipated to affect the cost or time required to complete construction of such facilities and upgrades.

The Facilities Study will document the engineering design work necessary to begin construction of any required transmission facilities, including estimating the costs of the equipment, engineering, procurement and construction work needed to implement the conclusions of the System Impact Study in accordance with Good Utility Practice and, when applicable, identifying the electrical switching configuration of the connection equipment, including without limitation: the transformer, switchgear, meters, and other station equipment; and the nature and estimated costs of Interconnection Facilities and Network Upgrades necessary to accommodate the New Service Request.

For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Facilities Study shall consider the level of Interconnection Service requested by the Project Developer unless otherwise required to study the full electrical capability of the Generating Facility or Merchant Transmission Facility due to safety or reliability concerns. The Facilities Study will also identify any potential control equipment for requests for Interconnection Service

that are lower than the full electrical capability of the Generating Facility or Merchant Transmission Facility.

Tariff, Part VIII, Subpart C, section 405
Phase I

A. Phase I Rules

1. This Tariff, Part VIII, Subpart C, section 405 sets forth the procedures and other terms governing the Transmission Provider's administration of Phase I of the Cycle process. After the Application Phase of a Cycle is completed and a group of valid New Service Requests is established therein, Phase I of a Cycle will commence. During Phase I of a Cycle, the Transmission Provider shall conduct a Phase I System Impact Study.
 - a. The Phase I System Impact Study is conducted on an aggregate basis within a New Services Request's Cycle, and results are provided in a single Cycle format. The Phase I System Impact Study Results will be publicly available on Transmission Provider's website; Project Developers must obtain the results from the website.
 - b. Start and Duration of Phase I
 - i. Phase I shall start on the first Business Day immediately following the end of the Application Review phase, but no earlier than 30 days following the distribution of the Phase I Base Case Data. Transmission Provider shall complete Phase I within 120 calendar days from the date such phase commenced. If the 120th day does not fall on a Business Day, Phase I shall be extended to the end of the next Business Day. If Transmission Provider is unable to complete Phase I within 120 calendar days, Transmission Provider shall notify all impacted Project Developers and Eligible Customers simultaneously by posting on Transmission Provider's website a revised estimated completion date along with an explanation of the reasons why additional time is required to complete Phase I.
 - ii. During Phase I, and at least 30 days prior to initiating Decision Point I of the Cycle, Transmission Provider will post an estimated start date for Decision Point I in order for Project developers and Eligible Customers to prepare to meet their Decision Point I requirements.
 - c. Evaluation of Alternative Technologies.
 - i. If requested by a Project Developer in its Application, Transmission Provider will evaluate alternative technologies, as specified in Tariff, Part VIII, Subpart B, section 403(D)(4).
 - ii. Transmission Provider shall evaluate each duly requested alternative transmission technology and determine in its sole

discretion whether the specified technologies should be used, consistent with Good Utility Practice, Applicable Reliability Standards, and Applicable Laws and Regulations, as an alternative to traditional network upgrades. Transmission Provider shall include an explanation of the results of the Transmission Provider's evaluation, consistent with its Technical Reference Guides for advanced technologies, for each duly requested technology in the Phase I System Impact Study Report.

Tariff, Part VIII, Subpart C, section 407
Phase II

A. Phase II Rules

1. This Tariff, Part VIII, Subpart C, section 407 sets forth the procedures and other terms governing the Transmission Provider's administration of Phase II of the Cycle process. After the Decision Point I phase of a Cycle is completed and a group of valid New Service Requests is established therein, Phase II of a Cycle will commence. During Phase II of a Cycle, the Transmission Provider shall conduct the Phase II System Impact Study. Only New Service Requests meeting the requirements of Tariff, Part VIII, Subpart C, section 406, Decision Point I phase, will be included in the Phase II System Impact Study.
 - a. The Phase II System Impact Study analysis will retool load flow results based on decisions made during Decision Point I, and perform short circuit and stability analyses as required. Transmission Provider will post the Phase II Base Case data for review, subject to CEII protocols.
 - b. The Phase II System Impact Study will identify Affected Systems, if applicable.
 - i. If an Affected System Study Agreement is required, the Transmission Provider shall notify the Project Developer or Eligible Customer prior to the end of Phase II by posting on the Transmission Provider's website of the need for Project Developer or Eligible Customer to enter into an Affected System Study Agreement.
 - c. The Phase II System Impact Study Results will be publicly available on Transmission Provider's website; Project Developers and Eligible Customers must obtain the results from the website.
 - d. Facilities Study. During the Phase II System Impact Study, a Facilities Study shall also be conducted pursuant to Tariff, Part VIII, Subpart C, section 404(A)(7). The Phase II Facilities Study shall identify any needed Substation Network Upgrades and Interconnection Facilities, including any required easement routing.
 - e. Start and Duration of Phase II
 - i. Phase II shall start on the first Business Day immediately following the end of the Decision Point I unless the Decision Point III of the immediately preceding Cycle is still open. In no event shall Phase II of a Cycle commence before the conclusion of the Decision Point III Phase of the immediately preceding Cycle.

- ii. The Transmission Provider shall complete Phase II within 180 days from the date such Phase II commenced. If the 180th day does not fall on a Business Day, Phase II shall be extended to end on the next Business Day. If the Transmission Provider is unable to complete Phase II within 180 days, the Transmission Provider shall notify all impacted Project Developers simultaneously by posting on Transmission Provider's website a revised estimated completion date along with an explanation of the reasons why additional time is required to complete Phase II.

- f. Evaluation of Alternative Technologies.
 - i. If requested by a Project Developer at the appropriate time and with the requisite information, Transmission Provider will evaluate alternative technologies, as specified in Tariff, Part VIII, Subpart B, section 403(D)(4) and Tariff, Part VIII, Subpart C, section 406(A)(1)(i).
 - ii. Transmission Provider shall evaluate each duly requested alternative transmission technology and determine in its sole discretion whether the specified technologies should be used, consistent with Good Utility Practice, Applicable Reliability Standards, and Applicable Laws and Regulations, as an alternative to traditional network upgrades. Transmission Provider shall include an explanation of the results of the Transmission Provider's evaluation, consistent with its Technical Reference Guides for advanced technologies, for each duly requested technology in the Phase II System Impact Study Report.

Tariff, Part VIII, Subpart C, section 409
Phase III

A. Phase III Rules

1. This Tariff, Part VIII, Subpart C, section 409 sets forth the procedures and other terms governing the Transmission Provider's administration of Phase III of the Cycle process. After Decision Point II of a Cycle is completed and a group of valid New Service Requests is established therein, Phase III of a Cycle will commence. During Phase III of a Cycle, the Transmission Provider shall conduct a Phase III System Impact Study. Only New Service Requests meeting the requirements of Tariff, Part VIII, Subpart C, section 408, Decision Point II, will be included in the Phase III System Impact Study.
 - a. The Phase III System Impact Study analysis will retool load flow, short circuit, and stability results based on decisions made in Decision Point II. Transmission Provider will post the Phase III Base Case data for review, subject to CEII protocols.
 - b.
 - i. The Phase III System Impact Study will include a final Affected System study, if applicable.
 - ii. The Phase III System Impact Study may include further evaluation as to alternative technologies, as specified in Tariff, Part VIII, Subpart B, section 403(D)(4) and Tariff, Part VIII, Subpart C, section 406(A)(1)(i), that Transmission Provider has been asked to evaluate pursuant to Tariff, Part VIII, Subpart C, section 405(A)(1)(c) or section 407(A)(1)(f), and, if so, the Phase III System Impact Study Report will include an explanation of the results of the Transmission Provider's evaluation, consistent with its Technical Reference Guides for advanced technologies, for each technology.
 - c. Phase III System Impact Study results will be publicly available on Transmission Provider's website; Project Developers and Eligible Customers must obtain the results from the website.
 - d. Facilities Study. During the Phase III System Impact Study, a Facilities Study shall also be conducted pursuant to Tariff, Part VIII, Subpart C, section 404(A)(7). The Phase III Facilities Study shall identify any needed System Network Upgrades.
 - e. Start and Duration of Phase III

- i. Phase III shall start on the first Business Day immediately following the end of Decision Point II unless the Final Agreement Negotiation Phase of the immediately preceding Cycle is still open. In no event shall Phase III of a Cycle commence before the conclusion of the Final Agreement Negotiation Phase of the immediately preceding Cycle.
- ii. The Transmission Provider shall complete Phase III within 180 days from the date such Phase III commenced. If the 180th day does not fall on a Business Day, Phase III shall be extended to end on the next Business Day. If the Transmission Provider is unable to complete Phase III within 180 days, the Transmission Provider shall notify all impacted Project Developers or Eligible Customers simultaneously by posting on Transmission Provider's website a revised estimated completion date along with an explanation of the reasons why additional time is required to complete Phase III.

f. Draft Agreement

Prior to the Final Agreement Negotiation Phase, Transmission Provider shall provide in electronic form a draft interconnection related agreement from Tariff, Part IX, as applicable to the Project Developer's or Eligible Customer's New Service Request, along with any applicable draft schedules, to the parties to such interconnection related agreement.

Tariff, Part VIII, Subpart G, section 434
Coordination with Affected Systems

- A. Transmission Provider will coordinate with Affected System Operators the conduct of any studies required to determine the impact of New Service Requests on Affected Systems in accordance with this Tariff and its joint operating agreements and joint reliability coordination agreements with Affected System Operators.
1. Initial Notification. Transmission Provider shall perform an initial screening study to determine potential Affected System impacts caused by the New Service Requests in a Cycle and provide to Affected System Operator a list of New Service Requests with potential Affected System impacts within thirty (30) calendar days of commencement of Phase I.
 2. Affected System Operator Response. Affected System Operator will provide to Transmission Provider within the time frame specified in Affected System Operator's open access transmission tariff or its joint operating agreements or joint reliability coordination agreements with Transmission Provider a list of the New Service Requests with potential Affected System impacts that Affected System Operator intends to study, with a request for contact information for the Project Developers and Eligible Customers that have made those New Service Requests. Transmission Provider shall notify Project Developer or Eligible Customer of the Affected System Operator's inclusion of its New Service Request on its list of New Service Requests the Affected System Operator intends to study.
 - a. Transmission Provider will include such Affected System Operators, subject to appropriate standards of conduct or non-disclosure agreements, in all meetings held with Project Developer as required in this Tariff, Part VIII.
 - b. The Project Developer or Eligible Customer will cooperate with the Transmission Provider in all matters related to the conduct of studies by Affected System Operators and the determination of modifications to Affected Systems needed to accommodate the New Service Request.
 - c. Transmission Provider shall contact any potential Affected System Operators and provide or otherwise coordinate information regarding each relevant New Service Request as required for the Affected System Operator's studies of the effects of such request.
 3. Study Agreement. If an affected system study agreement is required by the Affected System Operator, in order to remain in the relevant Cycle, Project Developer or Eligible Customer shall demonstrate to Transmission Provider that the Project Developer or Eligible Customer continues to meet the requirements of the Affected System Operator's process, including, but not limited to providing evidence of a fully executed affected systems study agreement and acceptance of

any required technical data and study deposits from the Affected System Operator no later than the conclusion of Decision Point II of the relevant Cycle. If Project Developer or Eligible Customer fails to comply with these requirements, its New Service Request at issue shall be deemed terminated and withdrawn.

4. The Affected System Impact Study Report will be provided by Phase II of the relevant Cycle, if available. To the extent Affected System Impact Study results are included in the Phase II System Impact Study, the Project Developer shall be provided the opportunity to review such study results consistent with Tariff, Part VIII, Subpart C, section 407(A)(1)(c), as applicable
5. Notification of Changes in New Service Requests. Transmission Provider shall inform the Affected System Operator of any withdrawals of or modifications to the New Service Requests the Affected System Operator is studying for potential Affected System impacts within thirty (30) calendar days of the close of Decision Point I, the close of Decision Point II, and the close of Decision Point III, as applicable.
6.
 - a. The Project Developer or Eligible Customer shall be responsible for the costs of any identified facilities commensurate with the Affected System Operator's tariff's allocation of responsibility for such costs to such Project Developer or Eligible Customer if their project request had been initiated pursuant to such Affected System Operator's tariff.
 - b. Neither the Transmission Provider, the relevant Transmission Owner(s) associated with such New Service Request, nor the Affected System Operator shall be responsible for making arrangements for any necessary engineering, permitting, and/or construction of transmission or distribution facilities on any Affected System or for obtaining any regulatory approval for such facilities.
 - i. The Transmission Provider and the relevant Transmission Owner(s) will assist the Project Developer or Eligible Customer in obtaining such arrangements, including, without limitation, providing any information or data required by such other Affected System Operator pursuant to Good Utility Practice.
7. In no event shall the need for upgrades to an Affected System delay Initial Operation of a Project Developer's Generating Facility or Merchant Transmission Facility. Notwithstanding the start of Initial Operation, Transmission Provider reserves the right to limit Generating Facility injections in the event of potential Affected System impacts, in accordance with Good Utility Practice. Total injections may be limited pending coordination and completion of any necessary deliverability studies by the Affected System Operator.

- B. When Transmission Provider's system may be affected by a proposed interconnection on another transmission provider's transmission system (the host transmission provider), Transmission Provider shall cooperate with the host transmission provider in all matters related to the conduct of studies and the determination of modifications to Transmission Provider's Transmission System, consistent with any joint operating agreements or joint reliability coordination agreements Transmission Provider has with the host transmission provider.
1. Screening and Response to Host Transmission Provider's Initial Notification. When Transmission Provider receives initial notification that an Affected System Customer's proposed interconnection to its host transmission provider may affect Transmission Provider's Transmission System, Transmission Provider shall conduct a screening study of the proposed interconnection and respond to the host transmission provider in writing within twenty (20) Business Days whether it intends to conduct an Affected System Impact Study of the proposed interconnection and request the Affected System Customer's contact information.
 2. Affected System Customer Impact Study Agreement. Transmission Provider estimates that the Affected System Impact Study will require approximately 120 days after Transmission Provider receives all Affected System Customer's technical information and will cost approximately \$30,000. Unless otherwise agreed, Transmission Provider shall provide to Affected System Customer(s) an Affected System Customer Impact Study Agreement, in the form of Tariff, Part IX, Subpart O, within twenty-five (25) Business Days of Transmission Provider notifying the host transmission provider that it intends to conduct an Affected System Impact Study of the proposed interconnection.
 3. Execution of Agreement and Study Deposit. Affected System Customer(s) shall execute the Affected System Customer Impact Study Agreement, deliver the executed Affected System Customer Impact Study Agreement, and provide a \$30,000 Affected System Impact Study Deposit within ten (10) Business Days of receipt of the agreement.
 - a. The Affected System Impact Study Deposit amount is refundable and non-binding, and actual study costs may exceed the Affected System Impact Study Deposit amount. Affected System Customer is responsible for, and must pay, all actual study costs. If Transmission Provider sends Affected System Customer notification of additional study costs, then Affected System Customer must either: (1) pay all additional study costs within 20 Business Days of Transmission Provider sending the notification of such additional study costs or (2) withdraw its Affected System Customer Impact Study Agreement. If Affected System Customer fails to complete either (1) or (2), then Transmission Provider shall deem the Affected System Customer Impact Study Agreement to be terminated and withdrawn. Transmission Provider shall inform the Affected System Operator of any

such terminations and withdrawals of Affected System Customer Impact Study Agreements.

- b. If Affected System Customer does not provide all required technical data when it delivers the Affected System Customer Impact Study Agreement, Transmission Provider shall notify the deficient Affected System Customer, as well as the host transmission provider with which Affected System Customer seeks to interconnect, of the technical data deficiency within fifteen (15) Business Days of the receipt of the executed Affected System Customer Impact Study Agreement and the deficient Affected System Customer shall cure the technical deficiency within ten (10) Business Days of receipt of the notice; provided, however, that such deficiency does not include failure to deliver the executed Affected System Customer Impact Study Agreement or deposit for the Affected System Customer Impact Study Agreement. If Affected System Customer does not cure the technical data deficiency within the cure period or fails to execute the Affected System Customer Impact Study Agreement or provide the deposit, the Affected System Customer shall lose its Affected System Queue Position.
4. Affected System Facility Identifier and Queue Position. Transmission Provider shall assign an Affected System Facility Identifier to each Affected System Facility that requires an Affected System Impact Study. Transmission Provider also shall assign a Queue Position to each Affected System Interconnection Customer that requires an Affected System Impact Study. Such Affected System Queue Position shall be determined based upon the queue priority date established in any joint operating agreements or joint reliability coordination agreements Transmission Provider has with the host transmission provider. In the event there is no such agreement or the agreement does not provide a queue priority date, Transmission Provider shall determine the Affected System Queue Position based upon the date of execution of the Affected System Customer Impact Study Agreement. This Affected System Queue Position shall be higher-queued than any Project Developer or Eligible Customer that has not yet received its Phase I System Impact Study Report and shall be lower-queued than any Project Developer or Eligible Customer that has already received its Phase I System Impact Study Report. Transmission Provider shall study the Affected System Customer(s) as a cluster and all Affected System Customers studied in the same cluster under section 434(B)(5)(c) shall be equally queued. For Affected System Customers that are equally queued, the Affected System Queue Position shall have no bearing on the assignment of Affected System Network Upgrades identified in the applicable Affected System Impact Study Report.
5. Affected System Impact Study
 - a. When all relevant Affected System Interconnection Customers have executed an Affected System Customer Impact Study Agreement,

provided the associated deposit, and provided all the required technical data, Transmission Provider will perform the Affected System Impact Study. The Affected System Impact Study shall evaluate the impact that any Affected System Customer's proposed interconnection to another transmission provider's transmission system will have on the reliability of Transmission Provider's Transmission System and be completed in accordance with the joint operating agreement between Transmission Provider and Affected System Operator on file with the Commission. Transmission Provider has no obligation to study impacts of Affected System Customers of which it is not notified.

- b. The Affected System Impact Study shall consist of power flow, stability, and short circuit analyses. The Affected System Impact Study Report will: state the assumptions upon which it is based; state the results of the analyses; and provide the potential impediments to Affected System Customer's receipt of interconnection service on its host transmission provider's transmission system, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. For purposes of determining necessary Affected System Network Upgrades, the Affected System Impact Study shall consider the level of interconnection service requested in megawatts by Affected System Customer, unless otherwise required to study the full generating facility capacity due to safety or reliability concerns.
- c. Transmission Provider shall use clustering in conducting the Affected System Impact Study and shall use existing studies to the extent practicable, when multiple Affected System Customers that are part of a single cluster may cause the need for Affected System Network Upgrades. Transmission Provider shall complete the Affected System Impact Study and provide the Affected System Impact Study Report to Affected System Customer(s) and the host transmission provider with whom interconnection has been requested within one hundred twenty (120) calendar days after it has received executed Affected System Customer Impact Study Agreements and the required deposits from all Affected System Customers in the cluster.
- d. Transmission Provider must study an Affected System Customer using the Energy Resource Interconnection Service modeling standard used for New Service Requests on its own Transmission System, regardless of the level of interconnection service that Affected System Customer is seeking from the host transmission provider with which it seeks to interconnect. PJM shall apply the Individual Plant Deliverability test described in Manual 14B.
- e. At the request of Affected System Customer, Transmission Provider shall notify Affected System Customer as to the status of the Affected System Impact Study. If Transmission Provider is unable to complete the Affected

System Impact Study within the requisite time period, it shall notify Affected System Customer(s), as well as the transmission provider with which Affected System Customer seeks to interconnect, and shall provide an estimated completion date with an explanation of the reasons why additional time is required. If Transmission Provider does not meet the deadline in section 434(B)(5)(c), Transmission Provider shall be subject to financial penalties as described in section 438. Upon request, Transmission Provider shall provide Affected System Customer(s) with all supporting documentation and relevant power flow, short circuit and stability databases for the Affected System Impact Study, subject to confidentiality arrangements consistent with section 425.

