UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

	)	
PJM Interconnection, L.L.C.	)	Docket No. ER20-1451-000
	)	

PJM Section 205 Submittal to Amend Applicable Sections of the PJM Operating Agreement and Tariff in Order to Enhance PJM's Credit Rules

March 31, 2020

Table of Contents

wright&
talisman

1200 G Street, N.W., Suite 600
Washington, D.C. 20005-3898
Phone: 202.393.1200
Fax: 202.393.1240
wrightlaw.com

March 31, 2020

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426

Re: PJM Interconnection, L.L.C., Docket No. ER20-1451-000
Changes to Credit Rules

Dear Secretary Bose:

PJM Interconnection, L.L.C. ("PJM"), in conjunction with PJM Settlement, Inc., ("PJM Settlement") pursuant to section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, hereby submits revisions to the PJM Open Access Transmission Tariff ("Tariff") and the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement") to enhance PJM's rules for evaluating and managing credit risk posed by entities seeking to participate or participating in the PJM Markets under the Tariff or Operating Agreement.[1] The proposed Tariff and Operating Agreement changes will update and enhance PJM's procedures for monitoring and mitigating credit risk in the PJM Markets for the purpose of reducing and better managing the risk of financial defaults, which are ultimately borne by PJM Members. PJM is not proposing to change the existing baseline formulaic Collateral requirements (e.g., Peak Market Activity or mark-to-auction valuation). Rather, PJM is retaining those provisions, which will serve as minimum Collateral requirements, and is adding to them with the proposed revisions. These rules

[1] Capitalized terms not otherwise defined herein have the meaning specified in, as applicable, the Tariff, the Operating Agreement, and the Reliability Assurance Agreement among Load-Serving Entities in the PJM Region ("RAA").

were overwhelmingly endorsed by the PJM membership at the March 26, 2020 meetings of the Markets and Reliability Committee and Members Committee.[2]

PJM proposes an effective date of June 1, 2020, for the proposed revisions, which is more than sixty (60) days from the date of this filing, and respectfully requests that the Commission issue an order on this filing by no later than May 30, 2020, which is sixty (60) days from the date of this filing. It is important that PJM receive an order from the Commission by May 30, 2020, so that the new rules will be in place for its upcoming long-term Financial Transmission Rights ("FTR") auction that is scheduled to commence on June 2, 2020.

Under the proposed enhancements for monitoring and mitigating credit risk, PJM will perform ongoing credit risk evaluations of each existing Market Participant on at least an annual basis. As this will be a new requirement and PJM cannot evaluate all Market Participants at the same time, PJM must select the Market Participants whose credit risk will be evaluated first. PJM has determined, upon Commission approval of these revisions, to begin implementing the ongoing credit risk evaluation requirement with FTR Participants. By looking first at those participating in the FTR market, PJM will be able to assess and mitigate credit risk in the market that provides PJM Members the greatest default exposure. After completing its ongoing credit risk evaluations for FTR Participants, PJM will then conduct its credit risk evaluations of Market Participants in its

---

[2] As described in detail in Section III of this filing, PJM received significant input from its stakeholders for this filing. The Markets and Reliability Committee overwhelmingly endorsed the revisions to the Tariff and Operating Agreement by with a Sector weighted vote of 4.5 in favor and 0.5 against, and the Members Committee overwhelmingly endorsed the revisions to the Tariff and approved the revisions to the Operating Agreement by acclamation with one objection and three abstentions.

other markets based on its assessment of the level of potential risk in those markets. Thereafter, PJM will perform its ongoing credit risk evaluation of each existing Market Participant on at least an annual basis.

As the Commission is aware, GreenHat Energy LLC ("GreenHat") accumulated a very large portfolio of FTRs over the course of 2017 and 2018, and defaulted on those positions in June 2018. That default left PJM Members to cover (subject to PJM collection efforts) tens of millions of dollars in default costs, and highlighted shortcomings in PJM's risk assessment and credit practices.

In the wake of that default, PJM has critically evaluated PJM market rules and practices that may have contributed to the circumstances that allowed GreenHat to amass a large and highly risky position. This self-evaluation included the PJM Board of Managers ("PJM Board") commissioning an independent report by prominent experts in risk management, energy markets and regulation, contract law, and corporate governance to critically review the actions and practices that preceded and may have led to the GreenHat default, and provide concrete constructive recommendations for corrective actions moving forward.[3] As particularly relevant to today's filing, PJM responded to the recommendations for market and credit rule changes with robust engagement of a new stakeholder task force specifically devoted to such rule changes, i.e., the Financial Risk Mitigation Senior Task Force ("FRMSTF"), leadership from a newly retained Chief Risk Officer and supporting risk management staff, and an examination of best practices inside

[3] Robert Anderson, Neal Wolkoff & Arleigh P. Helfer III, *Report of the Independent Consultants on the GreenHat Default*, 4 (Mar. 26, 2019), https://www.pjm.com/-/media/library/reports-notices/special-reports/2019/report-of-the-independent-consultants-on-the-greenhat-default.pdf ("Consultants Report").

and outside the Independent System Operator ("ISO")/Regional Transmission Organization ("RTO") arena. These intensive efforts over the last eleven months made plain the need to enhance PJM's credit requirements to reduce the risk posed by financial defaults to the PJM Markets and PJM Members. The resulting credit rule enhancements, which are set