- f. If restudy of the Affected System Impact Study is required, Transmission Provider shall notify Affected System Customer(s) in writing within thirty (30) calendar days of discovery of the need for restudy. Such restudy shall take no longer than ninety (90) calendar days from the date of notice. Any cost of restudy shall be borne by the Affected System Customer(s) being restudied.
6. Allocation of Affected System Network Upgrade Costs. Transmission Provider shall allocate Affected System Network Upgrade costs identified during the Affected System Impact Study to Affected System Customer(s) using its Proportional Impact Method.
 7. Affected System Customer Facilities Study. If the Affected System Impact Study Report identifies Affected System Network Upgrades for which Affected System Customer is allocated costs, Transmission Provider shall tender to Affected System Customer an Affected System Customer Facilities Study Application and Agreement, in the form of Tariff, Part IX, Subpart L, within thirty (30) calendar days of providing the Affected System Impact Study Report. Within fifteen (15) Business Days of the receipt of the Affected System Customer Facilities Study Application and Agreement, the Affected System Interconnection Customer must execute the agreement and must provide the \$100,000 study deposit. Affected System Customer's failure to execute the Affected System Customer Facilities Study Application and Agreement or its failure to provide the required study deposit shall result in the loss of its Affected System Queue Position and Transmission Provider shall inform the Affected System Operator of any such loss of Affected System Queue Position.
 - a. The Affected System Customer Facilities Study deposit amount is refundable and non-binding, and actual study costs may exceed the deposit amount. Affected System Customer is responsible for, and must pay, all actual study costs. If Transmission Provider sends Affected System Customer notification of additional study costs, then Affected System Customer must either: (1) pay all additional study costs within 20 Business Days of Transmission Provider sending the notification of such additional

study costs or (2) withdraw its Affected System Customer Facilities Study Application and Agreement. If Affected System Customer fails to complete either (1) or (2), then Transmission Provider shall deem the Affected System Customer Facilities Study Application and Agreement to be terminated and withdrawn. Transmission Provider shall inform the Affected System Operator of any such termination and withdrawal of an Affected System Customer Facilities Study Application and Agreement.

- b. The Affected System Customer Facilities Study shall be completed and its results reported to the Affected System Customer and the host transmission provider with which interconnection has been requested within one hundred eighty (180) calendar days after the receipt of the Affected System Customer Facilities Study Application and Agreement and deposit.

8. Construction/Cost Responsibility Agreements. Once Transmission Provider has issued and Affected System Customer has received the Affected System Customer Facility Study Report, Transmission Provider and Affected System Customer shall enter into a stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which are found in Tariff, Part IX) for the construction of the necessary Affected System Network Upgrades with each Transmission Owner responsible for constructing such upgrades if a Construction Service Agreement is required, or for each set of Common Use Upgrades on the system of such Transmission Owner if a Network Upgrade Cost Responsibility Agreement is required. Transmission Provider shall provide in electronic form a draft stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement.

- a. For purposes of applying the stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which are found in Tariff, Part IX) to the construction of such upgrades, the developer of the Affected System Facility shall be deemed to be a Project Developer pursuant to Tariff, Part VIII.
- b. Such stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which are found in Tariff, Part IX) shall be negotiated and executed within 60 days of the Transmission Provider's issuance of a draft version thereof. If the 60th day does not fall on a Business Day, the phase shall be extended to end on the next Business Day. The 60 days shall run concurrently with the relevant Cycle process.
 - i. Security is required within 30 days of the Transmission Provider's issuance of the draft stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which

are found in Tariff, Part IX). The Security obligation may be adjusted based on additional factors, including, but not limited to, New Service Requests or Upgrade Requests being withdrawn in the relevant Cycle. If the 30th day does not fall on a Business Day, the phase shall be extended to end on the next Business Day. If Affected System Customer does not post the full amount of the Security required, it will be withdrawn and shall lose its Affected System Queue Position and Transmission Provider shall inform the Affected System Operator of any such loss of Affected System Queue Position.

- ii. Parties may use not more than 60 days to conduct negotiations concerning the draft Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement. Upon receipt of the draft agreement(s), Affected System Customer and Transmission Owner(s), as applicable, shall have no more than 20 Business Days to return written comments on the draft agreement(s). Transmission Provider shall have no more than 10 Business Days to respond and, if appropriate, provide revised draft(s) of the agreement(s) in electronic form. Transmission Provider, in its sole discretion, may allow more than 60 days for the Final Agreement Negotiation Phase.
- c. If the Affected System Customer or Transmission Owner, as applicable, determines that final agreement negotiations are at an impasse, such party shall notify the other parties of the impasse, and such party may request Transmission Provider to file the unexecuted Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement with FERC or request in writing dispute resolution as allowed under Tariff, Part I, section 12 or, if concerning the Regional Transmission Expansion Plan, consistent with Operating Agreement, Schedule 5. If Transmission Provider, in its sole discretion, determines that the negotiations are at an impasse, Transmission Provider shall notify the other parties of the impasse, and may file the unexecuted Construction Service Agreement with the FERC.
- d. Not later than 15 Business Days after receipt of the final Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement, Project Developer or Affected System Customer shall either:
 - i. execute the final Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement in electronic form and return it to Transmission Provider electronically;

- ii. request in writing dispute resolution as allowed under Tariff, Part I, section 12 or, if concerning the Regional Transmission Expansion Plan, consistent with Operating Agreement, Schedule 5; or
 - iii. request in writing that Transmission Provider file with FERC the final Construction Service Agreement or Network Upgrade Cost Responsibility Agreement unexecuted, with the unexecuted Construction Service Agreement or Network Upgrade Cost Responsibility Agreement containing terms and conditions deemed appropriate by Transmission Provider, and provide any required adjustments to Security.
- e. If Affected System Customer executes the final interconnection related service agreement, then, not later than 15 Business Days after PJM sends notification to the relevant Transmission Owner, the relevant Transmission Owner shall either:
 - i. execute the final Construction Service Agreement in electronic form and return it to Transmission Provider electronically;
 - ii. request in writing dispute resolution as allowed under Tariff, Part I, section 12 or, if concerning the Regional Transmission Expansion Plan, consistent with Operating Agreement, Schedule 5; or
 - iii. request in writing that Transmission Provider file with FERC the final Construction Service Agreement unexecuted, with the unexecuted Construction Service Agreement containing terms and conditions deemed appropriate by Transmission Provider, and provide any required adjustments to Security.
- f. Parties may not proceed under such Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement until: (i) 30 days after such agreement, if executed and nonconforming, has been filed with the Commission; (ii) such agreement, if unexecuted, has been filed with and accepted by the Commission; or (iii) the earlier of 30 days after such agreement, if conforming, has been executed or has been reported in Transmission Provider's Electronic Quarterly Reports.

Tariff, Part VIII, Subpart K, section 438
Penalties for Failure to Meet Study Deadlines

- A. Transmission Provider shall be subject to a penalty if it fails to complete a Phase I System Impact Study, Phase II System Impact Study (which may include the Affected System Impact Studies by other transmission providers where Transmission Provider is the host transmission provider and Facilities Studies that are part of the Phase II study and report), Phase III System Impact Study (which may include the Facilities Studies that are part of the Phase III study and report), or Affected System Study by the applicable deadline set forth in this Tariff, Part VIII. Transmission Provider must pay the penalty for each late Phase I System Impact Study, Phase II System Impact Study, and Phase III System Impact Study on a pro rata basis per New Service Request to all Project Developer(s) included in the relevant study that did not withdraw, or were not deemed withdrawn, from Transmission Provider's interconnection queue before the missed study deadline, in proportion to each Project Developer's final study cost. Transmission Provider must pay the penalty for a late Affected Systems Study on a pro rata basis per New Services Request to all Affected System Project Developer(s) included in the relevant Affected System Study that did not withdraw, or were not deemed withdrawn, from the host transmission provider's interconnection queue before the missed study deadline, in proportion to each Affected System Interconnection Customer's final study cost. The study delay penalty for each late study shall be distributed no later than forty-five (45) Calendar Days after the late study has been completed.
- B. For penalties assessed in accordance with this section 438, the penalty amount will be equal to: \$1,000 per Business Day for delays of Phase I System Impact Studies beyond the applicable deadline set forth in this Tariff, Part VIII; \$2,000 per Business Day for delays of Phase II System Impact Studies and Phase III System Impact Studies beyond the applicable deadline set forth in this Tariff, Part VIII; and \$2,000 per Business Day for delays of Affected System Studies beyond the applicable deadline set forth in this Tariff, Part VIII. The total amount of a penalty assessed under this section 438 shall not exceed: (1) one hundred percent (100%) of the initial study deposit(s) received for all of the New Service Requests in the Cycle for Phase I System Impact Studies, Phase II System Impact Studies, and Phase III System Impact Studies; and (2) one hundred percent (100%) of the study deposit(s) that Transmission Provider collects for conducting the Affected System Study.
- C. Transmission Provider may appeal to the Commission any penalties imposed under this section 438. Any such appeal must be filed no later than forty-five (45) Calendar Days after the late study has been completed. While an appeal to the Commission is pending, Transmission Provider shall remain liable for the penalty, but need not distribute the penalty until forty-five (45) Calendar Days after (1) the deadline for filing a rehearing request has ended, if no requests for rehearing of the appeal have been filed, or (2) the date that any requests for rehearing of the Commission's decision on the appeal are no longer pending before the Commission. The Commission may excuse Transmission Provider from penalties under this section 438 for good cause.

- D. No penalty will be assessed under this section 438 where a study is delayed by ten (10) Business Days or less. If the study is delayed by more than ten (10) Business Days, the penalty amount will be calculated from the first Business Day Transmission Provider misses the applicable study deadline.
- E. If (a) Transmission Provider needs to extend the deadline for a particular study subject to penalties under this Section and (b) all Project Developers or Affected System Customers included in the relevant study mutually agree to such an extension, the deadline for that study shall be extended thirty (30) Business Days from the original deadline. In such a scenario, no penalty will be assessed for Transmission Provider missing the original deadline.
- F. [Reserved]
- G. Transmission Provider must maintain on its public website summary statistics related to penalties assessed under this section 438, updated semi-annually. For each reporting period, Transmission Provider must calculate and post (1) the total amount of penalties assessed under this section 438 during the previous reporting period and (2) the highest penalty assessed under this Section paid to a single Project Developer or Affected System Project Developer during the previous reporting period. Transmission Provider must post on its website these penalty amounts for each reporting period within thirty (30) Calendar Days. Consistent with section 438(F), Transmission Provider must maintain the semi-annual measures posted on its website for a rolling three (3) calendar years basis.

Tariff, Part IX, Subpart A

**Form of
Application and Studies Agreement**

1. This Application and Studies Agreement (“Application” or “Agreement”), dated _____, is entered into by and between _____ (Project Developer or Eligible Customer, hereafter “Applicant”) and PJM Interconnection, L.L.C. (“Transmission Provider” or “PJM”) (individually a “Party” and together the “Parties”) pursuant to PJM Interconnection, L.L.C. Open Access Transmission Tariff (“Tariff”), Part VII, Subpart C or Part VIII, Subpart B. Capitalized terms used in this Application, unless otherwise indicated, shall have the meanings ascribed to them in Tariff, Part VII, Subpart A, section 300 or Part VIII, Subpart A, section 400.
2. Prior to the Application Deadline, Applicant must electronically provide to Transmission Provider through the PJM website or OASIS, as applicable, all applicable information identified below, which is then subject to validation during the Application Phase as set forth in Tariff, Part VII, Subpart C or Tariff, Part VIII, Subparts B and C and in the PJM Manuals. Only valid New Service Requests will proceed past the Application Phase.
3. Before Transmission Provider will review or process the Application, in addition to submitting a completed and signed Application prior to the Application Deadline, Applicant must electronically submit to Transmission Provider prior to the Application Deadline the (i) required cash Study Deposit by wire transfer and (ii) required Readiness Deposit by wire transfer, letter of credit, or surety bond. Applicant’s wire transfer(s), letter(s) of credit, or surety bond(s) must specify the Application reference number to which the Study Deposit and Readiness Deposit correspond, or Transmission Provider will not review or process the Application.

SECTION 1: APPLICANT INFORMATION

4. Name, address, telephone number, and e-mail address of Applicant. If Applicant has designated an agent, include the agent’s contact information.

Applicant

Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

Applicant’s Agent (if applicable)

Company Name: _____

Address: _____
City: _____ State: _____ Zip: _____
Phone: _____ Email: _____
Agent's contact person: _____

5. An Internal Revenue Service Form W-9 or comparable state-issued document for Applicant.
6. Documentation proving the existence of a legally binding relationship between Applicant and any entity with a vested interest in this Application and associated project (*e.g.*, a parent company, a subsidiary, or financing company acting as agent for Applicant). Such documentation may include, but is not limited to, Applicant's Articles of Organization and Operating Agreement describing the nature of the legally binding relationship.
7. Applicant's banking information, or the banking information of any entity with a legally binding relationship to Applicant that wishes to make payments and receive refunds on behalf of Applicant, in association with this Application and corresponding project:

Bank Name: _____
Account Holder Name: _____
ABA number: _____
Account Number: _____
Company: _____
Tax Reporting Name: _____
Tax ID: _____
Address: _____
City: _____
State: _____
Zip: _____
Phone: _____
Email: _____

8. If the Application is a request for long-term firm transmission service, see section 3.
9. Location of the proposed Point of Interconnection (POI) to the Transmission System, including the substation name or the name of the line to be tapped (including the voltage),

the estimated distance from the substation endpoints of a line tap, address, and GPS coordinates.

POI substation name: _____ or
POI line name: _____ (endpoint 1) to _____ (endpoint 2)
POI Distance from endpoint 1: _____ miles
POI Distance from endpoint 2: _____ miles
Interconnection voltage: _____ kV
Address: _____
City: _____ State: _____ Zip Code: _____
GPS Coordinates: _____ N _____ W

10. If the project is a Merchant Transmission Facility, see section 4.

SECTION 2: GENERATING FACILITY SPECIFICATIONS

11. Specify the nature of the Generating Facility project.

____ New Generating Facility

____ Increase in generation capability of an existing Generating Facility

____ Replacement of existing Generating Facility with no increase in generation capability

12. Specify the type of Interconnection Service requested for the Generating Facility.

____ Energy Resource only

____ Capacity Resource (includes Energy Resource) with Capacity Interconnection Rights

13. Provide the following information about the Generating Facility:

- a. Generating Facility location and site plan:

Provide a physical address or equivalent written description of the location of the Generating Facility, as well as global positioning system (GPS) coordinates. When known, provide GPS coordinates for the location of the Generating Facility's main power transformer(s).

Provide a current site plan in PDF depicting the (1) property boundaries; (2) Generating Facility layout, including the Generating Facility's collector substation (if applicable) or interconnection switchyard (if required); and (3) Interconnection Facilities extending from the Generating Facility's main power transformer(s) to the proposed POI.

b. Generating Facility Site Control:

In accordance with Tariff, Part VII, Subpart A, section 302 or Part VIII, Subpart A, section 402, provide evidence of an ownership interest in, or right to acquire or control through a deed, lease, or option for at least a one-year term beginning from the Application Deadline, 100 percent of the Site for the Generating Facility, including the location of the high-voltage side of the Generating Facility's main power transformer(s). In addition, provide a certification, executed by an officer or authorized representative of Applicant, verifying that the Site Control requirement is met. Further at PJM's request, Applicant shall provide copies of landowner attestations or county recordings.

c. Will the Generating Facility physically connect to distribution or sub-transmission facilities currently not subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC), for the purpose of injecting energy at the POI and engaging in FERC-jurisdictional Wholesale Transactions, as described in Tariff, Part VII, Subpart F or Tariff, Part VIII, Subpart F? (Y/N)

If yes, if available, provide with this Application a copy of the executed interconnection agreement between Applicant and the owner of the distribution or sub-transmission facilities to which the Generating Facility will physically connect. If the two-party interconnection agreement is not yet available, provide any available documentation demonstrating that Applicant has requested or applied for interconnection through the relevant non-jurisdictional process, and provide a status report.

d. For the Generating Facility, has Applicant obtained, or does Applicant intend to obtain, Qualifying Facility status under the Public Utility Regulatory Policies Act? (Y/N)

If yes, provide evidence of Qualifying Facility status or eligibility. Further, verify that Applicant intends that the Qualifying Facility will engage in Wholesale Transactions in PJM's FERC-jurisdictional wholesale markets (Y/N).

e. Will the Generating Facility share Project Developer's Interconnection Facilities with another Generating Facility, either existing or planned? (Y/N)

If yes, identify whether these projects that share the Project Developer's Interconnection Facilities are being submitted as a single New Service Request or multiple New Service Requests.

f. Maximum Facility Output and Capacity Interconnection Rights:

i. For a new Generating Facility, provide the following information:

Total Requested Maximum Facility Output (maximum injection at the POI), in Megawatts	
Total Requested Capacity Interconnection Rights, in Megawatts	

ii. For a requested increase in generation capability of an existing Generating Facility, identify the Generating Facility and provide the following information:

	Existing	Requested Increase	Total
Maximum Facility Output (maximum injection at the POI), in Megawatts			
Capacity Interconnection Rights, in Megawatts			

iii. For a new Behind the Meter Generating Facility, provide the following information:

Gross Output in Megawatts	
Behind the Meter Load in Megawatts (the sum of auxiliary load and any other load to be served behind the meter)	
Total Requested Maximum Facility Output (maximum injection at the POI), in Megawatts	

Total Requested Capacity Interconnection Rights, in Megawatts	
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- iv. For a requested increase in generation capability of an existing Behind the Meter Generating Facility, identify the Generating Facility and provide the following information:

	Existing	Increase	Total
Gross Output in Megawatts			
Behind the Meter Load in Megawatts (the sum of auxiliary load and any other load to be served behind the meter)			
Maximum Facility Output (maximum injection at the POI), in Megawatts			
Capacity Interconnection Rights, in Megawatts			

- g. Provide a description of the equipment configuration and electrical design specifications for the Generating Facility, as further defined in the PJM Manuals and reflected in the single-line diagram.
- h. Specify the fuel type of the Generating Facility.
- i. If the Generating Facility will be a multi-fuel Generating Facility, or if a proposed increase in generation capability of an existing Generating Facility will create a multi-fuel Generating Facility, describe the physical and electrical configuration in as much detail as possible.
- j. If the Generating Facility will include storage component(s), (1) identify whether the storage component(s) will be charged using energy from the Transmission System; (2) specify the primary frequency response operating range for the storage

component(s); (3) specify the MWh stockpile; (4) specify the hour class as applicable; and (5) state whether Project Developer requests that PJM study the storage component as charging 24 hours a day, i.e. charging at peak.

If the storage component(s) will be charged using energy from the Transmission System, specify the maximum that will be withdrawn from the Transmission System at any time: ___ MWh (or kWh)

- k. If the Generating Facility will include storage, provide the primary frequency response operating range for the electric storage component, as described in the PJM Manuals.

Minimum State of Charge: _____ Maximum State of Charge: _____

- l. For a Behind the Meter Generating Facility, provide the following information (note that all of the provisions in Tariff, Part VII, Subpart E, section 317 or Tariff, Part VIII, Subpart E, section 415 apply):
 - i. Identify the type and size of the load co-located (or to be co-located) with the Generating Facility, and attach a detailed single-line diagram in PDF depicting the electrical location of the load in relation to the Generating Facility.
 - ii. Describe the electrical connections between the Generating Facility and the co-located load, as shown in the single-line diagram.
- m. Provide the date that the new Generating Facility, or the increase in generation capability of an existing Generating Facility, will be in service.
- n. Submit the required Dynamic Models and Dynamic Modeling Package for the new Generating Facility in accordance with PJM Manual 14H.
- o. Provide other relevant information for the Generating Facility including, but not limited to, identifying whether Applicant has submitted a previous Application; and, if this Application proposes an increase in generation capability of a Generating Facility, identify whether the Generating Facility is subject to an existing PJM Service Agreement; and, if so, provide those details.
- p. If Project Developer requests that Transmission Provider evaluate, as part of the Phase I System Impact Study, the use of static synchronous compensators, static VAR compensators, advanced power flow control devices, transmission switching, synchronous condensers, voltage source converters, advanced conductors, and tower lifting:

- i. State below which alternative transmission technology/ies Project Developer requests Transmission Provider to evaluate.

- ii. Provide to Transmission Provider by the Application Deadline all the requisite model information to allow Transmission Provider to evaluate the requested technology/ies.

SECTION 3: LONG-TERM FIRM TRANSMISSION SERVICE

- 14. Request:

OASIS Request	Start	Stop	Amount	Path	Date & Time Request

- 15. PURPOSE: A Phase I System Impact Study, incorporated within a Cycle’s System Impact Studies, is used to determine whether the Transmission System is adequate to accommodate all or part of an Applicant’s request for long-term firm transmission service under Tariff, Part II (POINT-TO-POINT TRANSMISSION SERVICE) and Tariff, Part III (NETWORK INTEGRATION TRANSMISSION SERVICE). The FERC comparability standard is applied in evaluating the impact of all requests.
- 16. SCOPE OF WORK AND STUDY DEPOSIT: PJM will perform a Phase I System Impact Study to determine if the PJM network has sufficient capability to grant Applicant’s request for long-term firm transmission service, based on expected system conditions and topology. The required cash Study Deposit for the Phase I System Impact Study, as described in Tariff, Part VII, Subpart B, section 306(A) or Tariff, Part VIII, Subpart B, section 403(A), is due prior to the Application Deadline.
- 17. NETWORK ANALYSIS AND DELIVERABILITY TEST: PJM evaluates requests for long-term firm transmission service using deliverability tests commensurate with the testing employed for evaluating Interconnection Requests. The energy from a Generating Facility or the energy delivered using long-term firm transmission service that is ultimately committed to meet resource requirements must be deliverable to where it is needed in the event of a system emergency. Therefore, there must be sufficient transmission network transfer capability within the control area. PJM determines the sufficiency of network transfer capability through a series of “deliverability tests.” All Interconnection Requests and long-term firm transmission service requests in PJM are subjected to the same deliverability tests. The FERC comparability standard is applied in evaluating the impact

of all requests.

18. Skip to section 5.

SECTION 4: MERCHANT TRANSMISSION FACILITY SPECIFICATIONS

19. Applicant requests interconnection to the Transmission System of Merchant Transmission Facilities with the following specifications:

a. Location of proposed facilities:

b. Substation(s) where Applicant proposes to interconnect or add its facilities:

c. Proposed voltage and nominal capability of new facilities or increase in capability of existing facilities:

d. Description of proposed facilities and equipment:

e. Planned date the proposed facilities or increase in capability will be in service:

f. Will the proposed facilities be Merchant A.C. or Merchant D.C. Transmission Facilities or Controllable A.C. Merchant Transmission Facilities?

A.C. _____ or D.C. _____ or Controllable A.C. _____

i. If the proposed facilities will be Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities, does Applicant elect to receive either:

_____ (1) Firm or Non-Firm Transmission Injection Rights (TIR) and/or Firm or Non-Firm Transmission Withdrawal Rights (TWR)

OR

_____ (2) Incremental Deliverability Rights, Incremental Auction Revenue Rights, and Incremental Available Transfer Capability Revenue Rights.

If Applicant elects (1) above, provide the following:

_____ Total project MWs to be evaluated as Firm (capacity) injection for TIR.

_____ Total project MWs to be evaluated as Non-firm (energy) injection for TIR.

_____ Total project MWs to be evaluated as Firm (capacity) withdrawal for TWR.

_____ Total project MWs to be evaluated a Non-firm (energy) withdrawal for TWR.

If Applicant elects (2) above, state the location on the Transmission System where Applicant proposes to receive Incremental Deliverability Rights associated with its proposed facilities:

ii. If the proposed facilities will be Controllable A.C. Merchant Transmission Facilities, and provided that Applicant contractually binds itself in the Service Agreement related to its project always to operate its Controllable A.C. Merchant Transmission Facilities in a manner effectively the same as operation of D.C. transmission facilities, the Service Agreement will provide Applicant with the same types of transmission rights that are available under the Tariff for Merchant D.C. Transmission Facilities. For purposes of this Agreement, Applicant represents that, should it execute a Service Agreement for its project described herein, it will agree in the Service Agreement to operate its facilities continuously in a controllable mode.

iii. If the proposed facilities will be Merchant A.C. Transmission Facilities without continuous controllability as described in the preceding paragraph, specify the location on the Transmission System where Applicant proposes to receive any Incremental Deliverability Rights associated with its proposed facilities:

20. Site Control: In accordance with Tariff, Part VII, Subpart A, section 302 or Part VIII, Subpart A, section 402, provide evidence of an ownership interest in, or right to acquire or control through a deed, lease, or option for at least a one-year term beginning from the

Application Deadline, 100 percent of the Site for Applicant's major equipment (e.g., converter station). In addition, provide a certification, executed by an officer or authorized representative of Applicant, verifying that the Site Control requirement is met. Further at PJM's request, Applicant shall provide copies of landowner attestations or county recordings.

SECTION 5: SCOPE AND TIMING OF SYSTEM IMPACT STUDIES

21. Transmission Provider, in consultation with the affected Transmission Owner(s), will conduct System Impact Studies, in three phases, to provide Applicant with information on the required Interconnection Facilities and Network Upgrades needed to support Applicant's New Service Request.
22. Consistent with Tariff, Part VII, Subpart C or Tariff, Part VIII, Subparts C and D, the Phase I System Impact Study begins at the end of the 90-day Application Review Phase, and runs for 120 days followed by a 30-day Decision Point I period for withdrawal or modification. If no withdrawal, the Phase II System Impact Study begins at the end of the Decision Point I period and runs for 180 days followed by a 30-day Decision Point II period for withdrawal or modification. If no withdrawal, the Phase III System Impact Study begins at the end of the Decision Point II period and runs for 180 days followed by release of the Phase III System Impact Study report and the start of final agreement negotiations. If a phase or period does not end on a Business Day, the phase or period shall be extended to end on the next Business Day.
23. The System Impact Studies include good faith estimates that attempt to determine the cost of necessary facilities, and upgrades to existing facilities, to accommodate Applicant's New Service Request, and to identify Applicant's cost responsibility, but those estimates shall not be deemed final or binding. The scope of the System Impact Studies may include, but are not limited to, short circuit analyses, stability analyses, an interconnection facilities study, and a system upgrades facilities study.
24. The System Impact Studies necessarily will employ various assumptions regarding Applicant's New Service Request, other New Service Requests, and PJM's Regional Transmission Expansion Plan at the time of study. **IN NO EVENT SHALL THIS AGREEMENT OR THE SYSTEM IMPACT STUDIES IN ANY WAY BE DEEMED TO OBLIGATE TRANSMISSION PROVIDER OR TRANSMISSION OWNERS TO CONSTRUCT ANY FACILITIES OR UPGRADES OR TO PROVIDE ANY TRANSMISSION OR INTERCONNECTION SERVICE TO OR ON BEHALF OF APPLICANT EITHER AT THIS POINT IN TIME OR IN THE FUTURE.**
25. Consistent with Tariff, Part VII, Subpart G or Tariff, Part VIII, Subpart G, Transmission Provider will coordinate with Affected System Operators the conduct of studies required to determine the impact of a New Service Request on any Affected System, and will include those results in the Phase II System Impact Study if available from the Affected System. Applicant will cooperate with Transmission Provider in all matters related to the conduct of studies by Affected System Operators and the determination of modifications to

Affected Systems needed to accommodate Applicant's New Service Request.

SECTION 6: CONFIDENTIALITY

26. Applicant agrees to provide all information requested by Transmission Provider necessary to complete and review this Application. Subject to this section 6, and to the extent required by Tariff Part VII, Subpart E, section 327 or Tariff, Part VIII, Subpart E, section 425, information provided pursuant to this Application shall be and remain confidential.
27. Upon completion of each System Impact Study for a New Service Request, the corresponding reports will be listed on Transmission Provider's website and, to the extent required by Tariff, Part VII, Subpart E, section 327 or Tariff, Part VIII, Subpart E, section 425 or Commission regulations, will be made publicly available. Applicant acknowledges and consents to such disclosures as may be required under Tariff, Part VIII, Subpart E, section 425 or Commission regulations.
28. Applicant acknowledges that, consistent with the confidentiality provisions of Tariff, Part VII, Subpart E, section 327 or Tariff, Part VIII, Subpart E, section 425, Transmission Provider may contract with consultants, including Transmission Owners, to provide services or expertise in the study process, and Transmission Provider may disseminate information as necessary to those consultants, and rely upon them to conduct part or all of the System Impact Studies.

SECTION 7: COST RESPONSIBILITY

29. Transmission Provider shall apply Applicant's Study Deposit in payment of the invoices for the costs of the System Impact Studies.
30. Actual study costs may exceed the Study Deposit. Notwithstanding the amount of the Study Deposit, Applicant shall reimburse Transmission Provider for all, or for Applicant's allocated portion of, the actual cost of the System Impact Studies in accordance with Applicant's cost responsibility. Applicant is responsible for, and must pay, all actual study costs. If Transmission Provider sends Applicant notification of additional study costs, then Applicant must either: (i) pay all additional study costs within 20 days (or, if the 20th day is not a Business Day, then the next Business Day) of Transmission Provider sending the notification of such additional study costs or (ii) withdraw its New Service Request. If Applicant fails to complete either (i) or (ii), then Transmission Provider shall deem the New Service Request to be terminated and withdrawn.

SECTION 8: DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY

31. In completing the System Impact Studies, Transmission Provider, Transmission Owner(s), and any other subcontractors employed by Transmission Provider must rely on information provided by Applicant and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, NEITHER TRANSMISSION PROVIDER, TRANSMISSION OWNER(S), NOR ANY OTHER SUBCONTRACTORS EMPLOYED

BY TRANSMISSION PROVIDER MAKES ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW, COURSE OF PERFORMANCE OR DEALING, CUSTOM, USAGE IN THE TRADE OR PROFESSION, OR OTHERWISE, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE ACCURACY, CONTENT, OR CONCLUSIONS OF THE SYSTEM IMPACT STUDIES. Applicant acknowledges that it has not relied on any representations or warranties not specifically set forth herein, and that no such representations or warranties have formed the basis of its bargain hereunder. Neither this Agreement nor the System Impact Studies prepared hereunder is intended, nor shall either be interpreted, to constitute agreement by Transmission Provider or Transmission Owner(s) to provide Interconnection Service or transmission service to or on behalf of Applicant either at this time or in the future.

32. In no event will Transmission Provider, Transmission Owner(s), or other subcontractors employed by Transmission Provider be liable for indirect, special, incidental, punitive, or consequential damages of any kind including loss of profits, whether under this agreement or otherwise, even if Transmission Provider, Transmission Owner(s), or other subcontractors employed by Transmission Provider have been advised of the possibility of such a loss. Nor shall Transmission Provider, Transmission Owner(s), or other subcontractors employed by Transmission Provider be liable for any delay in delivery or of the non-performance or delay in performance of Transmission Provider's obligations under this Agreement.

SECTION 9: MISCELLANEOUS

33. Any notice, demand, or request required or permitted to be given by any Party to another and any instrument required or permitted to be tendered or delivered by any Party in writing to another may be so given, tendered, or delivered electronically, or by recognized national courier or by depositing the same with the United States Postal Service, with postage prepaid for delivery by certified or registered mail addressed to the Party, or by personal delivery to the Party, at the address specified below.

Transmission Provider:

PJM Interconnection, L.L.C.
2750 Monroe Blvd.
Audubon, PA 19403
interconnectionagreementnotices@pjm.com

Applicant:

34. No waiver by either Party of one or more defaults by the other in performance of any of the provisions of this Agreement shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or different character.
35. This Agreement, or any part thereof, may not be amended, modified, or waived other than by a writing signed by all Parties.
36. This Agreement shall be binding upon the Parties, their heirs, executors, administrators, successors, and assigns.
37. This Agreement shall become effective on the date it is executed by both Parties and shall remain in effect until the earlier of (a) the date on which Applicant enters into a final Service Agreement with PJM (and Transmission Owner as applicable) in accordance with Tariff, Part VII, Subpart D or Tariff, Part VIII, Subpart D or (b) termination or withdrawal of this Application.
38. **Governing Law, Regulatory Authority, and Rules:**
This Agreement shall be deemed a contract made under, and the interpretation and performance of this Agreement and each of its provisions shall be governed and construed in accordance with, the applicable Federal laws and/or laws of the State of Delaware without regard to conflicts of law provisions that would apply the laws of another jurisdiction. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.
39. **No Third-Party Beneficiaries:**
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest, and where permitted their assigns.
40. **Multiple Counterparts:**
This Agreement may be executed in two or more counterparts, each of which is deemed an original but all of which constitute one and the same instrument.
41. **No Partnership:**
This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.
42. **Severability:**

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

43. Reservation of Rights:

Transmission Provider shall have the right to make a unilateral filing with the Federal Energy Regulatory Commission ("FERC") to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; and Applicant shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

Transmission Provider: PJM Interconnection, L.L.C.

By: _____
Name Title Date

Printed Name

Applicant: **[Name of Party]**

By: _____
Name Title Date

Printed Name

Service Agreement No. []

(Project Identifier #____)

GENERATION INTERCONNECTION AGREEMENT
By and Between
PJM INTERCONNECTION, L.L.C.
And

And

GENERATION INTERCONNECTION AGREEMENT

By and Between

PJM Interconnection, L.L.C.

And

[Name of Project Developer]

And

[Name of Transmission Owner]

(Project Identifier #__)

- 1.0 Parties. This Generation Interconnection Agreement (“GIA”) including the Specifications, Schedules and Appendices attached hereto and incorporated herein, is entered into by and between PJM Interconnection, L.L.C., the Regional Transmission Organization for the PJM Region (hereinafter “Transmission Provider” or “PJM”), _____ (“Project Developer” [OPTIONAL: or “[short name]”]) and _____ (“Transmission Owner” [OPTIONAL: or “[short name]”]). All capitalized terms herein shall have the meanings set forth in the appended definitions of such terms as stated in Part VII and Part VIII of the PJM Open Access Transmission Tariff (“Tariff”). [Use as/when applicable: This GIA supersedes the _____ {insert details to identify the agreement being superseded, the effective date of the agreement, the service agreement number designation, and the FERC docket number, if applicable, for the agreement being superseded.}]. [Use as/when applicable: Pursuant to the terms of an Agreement to Amend signed by all Parties effective {INSERT DATE}, this GIA amends the {ISA/GIA} entered into by {Party 1}, {Party 2}, and Transmission Provider effective {INSERT DATE} and designated as Service Agreement No. {INSERT NUMBER}.]
- 2.0 Authority. This GIA is entered into pursuant to the Generation Interconnection Procedures (“GIP”) set forth in [instruction: {use Part VII if this is a transition period GIA subject to Tariff, Part VII} {use Part VIII if this a new rules GIA subject to Part VIII}] of the Tariff. Project Developer has requested a GIA under the Tariff, and Transmission Provider has determined that Project Developer is eligible under the Tariff to obtain this GIA. The standard terms and conditions for interconnection as set forth in Appendix 2 to this GIA are hereby specifically incorporated as provisions of this GIA. Transmission Provider, Transmission Owner, and Project Developer agree to and assume all of the rights and obligations of the Transmission Provider, Transmission Owner, and Project Developer, respectively, as set forth in GIA, Appendix 2.
- 3.0 Generating Facility or Merchant Transmission Facility Specifications. Attached are Specifications for the Generating Facility or Merchant Transmission Facility that Project Developer proposes to interconnect with the Transmission System. Project Developer represents and warrants that, upon completion of construction of such facilities, it will own or control the Generating Facility or Merchant Transmission Facility identified in GIA, Specifications, section 1.0 attached hereto and made a part hereof. In the event that Project Developer will not own the Generating Facility or Merchant Transmission Facility, Project

Developer represents and warrants that it is authorized by the owner(s) thereof to enter into this GIA and to represent such control.

- 4.0 Effective Date. Subject to any necessary regulatory acceptance, this GIA shall become effective on the date it is executed by all Interconnection Parties, or, if the agreement is filed with FERC unexecuted, upon the date specified by FERC. This GIA shall terminate on such date as mutually agreed upon by the parties, unless earlier terminated in accordance with the terms set forth in GIA, Appendix 2. The term of the GIA shall be as provided in GIA, Appendix 2, section 1.3. Interconnection Service shall commence as provided in GIA, Appendix 2, section 1.
- 5.0 Security. In accord with the GIP, Project Developer shall provide the Transmission Provider (for the benefit of the Transmission Owner) with a letter of credit from an agreed provider or other form of security reasonably acceptable to the Transmissions Provider and that names the Transmission Provider as beneficiary (“Security”) in the amount of \$_____. Such Security can also be applied to unpaid Cancellation Costs and for completion of some or all of the required Transmission Owner Interconnection Facilities, and/or Customer-Funded Upgrades. This amount represents the sum of the estimated Costs, determined in accordance with the GIP for which the Project Developer will be responsible, less any Costs already paid by Project Developer. Project Developer acknowledges that its ultimate cost responsibility will be based upon the actual Costs of the facilities described in the Specifications, whether greater or lesser than the amount of the payment security provided under this section.
- 6.0 Project Specific Milestones. In addition to the milestones stated in the GIP as applicable, during the term of this GIA, Project Developer shall ensure that it meets each of the following development milestones:

[Specify Project Specific Milestones]

[As appropriate include the following standard Milestones, with any revisions necessary for the project at hand (sections should be renumbered as appropriate):]

- 6.1 Substantial Site work completed. On or before _____, Project Developer must demonstrate completion of at least 20 percent of project site construction. At this time, Project Developer must submit to Transmission Owner and Transmission Provider initial drawings, certified by a professional engineer, of the Project Developer Interconnection Facilities.
- 6.2 Delivery of major electrical equipment. On or before _____, Project Developer must demonstrate that ____ generating units have been delivered to Project Developer’s project site.
[Instructions: the following provisions can be used be as mutually agreed upon, and as an alternative to the milestones set forth in the GIP (renumber sections as appropriate):]

6.2.1____ Fuel delivery agreement and water agreement. On or before _____, Project Developer must demonstrate it has entered into a fuel delivery agreement and water agreement, if necessary, and that it controls any necessary rights-of-way for fuel and water interconnection.

6.2.2____ Local, county, and state site permits. On or before _____, Project Developer must demonstrate that it has obtained all necessary local, county, and state site permits.

[Instruction to be used if the Project Developer has not provided evidence of the 100 percent Site Control for the Project Developer's Interconnection Facilities, and any Transmission Owner's Interconnection Facilities or Transmission Owner Upgrades at the Point of Interconnection that the Project Developer will develop prior to entering to a GIA (renumber remaining sections as appropriate):]

6.2.3 Project Developer shall provide evidence of 100 percent Site Control for the Generating Facility or Merchant Transmission Facility, Interconnection Facilities, and, if applicable, the Stand Alone Network Upgrades necessary to interconnect the project to the Transmission System consistent with GIP no later than 180 days after the effective date of this GIA. Notwithstanding any other provisions of this GIA, no extension of this milestone shall be granted and if the Project Developer fails to meet this milestone, its Interconnection Request and this Agreement shall be deemed terminated and withdrawn. Transmission Provider shall take all necessary steps to effectuate this termination, including submitting the necessary filings with FERC.

6.3 Commercial Operation. On or before _____, Project Developer must demonstrate commercial operation of all generating units in order to achieve the full Maximum Facility Output set forth in section 1.0(c) of the Specifications to this GIA. Failure to achieve this Maximum Facility Output may result in a permanent reduction in Maximum Facility Output of the Generating Facility, and if, necessary, a permanent reduction of the Capacity Interconnection Rights, to the level achieved. Demonstrating commercial operation includes achieving Initial Operation in accordance with section 1.4 of Appendix 2 to this GIA and making commercial sales or use of energy, as well as, if applicable, obtaining capacity qualification in accordance with the requirements of the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region.

[Instructions: If this GIA is for an incremental increase in output for a facility that already is in commercial operation (i.e., an uprate), then, instead of the above, use the following language for the Commercial Operation milestone.]

[For an uprate where MFO and CIRs will increase, use this alternate language:]

Commercial Operation. On or before _____, Project Developer must demonstrate commercial operation of an incremental increase over Project Developer's previous interconnection, as set forth in Specifications, section 1.0(c) of this GIA for increases in Maximum Facility Output and in Specifications, section 2.1 of this GIA for increases in Capacity Interconnection Rights. This incremental increase is a result of the Interconnection Request associated with this GIA. Failure to achieve this Maximum Facility Output shall result in a permanent reduction in Maximum Facility Output of the Generating Facility, and if, necessary, a permanent reduction of the Capacity Interconnection Rights, to the level achieved. Demonstrating commercial operation includes making commercial sales or use of energy, as well as, if applicable, obtaining capacity qualification in accordance with the requirements of the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region.

[For CIR-only uprates, use the alternate language that follows. The September 1, _____ date for CIR-only uprates is meant to align with Summer Capability Testing for the unit(s). Without this Commercial Operation milestone that is specific to CIR-only uprates, it can be difficult to implement or enforce a Commercial Operation milestone for CIR-only uprates, because the unit is already in Commercial Operation at its specified MFO:]

Commercial Operation. On or before September 1, _____, Project Developer must demonstrate commercial operation of an incremental increase in Capacity Interconnection Rights over Project Developer's previous interconnection, as set forth in Specifications, section 2.1 of this GIA. Failure to achieve this level of Capacity Interconnection Rights shall result in a permanent reduction of the Capacity Interconnection Rights to the level achieved. This incremental increase in Capacity Interconnection Rights is a result of the Interconnection Request associated with this GIA. Demonstrating commercial operation includes making commercial sales or use of energy, as well as, if applicable, obtaining capacity qualification in accordance with the requirements of the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region.

[Additional instructions (separate from the Commercial Operation Date provisions): if a specific situation requires a separate Construction Service Agreement by a certain date then use the following:]

Construction Service Agreement. On or before _____, Project Developer must have either (a) executed a Construction Service Agreement for Interconnection Facilities or Transmission Owner Upgrades for which Project Developer has cost responsibility; (b) requested dispute resolution under section 12 of the PJM Tariff, or if concerning the Regional Transmission Expansion Plan, consistent with Schedule 5 of the Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement"); or (c) requested that the Transmission Provider file the Construction Service Agreement unexecuted with FERC.

- 6.4 Within one month following commercial operation of generating unit(s), Project Developer must provide certified documentation demonstrating that “as-built” Generating Facility or the Merchant Transmission Facilities, and Project Developer Interconnection Facilities are in accordance with applicable PJM studies and agreements. Project Developer must also provide PJM with “as-built” electrical modeling data or confirm that previously submitted data remains valid.

[Add Additional Project Specific Milestones as appropriate]

Project Developer shall demonstrate the occurrence of each of the foregoing milestones to Transmission Provider’s reasonable satisfaction. Transmission Provider may reasonably extend any such milestone dates, in the event of delays that Project Developer (i) did not cause and (ii) could not have remedied through the exercise of due diligence. Project Developer shall also have a one-time option to extend its milestone (other than any milestone related to Site Control) for a total period of one year regardless of cause. This option may only be applied one time for an Interconnection Request, and may only be applied to one single milestone specified in this GIA. Other milestone dates stated in this GIA shall be deemed to be extended coextensively with Project Developer’s use of this provision. Once this extension is used, it is no longer available with regard to any other milestones or other deadlines in this GIA. If the Project Developer fails to meet any of the milestones set forth above, including any extended milestones, its Interconnection Request shall be terminated and withdrawn, subject to the provisions of Appendix 2, sections 15 and 16. Transmission Provider shall take all necessary steps to effectuate this termination, including submitting the necessary filings with FERC.

- 7.0 Provision of Interconnection Service. Transmission Provider and Transmission Owner agree to provide for the interconnection to the Transmission System in the PJM Region of Project Developer’s Generating Facility or Merchant Transmission Facility identified in the Specifications in accordance with the GIP, the Operating Agreement, and this GIA, as they may be amended from time to time.
- 8.0 Assumption of Tariff Obligations. Project Developer agrees to abide by all rules and procedures pertaining to generation and transmission in the PJM Region, including but not limited to the rules and procedures concerning the dispatch of generation or scheduling transmission set forth in the Tariff, the Operating Agreement and the PJM Manuals.
- 9.0 System Impact Study(ies) and/or Facilities Study(ies). In analyzing and preparing the [System Impact Study(ies) and/or Facilities Study(ies)], and in designing and constructing the Distribution Upgrades, Network Upgrades, Stand Alone Network Upgrades and/or Transmission Owner Interconnection Facilities described in the Specifications attached to this GIA, Transmission Provider, the Transmission Owner(s), and any other subcontractors employed by Transmission Provider have had to, and shall have to, rely on information provided by Project Developer and possibly by third parties and may not have control over

the accuracy of such information. Accordingly, NEITHER TRANSMISSION PROVIDER, THE TRANSMISSION OWNER(s), NOR ANY OTHER SUBCONTRACTORS EMPLOYED BY TRANSMISSION PROVIDER OR TRANSMISSION OWNER MAKES ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW, COURSE OF PERFORMANCE OR DEALING, CUSTOM, USAGE IN THE TRADE OR PROFESSION, OR OTHERWISE, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE ACCURACY, CONTENT, OR CONCLUSIONS OF THE SYSTEM IMPACT STUDY(IES) AND/OR FACILITIES STUDY(IES) OF THE DISTRIBUTION UPGRADES, NETWORK UPGRADES, STAND ALONE NETWORK UPGRADES AND/OR TRANSMISSION OWNER INTERCONNECTION FACILITIES. Project Developer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

10.0 Construction of Transmission Owner Interconnection Facilities and Transmission Owner Upgrades

10.1. Cost Responsibility. Project Developer shall be responsible for and shall pay upon demand all Costs associated with the interconnection of the Generating Facility or Merchant Transmission Facility as specified in the GIP. These Costs may include, but are not limited to, a Distribution Upgrades charge, Network Upgrades charge, Stand Alone Network Upgrades charge, Transmission Owner Interconnection Facilities charge and other charges. A description of the facilities required and an estimate of the Costs of these facilities are included in sections 3.0 and 4.0 of the Specifications to this GIA.

10.2. Billing and Payments. Transmission Provider shall bill the Project Developer for the Costs associated with the facilities contemplated by this GIA, estimates of which are set forth in the Specifications to this GIA, and the Project Developer shall pay such Costs, in accordance with section 11 of Appendix 2 to this GIA and the applicable provisions of Schedule L. Upon receipt of each of Project Developer's payments of such bills, Transmission Provider shall reimburse the applicable Transmission Owner. Project Developer requests that Transmission Provider provide a quarterly cost reconciliation:

_____ Yes

_____ No

10.3. Contract Option. In the event that the Project Developer and Transmission Owner agree to utilize the Negotiated Contract Option as set forth in Schedule L, Appendix 1 to establish, subject to FERC acceptance, non-standard terms regarding cost responsibility, payment, billing and/or financing, the terms of sections 10.1 and/or 10.2 of this section 10.0 shall be superseded to the extent required to conform to

such negotiated terms, as stated in Schedule L to this GIA. The Negotiated Option can only be used in connection with a Network Upgrade subject to the Network Upgrade Cost Responsibility Agreement if all Project Developers and the relevant Transmission Owner agree.

_____ Yes

_____ No

10.4 Interconnection Construction Terms and Conditions

10.4.1 GIA, Schedule L sets forth the additional terms and conditions of service that apply in the event there are any Project Developer Interconnection Facilities, Transmission Owner Interconnection Facilities, or Transmission Owner Upgrades subject to this Agreement. In the event there is an additional Transmission Owner listed in GIA, Specifications, section 3.0(c), Transmission Provider, Project Developer and the additional Transmission Owner shall be required to enter into a separate Construction Service Agreement in the form set forth in Tariff, Part IX, Subpart J. In the event there are any Common Use Upgrades listed in GIA, Specifications, section 3.0, Transmission Provider and Project Developer, along with the other relevant Project Developers, shall also be required to enter into a separate Network Upgrade Cost Responsibility Agreement in the form set forth in Tariff, Part IX, Subpart H.

10.4.2 In the event that the Project Developer elects to construct some or all of the Transmission Owner Interconnection Facilities or Stand Alone Network Upgrades under the Option to Build, billing and payment for the Costs associated with the facilities contemplated by this GIA shall relate only to such portion of the Interconnection Facilities and Transmission Owner Upgrades as the Transmission Owner is responsible for building.

11.0 Interconnection Specifications

11.1 Point of Interconnection. The Point of Interconnection shall be as identified on the single-line diagram attached as GIA, Schedule B.

11.2 List and Ownership of Interconnection Facilities and Transmission Owner Upgrades. The Interconnection Facilities and Transmission Owner Upgrades to be constructed and ownership of the components thereof are identified in GIA, section 3.0.

11.3 Ownership and Location of Metering Equipment. The Metering Equipment to be constructed, the capability of the Metering Equipment to be constructed, and the ownership thereof, are identified on the attached GIA, Schedule C.

11.4 Applicable Technical Standards. The Applicable Technical Requirements and Standards that apply to the Generating Facility or Merchant Transmission Facility and the Interconnection Facilities and Transmission Owner Upgrades are identified in GIA, Schedule D.

12.0 Power Factor Requirement.

Consistent with section 4.6 of Appendix 2 to this GIA, the power factor requirement is as follows:

[For Generation Project Developers]

{The following language should be included for new large and small synchronous generation facilities that will have the Tariff specified power factor. This section does not apply if the Interconnection Request is for an incremental increase in generating capability.}

The Project Developer shall design its Generating Facility with the ability to maintain a power factor of at least 0.95 leading to 0.90 lagging measured at the [generator's terminals] [Point of Interconnection].

{Include the following language if the Interconnection Request is for an incremental increase in capacity or energy output to a synchronized generation facility}

The existing __ MW portion of the Generating Facility shall retain its existing ability to maintain a power factor of at least 0.95 leading to 0.90 lagging measured at the [generator's terminals] [Point of Interconnection].

The increase of ___ MW to the Generating Facility associated with this GIA shall be designed with the ability to maintain a power factor of at least 1.0 (unity) to 0.90 lagging measured at the [generator's terminals] [Point of Interconnection].

{For new wind or non-synchronous generation facilities which have submitted a New Service Request. after November 1, 2016, the following applies:}

The Generation Project Developer shall design its [wind-powered] [non-synchronous] Generating Facility with the ability to maintain a power factor of at least 0.95 leading to 0.95 lagging measured at the high-side of the facility substation transformers.

{For all wind or non-synchronous Generating Facilities requesting an incremental increase in capacity or energy output which have submitted an Interconnection Request after November 1, 2016, and were not commercially operable prior to November 1, 2016 include the following requirements:}

The existing [wind-powered] [non-synchronous] __ MW portion of the Generating Facility shall retain the ability to maintain a power factor of at least 0.95 leading to 0.95 lagging

measured at the high-side of the facility substation transformers.

The increase of ___ MW to the [wind-powered] [non-synchronous] Generating Facility associated with this GIA shall be designed with the ability to maintain a power factor of at least 0.95 leading to 0.95 lagging measured at the high-side of the facility substation transformers.

[For Transmission Project Developers]

{The following language should be included only for new Merchant Transmission Facilities}

Transmission Project Developer shall design its Merchant D.C. Transmission Facilities and/ or Controllable A.C. Merchant Transmission Facilities, to maintain a power factor at the Point of Interconnection of at least 0.95 leading and 0.95 lagging, when such Generating Facility is operating at any level within its approved operating range.

- 13.0 Charges. In accordance with sections 10 and 11 of Appendix 2 to this GIA, the Project Developer shall pay to the Transmission Provider the charges applicable after Initial Operation, as set forth in Schedule E to this GIA. Promptly after receipt of such payments, the Transmission Provider shall forward such payments to the appropriate Transmission Owner.
- 14.0 Third Party Beneficiaries. No third party beneficiary rights are created under this GIA, except, however, that, subject to modification of the payment terms stated in section 10 of this GIA pursuant to the Negotiated Contract Option, payment obligations imposed on Project Developer under this GIA are agreed and acknowledged to be for the benefit of the Transmission Owner(s). Project Developer expressly agrees that the Transmission Owner(s) shall be entitled to take such legal recourse as it deems appropriate against Project Developer for the payment of any Costs or charges authorized under this GIA or the GIP with respect to Interconnection Service for which Project Developer fails, in whole or in part, to pay as provided in this GIA, the GIP and/or the Operating Agreement.
- 15.0 Waiver. No waiver by either party of one or more defaults by the other in performance of any of the provisions of this GIA shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or different character.
- 16.0 Amendment. Except as set forth in GIA, Appendix 2, this GIA or any part thereof, may not be amended, modified, or waived other than by a written document signed by all parties hereto. Parties acknowledge that, subsequent to execution of this agreement, errors may be corrected by replacing the page of the agreement containing the error with a corrected page, as agreed to and signed by the parties without modifying or altering the original date of execution, dates of any milestones, or obligations contained therein.
- 17.0 Construction With Other Parts of The Tariff. This GIA shall not be construed as an application for service under Part II or Part III of the Tariff.

18.0 Notices. Any notice or request made by either party regarding this GIA shall be made, in accordance with the terms of Appendix 2 to this GIA, to the representatives of the other party and as applicable, to the Transmission Owner(s), as indicated below:

Transmission Provider:

PJM Interconnection, L.L.C.
2750 Monroe Blvd.
Audubon, PA 19403
interconnectionagreementnotices@pjm.com

Project Developer:

Transmission Owner:

19.0 Incorporation of Other Documents. All portions of the Tariff and the Operating Agreement pertinent to the subject matter of this GIA and not otherwise made a part hereof are hereby incorporated herein and made a part hereof.

20.0 Addendum of Non-Standard Terms and Conditions for Interconnection Service. Subject to FERC approval, the parties agree that the terms and conditions set forth in Schedule F hereto are hereby incorporated herein by reference and be made a part of this GIA. In the event of any conflict between a provision of Schedule F that FERC has accepted and any provision of Appendix 2 to this GIA that relates to the same subject matter, the pertinent provision of Schedule F shall control.

21.0 Addendum of Project Developer's Agreement to Conform with IRS Safe Harbor Provisions for Non-Taxable Status. To the extent required, in accordance with section 24.1 of Appendix 2 to this GIA, Schedule G to this GIA shall set forth the Project Developer's agreement to conform with the IRS safe harbor provisions for non-taxable status.

22.0 Addendum of Interconnection Requirements for all Wind or Non-synchronous Generation Facilities. To the extent required, Schedule H to this GIA sets forth interconnection requirements for wind or non-synchronous generation facilities and is hereby incorporated by reference and made a part of this GIA.

23.0 Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. All

Interconnection Parties agree to comply with all infrastructure security requirements of the North American Electric Reliability Corporation. All Transmission Providers, Transmission Owners, Market Participants, and Project Developers interconnected with electric systems are to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for electric system infrastructure and operational security, including physical, operational, and cyber-security practices.

- 24.0 This Agreement shall be deemed a contract made under, and the interpretation and performance of this Agreement and each of its provisions shall be governed and construed in accordance with, the applicable Federal and/or laws of the State of Delaware without regard to conflicts of laws provisions that would apply the laws of another jurisdiction.

IN WITNESS WHEREOF, Transmission Provider, Project Developer and Transmission Owner have caused this GIA to be executed by their respective authorized officials.

(Project Identifier # ___)

Transmission Provider: **PJM Interconnection, L.L.C.**

By: _____
Name Title Date

Printed name of signer: _____

Project Developer: **[Name of Party]**

By: _____
Name Title Date

Printed name of signer: _____

Transmission Owner: **[Name of Party]**

By: _____
Name Title Date

Printed name of signer: _____

**SPECIFICATIONS FOR
GENERATION INTERCONNECTION AGREEMENT
By and Among
PJM INTERCONNECTION, L.L.C.
And
[Name of Project Developer]
And
[Name of Transmission Owner]
(Project Identifier # ____)**

1.0 Description of [Generating Facility] [Merchant Transmission Facilities] to be interconnected with the Transmission System in the PJM Region:

a. Name of Generating Facility or Merchant Transmission Facility:

b. Location of Generating Facility or Merchant Transmission Facility:

c. Size in megawatts of Generating Facility or Merchant Transmission Facility:

{The following language should be included only for generating units

For Generation Project Developer:

{Use the following language for all resources}

Maximum Facility Output of _____ MW

{Include the following language for Energy Storage Resources}

Maximum load capacity of _____ MW)

Minimum State of Charge: _____; and

Maximum State of Charge: _____.

{The following language applies when a Generation Interconnection Request involves an increase of the capacity of an existing Generating Facility:

The stated size of the generating unit includes an increase in the Maximum Facility Output of the generating unit of ___ MW over Project Developer’s previous interconnection. This increase is a result of the Interconnection Request associated with this Generation Interconnection Agreement.}

{The following language should be included only for Merchant Transmission Facilities

For Transmission Project Developer:

Nominal Rated Capability: _____ MW}

d. Description of the equipment configuration:

2.0 Rights

[for Generation Project Developers]

2.1 Capacity Interconnection Rights: {Instructions: this section will not apply if the Generating Facility is exclusively an Energy Resource and thus is granted no CIRs; see alternate section 2.1 below}

Pursuant to and subject to the applicable terms of the GIP, the Project Developer shall have Capacity Interconnection Rights at the Point(s) of Interconnection specified in this Generation Interconnection Agreement in the amount of ___ MW. {Instructions: this number is the total of the Capacity Interconnection Rights that are granted as a result of the Interconnection Request, plus any prior Capacity Interconnection Rights}

{OR: Instructions: include the following options when the projected Initial Operation is in advance of the study year used for the System Impact Study and Capacity Interconnection Rights are only interim until the study year:}

Pursuant to and subject to the applicable terms of the GIP, the Project Developer shall have Capacity Interconnection Rights at the Point(s) of Interconnection specified in this Generation Interconnection Agreement in the amount of ___ MW commencing _____ {e.g., June 1, 2023}. During the time period from the effective date of this GIA until _____ {e.g., May 31, 2023} (the “interim

time period”), the Project Developer may be awarded interim Capacity Interconnection Rights in the amount not to exceed ____ MW. The availability and amount of such interim Capacity Interconnection Rights shall be dependent upon completion and the results of an interim deliverability study. To the extent applicable, during the interim time period, PJM reserves the right to limit total injections of the Generating Facility consistent with the results of the interim deliverability study (which may be less than the Maximum Facility Output). Any interim Capacity Interconnection Rights awarded during the interim time period shall terminate on _____ {e.g., May 31, 2023}.

{OR: Instructions: include the following options when there are a combination of previously awarded CIRs and interim CIRs that have a termination date or event:}

Pursuant to and subject to the applicable terms of the GIP, the Project Developer shall have Capacity Interconnection Rights at the Point(s) of Interconnection specified in this GIA in the amount of ____ MW commencing ____ {e.g., June 1, 2023}. From the effective date of this GIA until _____ {e.g., May 31, 2023} (the “interim time period”), in addition to the ____ MW of Capacity Interconnection Rights the Project Developer had at the same Point of Interconnection prior to its Interconnection Request associated with this GIA, the Project Developer also may be awarded interim Capacity Interconnection Rights in an amount not to exceed ____ MW. The availability and amount of such interim Capacity Interconnection Rights shall be dependent upon completion and results of an interim deliverability study. To the extent applicable, during the interim time period, PJM reserves the right to limit total injections of the Generating Facility consistent with the results of the interim deliverability study (which may be less than the Maximum Facility Output). Any interim Capacity Interconnection Rights awarded during the interim time period shall terminate on _____ {e.g., May 31, 2023}.

{OR: Instructions: include the following language in the case of combined Cycle Positions with a combination of (1) already studied, and confirmed deliverable, CIRs for the first Interconnection Request; and (2) potential interim CIRs for the second Interconnection Request, subject to an interim deliverability study:}

Pursuant to and subject to the applicable terms of the Tariff, the Project Developer shall have Capacity Interconnection Rights at the Point of Interconnection specified in this GIA in the amount of ____ MW commencing ____ {e.g., June 1, 2023}. From the effective date of this GIA until _____ {e.g., May 31, 2023} (the “interim time period”), in addition to the _____ MW of Capacity Interconnection Rights the Project Developer will have commencing _____ {e.g., June 1, 2022} at the Point of Interconnection pursuant to the ____ Interconnection Request, the Project Developer also may be awarded interim Capacity Interconnection Rights at the Point of Interconnection in an amount not to exceed ____ MW pursuant to the ____ Interconnection Request. Accordingly, during the interim time period, the Project Developer shall have ____ MW of previously studied and awarded Capacity Interconnection Rights, and may be awarded interim Capacity Interconnection

Rights in an amount not to exceed ____ MW. The availability and amount of such interim Capacity Interconnection Rights shall be dependent upon completion and results of an interim deliverability study. To the extent applicable, during the interim time period, PJM reserves the right to limit total injections of the Generating Facility consistent with the results of the interim deliverability study (which may be less than the Maximum Facility Output). Any interim Capacity Interconnection Rights awarded during the interim time period shall terminate on ____ {e.g., May 31, 2023}.

{Add to address partial deactivations:}

Pursuant to and subject to the applicable terms of the Tariff, the Interconnection Customer shall have Capacity Interconnection Rights at the Point of Interconnection specified in this Interconnection Service Agreement in the amount of __ MW commencing ____ {e.g., June 1, 2022}. From the effective date of this GIA until ____ {e.g., May 31, 2023} (the "interim time period"), in addition to the ____ MW of Capacity Interconnection Rights the Interconnection Customer will have commencing ____ {e.g., June 1, 2023} at the Point of Interconnection pursuant to the ____ Interconnection Request, the Interconnection Customer also may be awarded interim Capacity Interconnection Rights at the Point of Interconnection in an amount not to exceed ____ MW pursuant to the ____ Interconnection Request. Accordingly, during the interim time period, the Interconnection Customer shall have ____ MW of previously studied and awarded Capacity Interconnection Rights, and may be awarded interim Capacity Interconnection Rights in an amount not to exceed ____ MW. The availability and amount of such interim Capacity Interconnection Rights shall be dependent upon completion and results of an interim deliverability study. To the extent applicable, during the interim time period, PJM reserves the right to limit total injections of the Generating Facility consistent with the results of the interim deliverability study (which may be less than the Maximum Facility Output). Any interim Capacity Interconnection Rights awarded during the interim time period shall terminate on ____ {e.g., May 31, 2023}.

{OR: Instruction: include the following language to the extent applicable for interconnection of additional generation at an existing Generating Facility:}

The amount of Capacity Interconnection Rights specified above (____ MW) includes __ MW of Capacity Interconnection Rights that the Project Developer had at the same Point(s) of Interconnection prior to its Interconnection Request associated with this GIA, and __ MW of Capacity Interconnection Rights granted as a result of such Interconnection Request.

{OR: Instructions: include the following language when the CIRs are only interim and have a termination date or event:}

Project Developer shall have __ MW of Capacity Interconnection Rights for the time period from ____ to _____. These Capacity Interconnection Rights are interim

and will terminate upon {Instructions: explain circumstances – e.g. interim agreement; completion of another facility, etc.}

- 2.1a To the extent that any portion of the Generating Facility described in Specifications, section 1.0 is not a Capacity Resource with Capacity Interconnection Rights, such portion of the Generating Facility shall be an Energy Resource. PJM reserves the right to limit total injections to the Maximum Facility Output in the event reliability would be affected by output greater than such quantity.

{Instructions: this alternate version of section 2.1 that appears below will be used in lieu of section 2.1 above when a Generating Facility will be an Energy Resource and therefore will not be granted any CIRs:}

- [2.1 The generating unit(s) described in Specifications, section 1.0 shall be an Energy Resource. Pursuant to this GIA, the generating unit will be permitted to inject ___ MW (nominal) into the system. PJM reserves the right to limit injections to this quantity in the event reliability would be affected by output greater than such quantity.]

[for Transmission Project Developers]

- 2.1 Transmission Injection Rights: [applicable only to Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities that interconnect with a control area outside PJM]

Pursuant to the GIP, Project Developer shall have Transmission Injection Rights at each indicated Point of Interconnection in the following quantity(ies):

- 2.2 Transmission Withdrawal Rights: [applicable only to Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities that interconnect with a control area outside PJM]

Pursuant to the GIP, Project Developer shall have Transmission Withdrawal Rights at each indicated Point of Interconnection in the following quantity(ies):

[Include section 2.2A only if customer is interconnecting Controllable A.C. Merchant Transmission Facilities]

- 2.2A Project Developer is interconnecting Controllable A.C. Merchant Transmission Facilities as defined in the Part I of the Tariff, and has elected, pursuant to the GIP, to receive Transmission Injection Rights and Transmission Withdrawal Rights in lieu of the other applicable rights for which it may be eligible the GIP. Accordingly, Project Developer hereby agrees that the Transmission Injection Rights and Transmission Withdrawal Rights awarded to it pursuant to the GIP and this GIA are, and throughout the duration of this GIA shall be, conditioned on Project Developer's continuous operation of its Controllable A.C. Merchant Transmission

Facilities in a controllable manner, i.e., in a manner effectively the same as operation of D.C. transmission facilities.

{Instructions – use for Merchant Transmission Developers as applicable}

2.3 Incremental Deliverability Rights:

Pursuant to Tariff, Part VIII, Subpart E, section 427(C), Project Developer shall have Incremental Deliverability Rights at each indicated Point of Interconnection in the following quantity(ies):

2.4 Incremental Auction Revenue Rights:

Pursuant to Tariff, Part VIII, Subpart E, section 427(A), Project Developer shall have Incremental Auction Revenue Rights in the following quantities:

2.5 Incremental Capacity Transfer Rights:

Pursuant to Tariff, Part VIII, Subpart E, section 427(B), Project Developer shall have Incremental Capacity Transfer Rights between the following associated source(s) and sink(s) in the indicated quantities:

3.0 Construction Responsibility and Ownership of Interconnection Facilities and Transmission Owner Upgrades/Scope of Work.

a. Project Developer.

(1) Project Developer shall construct and, unless otherwise indicated, shall own, the following Interconnection Facilities:

[Specify Facilities to Be Constructed or state “None”]

[Use the following if facilities are to be constructed or owned]

- i. Facilities for which the Project Developer has sole cost responsibility.
- ii. Facilities for which a Network Upgrade Cost Responsibility Agreement is required.

(2) In the event that Project Developer has exercised the Option to Build, it is hereby permitted to build in accordance with and subject to the conditions and limitations set forth in GIA, Schedule L, the following portions of the Transmission Owner Interconnection Facilities and Stand Alone Network Upgrades which constitute or are part of the Generating Facility or Merchant Transmission Facility:

[Specify Facilities to Be Constructed or state “None”]

Ownership of the facilities built by Project Developer pursuant to the Option to Build shall be as provided in Schedule L.

- b. Transmission Owner {or Name of Transmission Owners if more than one Transmission Owner}

[Specify Facilities to Be Constructed and Owned or state “None”]

[Use the following if facilities are to be constructed or owned]

- i. Facilities for which the Project Developer has sole cost responsibility.
 - ii. Facilities for which a Network Upgrade Cost Responsibility Agreement is required.
- c. [if applicable, include the following][Name of any additional Transmission Owner constructing facilities with which Project Developer and Transmission Provider will also execute a Construction Service Agreement]

[Specify Facilities to Be Constructed and Owned]

[Use the following if facilities are to be constructed or owned]

- i. Facilities for which the Project Developer has sole cost responsibility.
 - ii. Facilities for which a Network Upgrade Cost Responsibility Agreement is required.
- d. [if applicable] Additional Contingent Facilities which must be completed prior to Commercial Operation of the Generating Facility or Merchant Transmission Facility

[Specify Facilities to Be Constructed and Owned]

- e. Summary Table of Substation Network Upgrades and System Network Upgrades

<i>Facility</i>	<i>Substation Network Upgrade or System Network Upgrade</i>	<i>Project Developer Has Sole Responsibility or Network Upgrade Cost Responsibility Agreement Required</i>

4.0 Subject to modification pursuant to the Negotiated Contract Option and/or the Option to Build, Project Developer shall be subject to the estimated charges detailed below, which shall be billed and paid in accordance with GIA, Appendix 2, section 11 and GIA, Schedule L, section 9.0 {instruction - to be included if there is an additional Transmission Owner that has a separate CSA [and in Appendix III, section 9 of the Construction Service Agreement with **[insert Transmission Owner name]**.]} {Instruction - to be included if there is a Network Upgrade Cost Responsibility Agreement [and in **[insert reference to NUCRA provisions]**]}

4.1 Transmission Owner Interconnection Facilities Charge: \$_____

[Optional: Provide Charge and Identify Transmission Owner]

4.2 Network Upgrades Charge: \$_____

[Optional: Provide Breakdown of Charge Based on Transmission Owner responsibilities and costs subject to the Network Upgrade Cost Responsibility Agreement]

4.3 Option to Build Charges \$

[Optional: Provide Breakdown of Charge Based on Transmission Owner responsibilities]

4.4 Distribution Upgrades Charge: \$_____

[Optional: Provide Breakdown of Charge Based on Transmission Owner responsibilities]

4.5 Other Charges: \$_____

[Optional: Provide Breakdown of Charge Based on Transmission Owner responsibilities]

4.6 Cost breakdown:

- \$ Direct Labor
- \$ Direct Material
- \$ Indirect Labor
- \$ Indirect Material

[Additional items for breakdown as necessary]

\$ Total

4.7 Security Amount Breakdown:

\$ Estimated Cost of Network Upgrades, Distribution Upgrades, Transmission Owner Interconnection Facilities, and Other Charges

plus \$ Option to Build Security for Transmission Owner Interconnection Facilities and Stand Alone Network Upgrades (including Cancellation Costs)

\$ Sum of Security required for Costs listed in GIA, Specifications sections 4.1 through 4.5

less \$ Portion of Costs already paid by Project Developer

\$ Net Security {Instructions: **if the resultant is negative, use:** reduction with this GIA; **if the resultant is zero or positive use:** amount required} {Instructions: this value should be in section 5.0 of this GIA}

APPENDICES:

- **APPENDIX 1 - DEFINITIONS**
- **APPENDIX 2 - STANDARD TERMS AND CONDITIONS FOR INTERCONNECTIONS**

SCHEDULES:

- **SCHEDULE A - GENERATING FACILITY LOCATION/SITE PLAN**
- **SCHEDULE B - SINGLE-LINE DIAGRAM**
- **SCHEDULE C - LIST OF METERING EQUIPMENT**
- **SCHEDULE D - APPLICABLE TECHNICAL REQUIREMENTS AND STANDARDS**
- **SCHEDULE E - SCHEDULE OF CHARGES**
- **SCHEDULE F - SCHEDULE OF NON-STANDARD TERMS & CONDITIONS**
- **SCHEDULE G - PROJECT DEVELOPER'S AGREEMENT TO CONFORM WITH IRS SAFE HARBOR PROVISIONS FOR NON-TAXABLE STATUS**
- **SCHEDULE H - RIDE THROUGH REQUIREMENTS FOR ALL GENERATING FACILITIES AND INTERCONNECTION REQUIREMENTS FOR ALL WIND, SOLAR AND NON-SYNCHRONOUS GENERATION FACILITIES**
- **SCHEDULE I – INTERCONNECTION SPECIFICATIONS FOR AN ENERGY STORAGE RESOURCE**
- **SCHEDULE J – SCHEDULE OF TERMS AND CONDITIONS FOR SURPLUS INTERCONNECTION SERVICE**
- **SCHEDULE K – REQUIREMENTS FOR INTERCONNECTION SERVICE BELOW FULL ELECTRICAL GENERATING CAPABILITY**
- **SCHEDULE L – INTERCONNECTION CONSTRUCTION TERMS AND CONDITIONS**
- **SCHEDULE L, APPENDIX 1 – NEGOTIATED CONTRACT OPTION TERMS**
- **SCHEDULE M – [RESERVED]**

4 Operations

4.1 General:

Each Interconnected Entity shall operate, or shall cause operation of, its facilities in a safe and reliable manner in accord with (i) the terms of this Appendix 2; (ii) Applicable Standards; (iii) applicable rules, procedures and protocols set forth in the Tariff and the Operating Agreement, as any or all may be amended from time to time; (iv) Applicable Laws and Regulations, and (v) Good Utility Practice.

4.1.1 Project Developer Initial Drawings:

On or before the applicable date specified in the Milestones of the Generation Interconnection Agreement, Project Developer shall submit to the Transmission Owner and Transmission Provider initial drawings, certified by a professional engineer, of the Project Developer Interconnection Facilities. Transmission Owner and Transmission Provider shall review the drawings to assess the consistency of Project Developer's design of the Project Developer Interconnection Facilities with the design that was analyzed in the planning model as described in PJM Manuals. After consulting with the Transmission Owner, Transmission Provider shall provide comments on the drawings to Project Developer within 45 days after its receipt thereof, after which time any drawings not subject to comment shall be deemed to be approved. All drawings provided hereunder shall be deemed to be Confidential Information.

4.1.1.1 Effect of Review:

Transmission Owner's and Transmission Provider's reviews of Project Developer's initial drawings of the Project Developer Interconnection Facilities shall not be construed as confirming, endorsing or providing a warranty as to the fitness, safety, durability or reliability of such facilities or the design thereof. At its sole cost and expense, Project Developer shall make such changes to the design of the Project Developer Interconnection Facilities as may reasonably be required by Transmission Provider, in consultation with the Transmission Owner, to ensure that the Project Developer Interconnection Facilities meet Applicable Standards and, to the extent that design of the Project Developer Interconnection Facilities is included in the System Impact Study(ies), to ensure that such facilities conform with the System Impact Study(ies).

4.1.2 Project Developer "As-Built" Drawings:

Within 120 days after the date of Initial Operation, unless the Interconnection Parties agree on another mutually acceptable deadline, the Project Developer shall deliver to the Transmission Provider and the Transmission Owner final, "as-built" drawings, information and documents regarding the Project Developer Interconnection Facilities, including, as and to the extent applicable: a one-line diagram, a site plan showing the Generating Facility or Merchant Transmission Facility and the Project Developer Interconnection Facilities, plan and elevation drawings showing the layout of the Project Developer Interconnection Facilities, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with the Project Developer's step-up transformers, the facilities connecting the

Generating Facility or Merchant Transmission Facility to the step-up transformers and the Project Developer Interconnection Facilities, and the impedances (determined by factory tests) for the associated step-up transformers and the Generating Facility or Merchant Transmission Facility. As applicable, the Project Developer shall provide Transmission Provider and the Transmission Owner Specifications for the excitation system, automatic voltage regulator, Generating Facility or Merchant Transmission Facility control and protection settings, transformer tap settings, and communications. Transmission Provider and Transmission Owner shall have the right to review such drawings, and charge Project Developer their actual costs of conducting such review.

4.2 Project Developer Obligations:

Project Developer shall obtain Transmission Provider's approval prior to either synchronizing with the Transmission System or energizing, as applicable per the determination of Transmission Provider, the Generating Facility or Merchant Transmission Facility or, except in an Emergency Condition, disconnecting the Generating Facility or Merchant Transmission Facility from the Transmission System, and shall coordinate such synchronizations, energizations, and disconnections with the Transmission Owner.

4.3 Transmission Project Developer Obligations:

A Transmission Project Developer that will be a Merchant Transmission Provider is subject to the terms and conditions in the GIP.

4.4 Permits and Rights-of-Way:

Each Interconnected Entity at its own expense shall maintain in full force and effect all permits, licenses, rights-of-way and other authorizations as may be required to maintain the Generating Facility or Merchant Transmission Facility and the Interconnection Facilities and Transmission Owner Upgrades that the entity owns, operates and maintains and, upon reasonable request of the other Interconnected Entity, shall provide copies of such permits, licenses, rights-of-way and other authorizations at its own expense to the requesting party.

4.5 No Ancillary Services:

Except as provided in section 4.6 of this Appendix 2, nothing in this Appendix 2 is intended to obligate the Project Developer to supply Ancillary Services to either Transmission Provider or the Transmission Owner.

4.6 Reactive Power and Primary Frequency Response

4.6.1 Reactive Power

4.6.1.1 Reactive Power Design Criteria

4.6.1.1.1 New Facilities:

For all new Generating Facilities to be interconnected pursuant to the Tariff, other than wind-powered and other non-synchronous generation facilities, the Generation Project Developer shall design its Generating Facility to maintain a composite power delivery at continuous rated power output at a power factor of at least 0.95 leading to 0.90 lagging. For all new wind-powered and other non-synchronous generation facilities the Generation Project Developer shall design its Generating Facility with the ability to maintain a composite power delivery at a power factor of at least 0.95 leading to 0.95 lagging across the full range of continuous rated power output. For all wind-powered and other non-synchronous generation facilities that submitted a New Services Request on or after November 1, 2016, the power factor requirement shall be measured at the high-side of the facility substation transformers. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two.

For new generation resources of more than 20 MW, other than wind-powered and other non-synchronous Generating Facilities, the power factor requirement shall be measured at the generator's terminals. For new generation resources of 20 MW or less the power factor requirement shall be measured at the Point of Interconnection. Any different reactive power design criteria that Transmission Provider determines to be appropriate for a wind-powered or other non-synchronous generation facility shall be stated in the Generation Interconnection Agreement.

A Transmission Project Developer interconnecting Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities shall design its Generating Facility to maintain a power factor at the Point of Interconnection of at least 0.95 leading and 0.95 lagging, when the Generating Facility is operating at any level within its approved operating range.

4.6.1.1.2 Increases in Generating Capacity or Energy Output:

All increases in the capacity or energy output of any generation facility interconnected with the Transmission System, other than wind-powered and other non-synchronous Generating Facilities, shall be designed with the ability to maintain a composite power delivery at continuous rated power output at a power factor for all incremental MW of capacity or energy output, of at least 1.0 (unity) to 0.90 lagging. Wind-powered generation facilities and other non-synchronous generation facilities that submitted a New Services Request on or after November 1, 2016, shall be designed with the ability to maintain a composite power delivery at a power factor for all incremental MW of capacity or energy output of at least 0.95 leading to 0.95 lagging measured at the high-side of the facility substation transformers across the full range of continuous rated power output. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two.

The power factor requirement associated with increases in capacity or energy output of more than 20 MW to synchronous generation facilities interconnected with the Transmission System shall be measured at the generator's terminals. The power factor requirement associated with increases in capacity or energy output of 20 MW or less to synchronous generation facilities interconnected to

the Transmission System shall be measured at the Point of Interconnection; however, if the aggregate capacity or energy output of Generating Facility is or will be more than 20 MW, the power factor requirement shall be measure at the generator's terminals.

4.6.1.2 Obligation to Supply Reactive Power:

Project Developer agrees, as and when so directed by Transmission Provider or when so directed by the Transmission Owner acting on behalf or at the direction of Transmission Provider, to operate the Generating Facility to produce reactive power within the design limitations of the Generating Facility pursuant to voltage schedules, reactive power schedules or power factor schedules established by Transmission Provider or, as appropriate, the Transmission Owner. Transmission Provider shall maintain oversight over such schedules to ensure that all sources of reactive power in the PJM Region, as applicable, are treated in an equitable and not unduly discriminatory manner. Project Developer agrees that Transmission Provider and the Transmission Owner, acting on behalf or at the direction of Transmission Provider, may make changes to the schedules that they respectively establish as necessary to maintain the reliability of the Transmission System.

4.6.1.3 Deviations from Schedules:

In the event that operation of the Generating Facility or Merchant Transmission Facility of a Project Developer causes the Transmission System or the Transmission Owner's facilities to deviate from appropriate voltage schedules and/or reactive power schedules as specified by Transmission Provider or the Transmission Owner's operations control center (acting on behalf or at the direction of Transmission Provider), or that otherwise is inconsistent with Good Utility Practice and results in an unreasonable deterioration of the quality of electric service to other customers of Transmission Provider or the Transmission Owner, the Project Developer shall, upon discovery of the problem or upon notice from Transmission Provider or the Transmission Owner, acting on behalf or at the direction of Transmission Provider, take whatever steps are reasonably necessary to alleviate the situation at its expense, in accord with Good Utility Practice and within the reactive capability of the Generating Facility or Merchant Transmission Facility. In the event that the Project Developer does not alleviate the situation within a reasonable period of time following Transmission Provider's or the Transmission Owner's notice thereof, the Transmission Owner, with Transmission Provider's approval, upon notice to the Project Developer and at the Project Developer's expense, may take appropriate action, including installation on the Transmission System of power factor correction or other equipment, as is reasonably required, consistent with Good Utility Practice, to remedy the situation cited in Transmission Provider's or the Transmission Owner's notice to the Project Developer under this section.

4.6.1.4 Payment for Reactive Power:

Any payments to the Project Developer for reactive power shall be in accordance with Tariff, Schedule 2.

4.6.2 Primary Frequency Response:

Generation Project Developer shall ensure the primary frequency response capability of its

Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Generation Project Developer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Generating Facility’s real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Generating Facility’s real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Generation Project Developer shall notify Transmission Provider that the primary frequency response capability of the Generating Facility has been tested and confirmed during commissioning. Once Generation Project Developer has synchronized the Generating Facility with the Transmission System, Generation Project Developer shall operate the Generating Facility consistent with the provisions specified in sections 4.6.2.1 and 4.6.2.2 of this agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Generating Facilities.

4.6.2.1 Governor or Equivalent Controls:

Whenever the Generating Facility is operated in parallel with the Transmission System, Generation Project Developer shall operate the Generating Facility with its governor or equivalent controls in service and responsive to frequency. Generation Project Developer shall: (1) in coordination with Transmission Provider and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Generation Project Developer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant balancing authority upon request. If Generation Project Developer needs to operate the Generating Facility with its governor or equivalent controls not in service, Generation Project Developer shall immediately notify Transmission Provider and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned

to service. Generation Project Developer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Generation Project Developer shall make Reasonable Efforts to keep outages of the Generating Facility's governor or equivalent controls to a minimum whenever the Generating Facility is operated in parallel with the Transmission System.

4.6.2.2 Timely and Sustained Response:

Generation Project Developer shall ensure that the Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Generating Facility has operating capability in the direction needed to correct the frequency deviation. Generation Project Developer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

4.6.2.3 Exemptions:

Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from sections 4.6.2, 4.6.2.1, and 4.6.2.2 of this agreement. Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in section 4.6.2, but shall be otherwise exempt from the operating requirements in sections 4.6.2, 4.6.2.1, 4.6.2.2, and 4.6.2.4 of this agreement.

4.6.2.4 Energy Storage Resources:

Generation Project Developer interconnecting an Energy Storage Resource shall establish an operating range in Schedule I of this GIA that specifies a minimum state of charge and a maximum state of charge between which the Energy Storage Resource will be required to provide primary frequency response consistent with the conditions set forth in sections 4.6.2, 4.6.2.1, 4.6.2.2, and 4.6.2.3 of this agreement. Schedule I shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the Energy Storage Resource; (5) operational limitations of the Energy Storage Resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Provider and Generation Project Developer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If

the operating range is dynamic, then Schedule I must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Generation Project Developer's Energy Storage Resource is required to provide timely and sustained primary frequency response consistent with section 4.6.2.2 of this agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the Energy Storage Resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Generation Project Developer's Energy Storage Resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Generation Project Developer's Energy Storage Resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

4.6.2.4.1 Operating Assumptions. When Appendix I to this GIA memorializes the operating assumptions for the charging behavior of a Generating Facility that includes at least one electric storage resource that were studied, Transmission Provider may consider Project Developer to be in Breach of this GIA if Project Developer fails to operate the Generating Facility in accordance with those operating assumptions for charging behavior. However, if Project Developer operates contrary to the operating assumptions for charging behavior specified in Appendix I of this GIA at the direction of Transmission Provider, Transmission Provider shall not consider Project Developer in Breach of this GIA.

4.7 Under- and Over-Frequency and Under- and Over- Voltage Conditions:

The Generation Project Developer shall ensure "frequency ride through" capability and "voltage ride through" capability of its Generating Facility. The Generation Project Developer shall enable these capabilities such that its Generating Facility shall not disconnect automatically or instantaneously from the system or equipment of the Transmission Provider and any Affected Systems for a defined under-frequency or over-frequency condition, or an under-voltage or over-voltage condition, as tested pursuant to section 1.4.4 of Appendix 2 of this Generation Interconnection Agreement. The defined conditions shall be in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the PJM Region on a comparable basis. The Generating Facility's protective equipment settings shall comply with the Transmission Provider's automatic load-shed program. The Transmission Provider shall review the protective equipment settings to confirm compliance with the automatic load-shed program. The term "ride through" as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Provider and any Affected Systems during system disturbances within a range of conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the Balancing Authority on a comparable basis. The term "frequency ride through" as used herein shall mean the ability of a Generation Project Developer's Generating Facility to stay connected to and synchronized with the Transmission System or equipment of the Transmission Provider and any

Affected Systems during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the PJM Region on a comparable basis. The term “voltage ride through” as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the system or equipment of the Transmission Provider and any Affected Systems during system disturbances within a range of under-voltage and over-voltage conditions, in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other Generating Facilities in the PJM Region on a comparable basis.

The Transmission System is designed to automatically activate a load-shed program as required by NERC and each Applicable Regional Entity in the event of an under-frequency system disturbance. A Generation Project Developer shall implement under-frequency and over-frequency relay set points for the Generating Facility as required by NERC and each Applicable Regional Entity to ensure “frequency ride through” capability of the Transmission System. The response of a Generation Project Developer’s Generating Facility to frequency deviations of predetermined magnitudes, both under-frequency and over-frequency deviations shall be studied and coordinated with the Transmission Provider in accordance with Good Utility Practice.

4.8 System Protection and Power Quality:

4.8.1 System Protection:

Project Developer shall, at its expense, install, operate and maintain such System Protection Facilities as may be required in connection with operation of the Generating Facility or Merchant Transmission Facility and the Project Developer Interconnection Facilities consistent with Applicable Technical Requirements and Standards. Transmission Owner shall install any System Protection Facilities that may be required, as determined by Transmission Provider, on the Transmission Owner Interconnection Facilities and Transmission Owner Upgrades or the Transmission System in connection with the operation of the Generating Facility or Merchant Transmission Facility and the Project Developer Interconnection Facilities. Responsibility for the cost of any System Protection Facilities required on the Transmission Owner Interconnection Facilities and Transmission Owner Upgrades or the Transmission System shall be allocated as provided in the GIP.

4.8.2 Power Quality:

The Generating Facility or Merchant Transmission Facility and Project Developer Interconnection Facilities shall not cause excessive deviations from the power quality criteria set forth in the Applicable Technical Requirements and Standards.

4.9 Access Rights:

Each Interconnected Entity shall provide the other Interconnected Entity access to areas under its control as reasonably necessary to permit the other Interconnected Entity to perform its obligations under this Appendix 2, including operation and maintenance obligations. An Interconnected

Entity that obtains such access shall comply with all safety rules applicable to the area to which access is obtained. Each Interconnected Entity agrees to inform the other Interconnected Entity's representatives of safety rules applicable to an area.

4.10 Switching and Tagging Rules:

The Interconnected Entities shall comply with applicable Switching and Tagging Rules in obtaining clearances for work or for switching operations on equipment. Such Switching and Tagging Rules shall be developed in accordance with OSHA standards codified at 29 C.F.R. part 1910, or successor standards. Each Interconnected Entity shall provide the other Interconnected Entity a copy of its Switching and Tagging Rules that are applicable to the other Interconnected Entity's activities.

4.11 Communications and Data Protocol:

The Interconnected Entities shall comply with any communications and data protocol that the Transmission Provider may establish.

4.12 Nuclear Generating Facilities:

In the event that the Generating Facility is a nuclear Generating Facility, the Interconnection Parties shall agree to such non-standard terms and conditions as are reasonably necessary to accommodate the Project Developer's satisfaction of Nuclear Regulatory Commission requirements relating to the safety and reliability of operations of such facilities.

SCHEDULE H

RIDE THROUGH REQUIREMENTS FOR ALL GENERATING FACILITIES AND INTERCONNECTION REQUIREMENTS FOR ALL WIND, SOLAR AND NON-SYNCHRONOUS GENERATION FACILITIES

A. Ride Through Requirements for All Generating Facilities

The Transmission System is designed to automatically activate a load-shed program as required by the NERC in the event of an under-frequency/voltage system disturbance. Project Developer shall implement under-frequency/under-voltage and over-frequency/over-voltage relay set points for the Generating Facility as required by NERC to ensure “ride through” capability of the Transmission System. The term “ride through” as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of conditions, in accordance with Good Utility Practice.

[AND]

{Include the following language when the Generating Facility is a wind, solar or non-synchronous generation facility}

B. Voltage and Frequency Ride Through Requirements

For abnormal frequency conditions and voltage conditions within the “no trip zone” defined by Reliability Standard PRC-024-3, or successor mandatory ride through reliability standards, the non-synchronous Large Generating Facility must ensure that, within any physical limitations of the Large Generating Facility, its control and protection settings are configured or set to (1) continue active power production during disturbance and post disturbance periods at pre-disturbance levels, unless reactive power priority mode is enabled or unless providing primary frequency response or fast frequency response; (2) minimize reductions in active power and remain within dynamic voltage and current limits, if reactive power priority mode is enabled, unless providing primary frequency response or fast frequency response; (3) not artificially limit dynamic reactive power capability during disturbances; and (4) return to pre-disturbance active power levels without artificial ramp rate limits if active power is reduced, unless providing primary frequency response or fast frequency response.

C. Supervisory Control and Data Acquisition (“SCADA”) Capability

The wind, solar or non-synchronous generation facility shall provide SCADA capability to

transmit data and receive instructions from the Transmission Provider to protect system reliability. The Transmission Provider and the wind, solar or non-synchronous generation facility Project Developer shall determine what SCADA information is essential for the proposed wind, solar or non-synchronous generation facility, taking into account the size of the facility and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

D. Meteorological Data Reporting Requirement (Applicable to wind generation facilities only)

The wind generation facility shall, at a minimum, be required to provide the Transmission Provider with site-specific meteorological data including:

- Temperature (degrees Fahrenheit)
- Wind speed (meters/second)
- Wind direction (degrees from True North)
- Atmosphere pressure (hectopascals)
- Forced outage data (wind turbine and MW unavailability)

E. Meteorological Data Reporting Requirement (Applicable to solar generation facilities only)

The solar generation facility shall, at a minimum, be required to provide the Transmission Provider with site-specific meteorological data including:

- Temperature (degrees Fahrenheit)
- Irradiance
- Forced outage data

The Transmission Provider and Project Developer may mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Provider. Such additional mutually agreed upon requirements for meteorological and forced outage data are set forth below: [STATE “NOT APPLICABLE UNDER THIS GIA” OR SPECIFY THE AGREED UPON METEOROLOGICAL AND FORCED OUTAGE DATA REQUIREMENTS]

SCHEDULE I
INTERCONNECTION SPECIFICATIONS FOR AN
ENERGY STORAGE RESOURCE

{Include the appropriate language from the alternatives below.}

{Include the following language if the Generating Facility is not an Energy Storage Resource:}

Not Required

{Include the following language if the Generating Facility is an Energy Storage Resource:}

This Schedule I specifies information for Energy Storage Resource will be required to provide primary frequency response consistent with the conditions set forth in GIA, Appendix 2, sections 4.6.2 (Primary Frequency Response), 4.6.2.1 (Governor or Equivalent Controls), 4.6.2.2 (Timely and Sustained Response), 4.6.2.3 (Exemptions), and 4.6.2.4 (Energy Storage Resource).

1.0 Minimum State of Charge and Maximum State of Charge

Primary frequency response operating range for Energy Storage Resources:

Minimum State of Charge: _____; and

Maximum State of Charge: _____.

2.0 Static or Dynamic Operating Range

{Specify whether the operating range is static or dynamic. If the operating range is dynamic, then this Schedule I must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.}

3.0 Operating Assumptions

{insert operating assumptions that reflect the charging behavior of the Generating Facility that includes at least one electric storage resource as it was studied, i.e., studied as charging only off-peak or studied as charging 24 hours}

SCHEDULE A

SITE PLAN

SCHEDULE B

SINGLE-LINE DIAGRAM

{If Municipality/Cooperative: Make sure the point of common coupling is designated in the Single-Line Diagram *in addition to* the Point of Interconnection.}

SCHEDULE C

LIST OF METERING EQUIPMENT

{Include the following language if not required:}

Not Required.

{If Municipality/Cooperative: Make sure to account for the fact that metering may be installed at the point of common coupling. *For example:*

Wholesale Market Participant shall be responsible for the installation of metering and telemetry at the point of common coupling (as shown in Schedule B) between the Generating Facility and the [insert name of Municipality/Cooperative] system as required by PJM Manuals M-01 and M14D. [Insert name of Municipality/Cooperative] and Wholesale Market Participant will together determine meter ownership.

Wholesale Market Participant shall make its metering data at the point of common coupling available to [insert name of Municipality/Cooperative], or its affiliate, via telemetry for use by [insert name of Municipality/Cooperative] and Transmission Owner for balancing, settlement, and audit purposes. Wholesale Market Participant may purchase and install its own backup metering.}

SCHEDULE D

LIST OF NETWORK UPGRADES

{Include the following language if not required:}

Not Required.

{Otherwise, list the System Network Upgrades and Substation Network Upgrades identified through the System Impact Studies in the summary table below, with Stand Alone Network Upgrades, if any, listed separately after the table, and include the sentence below.}

Summary Table of Substation Network Upgrades and System Network Upgrades

Facility	System or Substation Network Upgrade

[List of Stand-Alone Network Upgrades]

Construction of these Network Upgrades listed in Schedule D of this WMPA is subject to the terms and conditions of a separate facilities construction agreement between Wholesale Market Participant and Transmission Owner.

SCHEDULE E

APPLICABLE TECHNICAL REQUIREMENTS AND STANDARDS

{Include the following language if not required:}

Not Required.

{Otherwise, include the following language:}

Except as otherwise provided in the Interconnection Agreement, as applicable, the following technical requirements and standards shall apply. To the extent that these Applicable Technical Requirements and Standards conflict with the terms and conditions of the Tariff or any other provision of this WMPA, the Tariff and/or this WMPA shall control.

*{Instructions: If the relevant TO Applicable Technical Requirements and Standards **are** posted on the PJM website, use the following language:}*

[Name of TO Standards] [version number (if known and applicable)] dated [insert effective date of the Standards] shall apply. The [Name of TO Standards] [version number (if known and applicable)] dated [insert effective date of the Standards] is available on the PJM website.

*{Instructions. If the relevant TO Applicable Technical Requirements and Standards **are not** posted on the PJM website, use the following language, subject to modifications as appropriate:}*

[Name of TO Standards] [version number (if known and applicable)] dated [insert effective date of the Standards] shall apply.

SCHEDULE F

SCHEDULE OF NON-STANDARD TERMS & CONDITIONS

{Include the following language if not required:}

Not Required.

Tariff, Part IX, Subpart O

**FORM OF
AFFECTED SYSTEM CUSTOMER IMPACT STUDY AGREEMENT**

AFFECTED SYSTEM CUSTOMER IMPACT STUDY AGREEMENT

Among

PJM Interconnection, L.L.C.

And

{Affected System Customer legal name}

(Affected System Operator Identifier: {Affected System Operator and interconnection request number})

RECITALS

1. This Affected System Customer Impact Study Agreement (the “Agreement”), is entered into by and between {Affected System Customer legal name} (“Affected System Customer”) and PJM Interconnection, L.L.C. (“PJM” or “Transmission Provider”) (individually, a “Party,” and together, the “Parties”) in accordance with the PJM Interconnection, L.L.C. Open Access Transmission Tariff (“Tariff”).
2. Affected System Customer desires that Transmission Provider determine whether to commence an Affected System Customer Impact Study (the “Impact Study”) in connection with the following non-PJM interconnection request to {Affected System Operator legal name}’s (“{Affected System Operator acronym}” or “Affected System Operator”) transmission system: {Affected System Operator and interconnection request number} (“Affected System Interconnection Request”) pursuant to Tariff, {Part VII/VIII}, Subpart G (Affected System rules) and the PJM Manuals.
3. Pursuant to Tariff, {Part VII/VIII}, Subpart G (Affected System rules), Affected System Customer is responsible for an Affected System Facility that may require Network Upgrades to Transmission Provider’s Transmission System, and Transmission Provider has notified Affected System Customer of the need to enter into this Agreement.
4. Unless otherwise specified, when used in this Agreement with initial capitalizations, the terms specified shall have the meanings indicated in Tariff, Part I, Article I or {Part VII/VIII}.

PURPOSE AND SCOPE OF THE AGREEMENT

5. Transmission Provider, in consultation with Affected System Customer and the affected Transmission Owner(s), shall commence an Impact Study to determine any impacts by the Affected System Interconnection Request to the Transmission System. Any reference to the Impact Study shall include any restudies as provided in section 0 of this Agreement.
6. Scope of Impact Study. The scope of work for this Agreement is to perform an Affected System Study, which shall include as applicable, but not be limited to, a thermal analysis, voltage analysis, short circuit analysis, and a stability analysis, of the Affected System Facilities associated with the Affected System Interconnection Request interconnecting to {POI name and location} to assess the impact of the Affected System Facility on the Transmission Provider’s Transmission System. The Impact Study will include an assessment of whether any Network Upgrades to Transmission Provider’s Transmission System may be required to mitigate the impacts resulting from the Affected System Facility.

7. Technical Information. The Impact Study will be based upon the technical information provided by Affected System Customer and Affected System Operator, which shall be due upon execution of this Agreement. Transmission Provider reserves the right to request additional technical information from Affected System Customer as may reasonably become necessary during the Impact Study. Delays in providing the additional technical information to Transmission Provider may cause delays in Affected System Customer receiving the results of the Impact Study as estimated in section 0 of this Agreement. Affected System Customer shall provide the requested information to Transmission Provider within ten (10) Business Days of Transmission Provider's request for the additional technical information. If Affected System Customer fails to provide any requested information to Transmission Provider within ten (10) Business Days of Transmission Provider's request, then this Agreement shall be terminated.
8. Impact Study Time Estimate. Transmission Provider shall complete the Impact Study on or before the first Business Day 120 days after Transmission Provider receives all Affected System Customer's technical information pursuant to this Agreement, section 7. Transmission Provider may extend the time to complete the Impact Study, in Transmission Provider's sole discretion, due to a need for restudy as provided in this Agreement, section 9.
9. Restudy. Transmission Provider may conduct a restudy at any time if Transmission Provider determines, in Transmission Provider's sole discretion, that there is a change in the case assumption, including but not limited to a withdrawal of an Interconnection Request in Transmission Provider's interconnection queue or a material change in the Impact Study's technical information. Transmission Provider shall notify Affected System Customer of the need for a restudy within 10 Business days of such a determination and complete any restudy within 90 days of such notice.
10. The Impact Study will employ various assumptions, including assumptions regarding the Affected System Interconnection Request, other pending Interconnection Request(s), and PJM's Regional Transmission Expansion Plan at the time of the Impact Study, which shall be outlined in the PJM Manuals. IN NO EVENT SHALL THIS AGREEMENT OR THE IMPACT STUDY IN ANY WAY BE DEEMED TO OBLIGATE TRANSMISSION PROVIDER TO CONDUCT AN AFFECTED SYSTEM CUSTOMER FACILITIES STUDY OR TO PROVIDE ANY TRANSMISSION OR INTERCONNECTION SERVICE TO OR ON BEHALF OF AFFECTED SYSTEM CUSTOMER EITHER AT THIS POINT IN TIME OR IN THE FUTURE.

10.1 The Impact Study will provide one or more of the following:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the Affected System Interconnection Request;
- identification of any thermal overload or voltage limit violations resulting from the Affected System Interconnection Request;
- identification of any instability or inadequately damped response to system disturbances resulting from the Affected System Interconnection Request;

- a non-binding, good faith estimated cost and time required to construct facilities required on Transmission Provider's Transmission System to accommodate the interconnection of the Affected System Facility/ies to the transmission system of the host transmission provider; and
- description of how such facilities will address the identified short circuit, instability, and power flow issues.

CONFIDENTIALITY

11. Affected System Customer agrees to provide all information requested by Transmission Provider necessary to complete the Impact Study. Subject to these provisions of the Agreement entitled "CONFIDENTIALITY" and to the extent required by Tariff, Part VII, Subpart E, section 327, or Tariff, Part VIII, Subpart E, section 425, as applicable, information provided pursuant to this Agreement shall be and remain confidential.
12. Until completion of the Impact Study, Transmission Provider shall keep confidential all information provided to it by Affected System Customer. Upon completion of the Impact Study, Transmission Provider shall notify Affected System Customer of the results of the Impact Study along with related work papers, but only to the extent consistent with Transmission Provider's confidentiality obligations in PJM Operating Agreement, section 18.17. Affected System Customer acknowledges and consents to such other, additional disclosures of information as may be required under the Tariff or the Federal Energy Regulatory Commission's ("FERC") rules and regulations.
13. Affected System Customer acknowledges that the affected Transmission Owner(s) may participate in the Impact Study and that Transmission Provider may disseminate information to the affected Transmission Owner(s) and may consult with them regarding part or all of the Impact Study.

COST RESPONSIBILITY

14. Concurrent with execution of this Agreement, Affected System Customer shall provide to Transmission Provider a deposit of \$30,000 in cash through electronic wire transfer ("Impact Study Deposit"). Affected System Customer shall include the project identification or reference number assigned by the Affected System Operator and attach the relevant documentation that identifies the need for the Impact Study.

Actual Impact Study costs may exceed the Impact Study Deposit. Notwithstanding the amount of the Impact Study Deposit, Affected System Customer shall reimburse Transmission Provider for all actual costs of the Impact Study. If Transmission Provider sends Affected System Customer notification of additional costs, then Affected System Customer must pay all additional costs within twenty (20) Business Days of Transmission Provider's sending of the notification. If Affected System Customer fails to pay the Impact Study Deposit or any additional costs within the timeframe provided in this section 0, then this Agreement shall be terminated.

Any difference between the Impact Study Deposit and the actual cost of the Impact Study or restudy, if necessary, shall be paid by or refunded to Affected System Customer, as applicable, including interest calculated in accordance with 18 C.F.R. §35.19a(a)(2).

15. If Affected System Customer elects to cancel the Impact Study prior to its completion, then Affected System Customer shall notify Transmission Provider with at least five (5) Business Days prior written notice. Affected System Customer shall reimburse Transmission Provider for the total actual costs incurred by Transmission Provider for work associated with the Impact Study prior to the notification to cancel the Impact Study as well as any actual costs incurred by Transmission Provider in administering the cancellation process. Transmission Provider shall, as soon as practicable after receiving the notification to cancel the Impact Study, return the amount, if any, by which the Impact Study Deposit exceeds the total actual costs. If such costs, including applicable overheads, exceed the Impact Study Deposit, Transmission Provider shall submit to Affected System Customer a written invoice for the amount due, payable to Transmission Provider.

DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY

16. In conducting the Impact Study, Transmission Provider, affected Transmission Owner(s), and any other subcontractors employed by Transmission Provider shall have to rely on information provided by Affected System Customer and possibly by third parties and may not have control over the accuracy of such information. Accordingly, NEITHER THE TRANSMISSION PROVIDER, THE TRANSMISSION OWNERS, NOR ANY OF THEIR RESPECTIVE BOARD MEMBERS, EMPLOYEES, AGENTS, CONTRACTORS, OR SUBCONTRACTORS (TOGETHER, THE "TRANSMISSION ENTITIES") MAKE ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW, COURSE OF PERFORMANCE OR DEALING, CUSTOM, USAGE IN THE TRADE OR PROFESSION, OR OTHERWISE, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE ACCURACY, CONTENT, OR CONCLUSIONS OF THE IMPACT STUDY. Affected System Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder. Neither this Agreement nor the results of the Impact Study prepared hereunder is intended, nor shall either be interpreted, to constitute agreement by Transmission Provider or affected Transmission Owner(s) to provide Interconnection Service or Transmission Service to or on behalf of Affected System Customer either at this time or in the future.
17. In no event will the Transmission Entities be liable for any indirect, special, incidental, punitive, or consequential damages of any kind including loss of profits, arising under or in connection with this Agreement or the Impact Study, even if the Transmission Entities have been advised of the possibility of such a loss. Nor shall the Transmission Entities be liable for any delay in delivery, or for the non-performance or delay in performance of, Transmission Provider's obligations under this Agreement.
18. Without limitation of the foregoing, Affected System Customer further agrees that the affected Transmission Owner(s) and others employed by Transmission Provider to prepare or assist in the preparation of any Impact Study shall be deemed third-party beneficiaries of this Agreement.

NOTICES

19. Any notice, demand, or request required or permitted to be given by any Party to another and any instrument required or permitted to be tendered or delivered by any Party in writing to another may be so given, tendered, or delivered electronically, or by recognized national courier or by depositing the same with the United States Postal Service, with postage prepaid for delivery by certified or registered mail addressed to the Party, or by personal delivery to the Party, at the address specified below.

Transmission Provider:

PJM	Interconnection,	L.L.C.
2750	Monroe	Boulevard
Audubon,	PA	19403
interconnectionagreementnotices@pjm.com		

Affected System Customer:

MISCELLANEOUS

20. Waiver. No waiver by either Party of one or more defaults by the other in performance of any of the provisions of this Agreement shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or different character.
21. Amendment and Assignment. This Agreement or any part thereof, may not be amended, modified, assigned, or waived other than by a writing signed by all Parties hereto.
22. Successors and Assigns. This Agreement shall be binding upon the Parties hereto, their heirs, executors, administrators, successors, and assigns.
23. Construction with Other Parts of the Tariff. Neither this Agreement nor the Impact Study performed hereunder shall be construed as an application for service under Tariff, Part II or Tariff, Part III. The results of the Impact Study are not intended for use in participating in the Transmission Provider's energy, capacity, or any other market.
24. Incorporation of Other Documents. The provisions of Tariff, Part VII or Tariff, Part VIII, as applicable, and the PJM Operating Agreement pertinent to the subject matter of this Agreement are incorporated herein and made a part hereof.
25. Effective Date. This Agreement shall become effective on the date it is executed by all Parties and shall remain in effect until the earlier of (a) the date on which Transmission Provider tenders the results of the Impact Study and, as applicable, a proposed Affected System Customer Facilities Study Application and Agreement to Affected System Customer, (b) termination and withdrawal of the Affected System Interconnection Request, or (c) termination by Transmission Provider under section 0 of this Agreement.
26. No Third-Party Beneficiaries. Unless otherwise specified in this Agreement, this Agreement is not intended to and does not create rights, remedies, or benefits of any

character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

27. Multiple Counterparts. This Agreement may be executed in two or more counterparts, each of which is deemed an original but all of which constitute one and the same instrument.
28. No Partnership. This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.
29. Severability. If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.
30. Governing Law, Regulatory Authority, and Rules. This Agreement shall be deemed a contract made under, and the interpretation and performance of this Agreement and each of its provisions shall be governed and construed in accordance with, the applicable Federal and/or laws of the Commonwealth of Pennsylvania without regard to conflicts of laws provisions that would apply the laws of another jurisdiction. This Agreement is subject to all Applicable Laws and Regulations.
31. Reservation of Rights. Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; and Transmission Provider shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that Affected System Customer shall have the right to protest any such filing and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, Transmission Provider and Affected System Customer have caused this Agreement to be executed by their respective authorized officials as of the latest date stated with _____ all _____ parties' _____ signatures.

Affected System Operator identifier: {Affected System Operator and interconnection request number}

Transmission Provider: PJM Interconnection, L.L.C.

Name Title Date

Printed Name

Affected System Customer: {Affected System Customer legal name}

Name Title Date

Printed Name

Attachment C

Table of Affected System-Related Terms and Definitions

Table of Affected-System-Related Terms and Definitions

Final Rule <i>Pro Forma</i> LGIP Definition	PJM’s Definition	Compliance Explanation
<p>Affected System shall mean an electric system other than Transmission Provider’s Transmission System that may be affected by the proposed interconnection.</p>	<p>Affected System:</p> <p>“Affected System” shall mean an electric system other than the Transmission Provider’s Transmission System that may be affected by a proposed interconnection or on which a proposed interconnection or addition of facilities or upgrades may require modifications or upgrades to the Transmission System.</p>	<p>These definitions are substantively identical.</p>
<p>Affected System Facilities Construction Agreement shall mean the agreement contained in Appendix 11 to this LGIP that is made between Transmission Provider and Affected System Interconnection Customer to facilitate the construction of and to set forth cost responsibility for necessary Affected System Network Upgrades on Transmission Provider’s Transmission System.</p>	<p>Tariff, Part VIII, Subpart G, Section 434(B)(8):</p> <p>Once Transmission Provider has issued and Affected System Customer has received the Affected System Customer Facility Study Report, Transmission Provider and Affected System Customer shall enter into a stand-alone Construction Service Agreement or a Network Upgrade Cost Responsibility Agreement (forms of which are found in Tariff, Part IX) for the construction of the necessary Affected System Network Upgrades with each Transmission Owner responsible for constructing such upgrades if a Construction Service Agreement is required, or for each set of Common Use Upgrades on the system of such Transmission Owner if a Network Upgrade Cost Responsibility Agreement is required. .</p>	<p>The stand-alone Construction Service Agreement and Network Upgrade Cost Responsibility Agreement are the agreements that “facilitate the construction of and . . . set forth cost responsibility for necessary Affected System Network Upgrades” on PJM’s Transmission System.</p>
<p>Affected System Interconnection Customer shall mean any entity that submits an interconnection request for a</p>	<p>Affected System Customer</p>	<p>The definitions are substantively identical.</p>

Final Rule <i>Pro Forma</i> LGIP Definition	PJM's Definition	Compliance Explanation
generating facility to a transmission system other than Transmission Provider's Transmission System that may cause the need for Affected System Network Upgrades on Transmission Provider's Transmission System.	"Affected System Customer" shall mean the developer responsible for an Affected System Facility that requires Network Upgrades to Transmission Provider's Transmission System.	
Affected System Network Upgrades shall mean the additions, modifications, and upgrades to Transmission Provider's Transmission System required to accommodate Affected System Interconnection Customer's proposed interconnection to a transmission system other than Transmission Provider's Transmission System.	Affected System Network Upgrades: "Affected System Network Upgrades" shall mean the Network Upgrades that are needed on Transmission Provider's Transmission System as a result of an Affected System Facility.	PJM's definition uses the defined term "Network Upgrades" to encompass the "additions, modifications, and upgrades" referenced in the Final Rule definition.
Affected System Operator shall mean the entity that operates an Affected System.	Affected System Operator "Affected System Operator" shall mean an entity that operates an Affected System or, if the Affected System is under the operational control of an independent system operator or a regional transmission organization, such independent entity.	The definitions are substantively identical.
Affected System Study shall mean the evaluation of Affected System Interconnection Customers' proposed interconnection(s) to a transmission system other than Transmission Provider's Transmission System that have an impact on Transmission Provider's Transmission System, as described in Section 9 of this LGIP.	1. Affected System Facilities Study "Affected System Facilities Study" shall mean the study performed to determine the scope, cost and time schedule to complete any required Network Upgrades to transmission facilities on Transmission Provider's Transmission System.	Taken together, PJM's more granular definitions comprise the totality of the Final Rule's "Affected System Study" definition.

Final Rule <i>Pro Forma</i> LGIP Definition	PJM's Definition	Compliance Explanation
	<p>2. Affected System Impact Study: “Affected System Impact Study” shall mean the study performed to determine if an Affected System Facility has any impact which may require Network Upgrades on Transmission Provider’s Transmission System.</p>	
<p>Affected System Study Report shall mean the report issued following completion of an Affected System Study pursuant to Section 9.7 of this LGIP.</p>	<p>Affected System Impact Study Report: “Affected System Impact Study Report” shall mean a report summarizing the impacts of an Affected System Facility on transmission facilities on Transmission Provider’s Transmission System and any required Network Upgrades.</p> <p>Affected System Facilities Study Report: “Affected System Facilities Study Report” shall mean a report summarizing the scope, cost and schedule for any required Network Upgrades to transmission facilities on Transmission Provider’s Transmission System.</p>	<p>The Affected System Impact Study Report and Affected System Facilities Study Report are the reports issued following completion of an Affected System Impact Study or Affected System Facilities Study, as applicable.</p>
<p>Affected System Queue Position shall mean the queue position of an Affected System Interconnection Customer in Transmission Provider’s interconnection queue relative to Transmission Provider’s Interconnection Customers’ Queue Positions.</p>	<p>Affected System Queue Position: “Affected System Queue Position” shall mean the priority in which the Affected System Customer’s project is studied relative to Transmission Provider’s New Service Requests.</p>	<p>These definitions are substantively identical.</p>

Final Rule <i>Pro Forma</i> LGIP Definition	PJM's Definition	Compliance Explanation
<p>Affected System Study Agreement shall mean the agreement contained in Appendix 9 to this LGIP that is made between Transmission Provider and Affected System Interconnection Customer to conduct an Affected System Study pursuant to Section 9 of this LGIP.</p>	<ol style="list-style-type: none"> <li> 1. Affected System Customer Facilities Study Application and Agreement: <ol style="list-style-type: none"> <li>a. "Affected System Customer Facilities Study Application and Agreement" shall mean the agreement set forth in Tariff, Part IX, Subpart L, Affected System Customer Facilities Study Application and Agreement. <li> 2. Affected System Customer Impact Study Agreement: <ol style="list-style-type: none"> <li>a. "Affected System Customer Impact Study Agreement" shall mean the agreement set forth in Tariff, Part IX, Subpart O, Affected System Customer Facilities Study Application and Agreement. 	<p>The Affected System Customer Facilities Study Application and Agreement and the Affected System Customer Impact Study Agreement, as applicable, satisfy the definition of Affected System Study Agreement.</p>

Attachment D

**Affidavit of Lisa Krizenoskas on Behalf of PJM
Interconnection, L.L.C.**

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

PJM Interconnection, L.L.C.)

Docket No. ER24-2045-___

**AFFIDAVIT OF LISA KRIZENOSKAS ON
BEHALF OF PJM INTERCONNECTION, L.L.C.**

1. My name is Lisa Krizenoskas, and my business address is 2750 Monroe Boulevard, Audubon, Pennsylvania 19403. I am employed by PJM Interconnection, L.L.C. (“PJM”) and my current title is Manager, Interconnection Planning Analysis. I have more than 30 years of experience in the power systems industry, with extensive technical, analytical, and managerial expertise in transmission system planning and generator interconnection processes.

2. I began my career at PPL Electric Utilities, where I spent the majority of my tenure as a Transmission System Planner, developing extensive knowledge of system modeling, reliability criteria, long-term transmission planning and generator interconnections. Over the past 10 years, my work has focused on PJM’s generation interconnection process. Prior to my current role as Manager of Interconnection Planning Analysis, I served over 5 years as a Project Manager overseeing the coordination, scheduling, and performance of interconnection studies for planned generation resources located throughout the PJM Region. Throughout the course of my career, I have developed comprehensive expertise in both the project management and technical analysis aspects of evaluating new generation interconnections, including load flow, short circuit, stability, and deliverability assessments.

3. Approximately 5 years ago, I played a key role in PJM’s transition from the former serial study process to the new cluster-based Cycle study process. I was a member of PJM’s Interconnection Process Reform Task Force that developed the proposed Tariff and manual language that established the framework for accepting, evaluating, and studying New Service Requests under the new cluster-based Cycle process. This reform modernized PJM’s interconnection process by enabling the coordinated evaluation of large cohorts of projects, improving study efficiency, and reducing processing timelines.
4. In my role as Manager of Interconnection Planning Analysis, I have extensive experience in overseeing completion of Affected System studies and facilities studies for Affected System Customers external to PJM.
5. The purpose of this affidavit is to support PJM’s third compliance filing to comply with the directives of Order Nos. 2023 and 2023-A (together, “Final Rule”).¹ I describe PJM’s Affected System study process and the challenges unique to PJM in meeting study obligations. I then explain PJM’s proposal and request for an independent entity variation for a 120-day period for completion of the Affected System Impact Study, plus an additional 180-day period for completion of the Affected System Facilities Study. Additionally, I provide support for PJM’s request for an independent entity variation to require Project Developers in its Cycle process to enter into Affected System arrangements with Affected System Operators no later than the end of Decision Point II. Finally, my affidavit addresses

¹ *Improvements to Generator Interconnection Procedures and Agreements*, Order No. 2023, 184 FERC ¶ 61,054, *limited order on reh’g*, 185 FERC ¶ 61,063 (2023), *order on reh’g and clarification*, Order No. 2023-A, 186 FERC ¶ 61,199, *errata notice*, 188 FERC ¶ 61,134 (2024), *appeals pending sub nom. Advanced Energy United v. FERC*, Nos. 23-1282, et al. (D.C. Cir. Oct. 6, 2023).

PJM's proposals to include in the Tariff an estimate of the time and cost to complete the Affected System Impact Study and forego post-study results meetings, which will help promote efficiency in the Affected System study process.

A. Outline of the PJM Affected System Study Process and Proposed Completion Timeframe.

6. PJM has decades of experience in conducting Affected System studies for generators interconnecting on neighboring transmission systems and coordinating studies with Affected System Operators when a PJM New Service Request may impact their transmission systems. The Affected System study process consists of two major phases: (i) System Impact Study (identification and evaluation of impacts) and (ii) Facilities Study (development of mitigation plans, scope, cost, schedule and cost estimates). Both phases require completion of multi-layered steps and involve substantial coordination with Transmission Owners, Affected System Customers, and neighboring transmission systems.
7. Table 1 below sets forth the tasks required to complete both phases of an Affected System study

TABLE 1 – Affected System Study Process

<p>System Impact Study</p>	<ul style="list-style-type: none"> • Receive Affected System request and supporting project information from the neighboring transmission provider or interconnection customer. • Determine the base case for performing Affected System study • Review project assumptions, operating conditions, study cases, and modeling data. • Confirm study scope, contingencies, and applicable reliability criteria. • Incorporate the proposed project into the affected system models. • Perform power flow and contingency analysis under applicable planning conditions. • Evaluate thermal loading impacts on transmission facilities. • Evaluate voltage performance and potential voltage violations. • Assess if the project requires short circuit study. • Assess impacts to system stability, if required. If a stability analysis is required for a project, that stability analysis alone can take up to 3 months considering the already queued stability analyses PJM is already performing. Stability analysis by nature takes the longest time. • An electromagnetic transient (“EMT”) analysis may also be required for inverter-based resources in weak grid areas of the system. Development of PSCAD models for the EMT analysis is a significant effort and the Affected System Customer may need months to prepare the necessary model. • Identify new or increased overloads attributable to the project. • Determine whether identified violations exceed planning criteria and require mitigation. • Document affected facilities and associated reliability concerns. • In coordination with the Transmission Owners, determine planning level scope, cost and time estimate to mitigate the violation. • Issue Affected System Impact Study results in the official report. The report includes the list of all projects involved, case assumptions and modeling details, study findings and next steps in the final Affected System Impact Study Report. Results are then shared with all Affected System Customers.
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<p>Facilities Study</p>	<ul style="list-style-type: none"> • In the event an Affected System Customer drives the need for a system violation, PJM will issue an Affected System Customer Facilities Study Application and Agreement to the Affected System Customer. • Notify affected transmission owners of identified impacts. • Provide study assumptions, loading results, and affected facility information. • Coordinate technical review meetings as necessary. • Confirm ownership and responsibility for impacted facilities. • Review affected facilities to determine potential mitigation alternatives. • Evaluate transmission upgrades, equipment replacements, protection modifications, and other corrective actions. • Assess constructability and operational considerations. • Perform additional engineering analyses as needed to support upgrade recommendations. • Conduct field visits or site assessments where necessary to validate existing conditions and develop upgrade scopes. • Develop conceptual engineering designs for required network upgrades. • Define equipment ratings, configuration changes, protection requirements, and associated construction activities. • Identify required outages and operational constraints. • Establish preliminary project schedules and milestone requirements. • Include engineering, procurement, construction, outage coordination, permitting, environmental review, and contingency costs as applicable. • Document estimating assumptions and exclusions. • Summarize identified system impacts. • Document required network upgrades and mitigation measures. • Provide scope descriptions for each upgrade. • Provide estimated costs and implementation schedules. • Identify assumptions, limitations, and required future coordination activities. • Issue Affected System Facilities Study Report including scope, schedule, and cost estimates.
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8. The length of the Affected System study process is dependent on whether Network Upgrades are identified during the System Impact Study phase, which requires

approximately 120 days to complete. If the Affected System Impact Study Report reveals that no Network Upgrades are required, the Affected System analysis is complete. If the Affected System Impact Study Report identifies Network Upgrades for which the Affected System Customer is allocated costs, the Affected System Customer must execute an Affected System Customer Facilities Study Application and Agreement and proceed to the Facilities Study phase, which takes approximately 180 days to complete. In sum, based on my extensive experience in overseeing Affected System studies, the total amount of time required to complete all of the tasks outlined in Table 1 is approximately 300 days.

9. Simply put, PJM cannot at present or within the next year effectively or comprehensively complete the Affected System study process within the 150-day timeframe contemplated by the Final Rule. PJM has been aggressively deploying automation and technology to expedite its interconnection process and is seeing material improvements using such technology, but 150 days is still too short a period of time. Until further automation and technology advancements can be implemented to significantly reduce the time needed to complete all the steps in Table 1 above, PJM's proposal (i.e., 120 days to complete the Affected System Impact Study and an additional 180 days to complete the Affected System Facilities Study) will ensure that (i) the proper system violations are identified; (ii) the optimal system reinforcement(s) are determined and, (iii) the scope and cost estimate for any required Network Upgrades is sufficiently developed for the important role it plays in PJM's Cycle process.
10. PJM's proposal provides for greater efficiency than a single study period. Retaining the two-part Affected System study process—120 days for the Affected

System Impact Study followed by 180 days for the Affected System Facilities Study—will allow PJM to expedite projects that do not cause any network impacts and provides a more appropriate, transparent, and nondiscriminatory framework than a single combined 150-day study period. The 120-day Affected System Impact Study period enables the Transmission Provider to issue results to customers with no identified Affected System impacts significantly earlier than would be possible under a 150-day combined study window. Early issuance of “no-impact” determinations reduces unnecessary delay, improves queue processing efficiency, and supports timely advancement of projects that do not require further analysis.

11. For projects that do trigger Affected System impacts, the subsequent 180-day Facilities Study period is necessary to ensure that Transmission Owners have sufficient time to develop accurate and reliable scope, cost, and schedule estimates. These estimates directly inform the customer’s decision-making and are tied to financial security requirements. As with New Service Requests participating in a Cycle, the Affected System Customer must elect at the conclusion of the study whether to accept its cost allocation for any required Network Upgrades and post the related Security for such upgrades. If Security is posted, the developer of the Affected System Facility is deemed a Project Developer under the Tariff, and the upgrades are then considered firm and included in the base case of subsequent interconnection studies. If the Affected System Customer later withdraws, its security, which is based on the results of the Affected System Facilities Study, will be subject to forfeiture, so that the applicable Transmission Owner may construct any Network Upgrades that other Project Developers are relying on. A compressed

or combined study period would risk producing incomplete or lower-quality estimates, thereby undermining the customer's ability to make informed commercial decisions and potentially increasing the risk of unexpected significant increases in the actual costs to perform the work.

12. The proposed timeframe also accounts for the challenges unique to PJM in completing the Affected System study process. The burdens on PJM to complete the Affected System Facilities Study process are extraordinary, as PJM currently has five neighboring systems with which it exchanges Affected System studies, more than any other transmission provider. As a result, PJM has 161 Affected System projects currently under review as of April 2026. This level of coordination, when coupled with the volume of studies to be conducted, makes completion of all Affected System Impact Studies and Affected System Facilities Study Reports within 150 days nearly impossible.
13. Moreover, Affected System study work must be completed in parallel with processing New Service Requests to interconnect to the PJM Transmission System. PJM's reformed interconnection process imposes critical guardrails on New Service Requests to expedite economically viable generation projects while discouraging speculative projects from remaining in a Cycle. These guardrails include multiple System Impact Studies, combined with decision points, that serve as built-in checkpoints to reduce the impact of withdrawals; a significant Study Deposit and increasing Readiness Deposits; and strict evidence of Site Control at the time an Application is submitted. Yet despite these measures to deter speculative projects, PJM received more than 800 New Service Requests for Cycle

No. 1, totaling more than 220 gigawatts in nameplate capacity.² PJM’s three-phase Cycle process timeline for processing New Service Requests accounts for this unmatched volume of studies, and PJM’s Affected System study proposal is designed to work in concert with the three-phase Cycle process. The 120-day System Impact Study phase and 180-day Facilities Study phase structure is consistent with the timelines applied to Project Developers within the Cycle process. Maintaining alignment with existing study timelines avoids disparate treatment and ensures that Affected System Customers receive the same level of analytical rigor and procedural fairness as all other projects within a Cycle.

14. In addition to the significant volume of Cycle studies, PJM performs other non-Cycle-related studies for expedited interconnection requests, including Interim Deliverability, Replacement Generation, Upgrades Requests, Surplus Service Requests, and soon, requests submitted in the Expedited Interconnection Track (“EIT”). These studies, which are conducted in parallel with both the Cycle studies and the Affected System studies, further increase the magnitude of work performed by the PJM Interconnection Analysis teams. The Affected System study timeframe must also account for these additional study processes to ensure holistic functionality of PJM’s interconnection process.

² *Over 800 New Generation Projects Seek To Connect Under PJM’s Reformed Process*, PJM Inside Lines (Apr. 29, 2026), <https://insidelines.pjm.com/over-800-new-generation-projects-seek-to-connect-under-pjms-reformed-process/> [<https://perma.cc/9HZP-BMU3>].

B. PJM's Requirement for Project Developers to Demonstrate Compliance With Our Neighbor's Affected System Study Process Promotes PJM Cycle Process Integrity.

15. In order to maintain harmony between the Affected System study process and the Cycle process and to ensure that Affected System projects do not delay Cycle progress, PJM is proposing to require Project Developers and Eligible Customers in PJM's Cycle process who require an Affected System study from a neighboring Affected System Operator to demonstrate by Decision Point II that they have entered into Affected System study agreements with, and provide the required study deposits and technical information to, the Affected System Operator. Based on PJM's experience with conducting Affected System studies in parallel with PJM's other interconnection processes, this requirement is necessary to keep all projects in a Cycle moving forward together as one.
16. Requiring Project Developers in the Cycle process to enter into affected system agreements with Affected System Operators prior to the end of Decision Point II will ensure that *all* projects under study in the Cycle process, including those owned by Affected System Customers, are meeting all their requirements to advance. The concern addressed by this proposal is that a project could become non-viable if its Project Developer has not entered into an Affected System study agreement with the Affected System Operator in time to allow them to move forward within the Cycle. A project should be removed from a Cycle when it is clear it is no longer viable so that PJM can provide the remaining Project Developers within the Cycle with accurate and timely study results. The best time to make that determination is at a clear off-ramp within a Cycle (i.e., a decision point).

Based on my past experience, as well as my more recent work with the Cycle process and PJM's neighboring systems' adoption of affected system study processes compliant with the Final Rule, I believe that this requirement should remain tied to the end of a decision point, but that the relevant decision point is the end of Decision Point II. While PJM originally proposed to tie this requirement to Decision Point I, recent experience has shown that putting this requirement later in the Cycle process allows Affected System Operators, Project Developers, and PJM the time needed to enter into the Affected System study process and provide actionable data while maintaining the integrity of the Cycle process.

C. Including Cost and Schedule Estimates in the Tariff and Foregoing Facility Study Results Meetings Will Promote Efficiency and Transparency.

17. The Final Rule requires PJM to provide Affected System Customers with a cost and schedule estimate for the Affected System Impact Study before tendering an Affected System Customer Impact Study Agreement ("ASCISA"). Based on PJM's decades of experience performing Affected System Impact Studies, these two estimates tend not to change over time and do not vary significantly by customer or project. As discussed above, it takes approximately 120 days to tender an Affected System Impact Study. The cost of that study is typically around \$30,000.
18. In the interest of efficiency, PJM proposes to include these two values in the Tariff rather than provide them to each Affected System Customer on an individual basis. Including these values in the Tariff is a simple way to promote efficiency without compromising quality of service. PJM does not anticipate significant changes to either of these values in upcoming Cycles, and these estimates would be the same

if provided to each Affected System Customer at the time the ASCISA is tendered. Including these estimates in the Tariff will also promote transparency around study costs, eliminating potential concerns about cost variations and study length on a project-by-project basis.

19. The Final Rule also requires PJM to provide Affected System Customers with a results meeting after tendering a study. Given the volume of studies that I have discussed above, a requirement to meet with each individual Affected System Customer would be administratively burdensome and would delay the processing of other studies. PJM's current Cycle process does not include this requirement for Cycle projects, and including it here for Affected System studies would create different treatment between Project Developers and external Affected System Customers. PJM provides Affected System Customers and Project Developers substantial process information through monthly Interconnection Process Subcommittee meetings, the PJM Manuals, and "frequently asked question" pages on PJM's website. When that information is not sufficient to answer project-specific questions, PJM maintains an email address to which Affected System Customers and Project Developers can direct interconnection-related questions. When deemed more effective and efficient, PJM holds meetings with Affected System Customers as well as Project Developers to answer project-specific questions. As such, foregoing an individual meeting with Affected System Customers will not lead to any gaps in communication, while also promoting Cycle efficiency and transparency.
20. This completes my affidavit.

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

PJM Interconnection, L.L.C.) Docket No. ER24-2045-_____

VERIFICATION

I, Lisa Krizenoskas, pursuant to 28 U.S.C. § 1746, state, under penalty of perjury, that I am the Lisa Krizenoskas referred to in the foregoing “Affidavit of Lisa Krizenoskas on Behalf of PJM Interconnection, L.L.C.,” that I have read the same and am familiar with the contents thereof, and that the facts set forth therein are true and correct to the best of my knowledge, information, and belief.

DocuSigned by:
Lisa Krizenoskas
B91D72C64EA7445...

Lisa Krizenoskas

Executed on: 6/11/2026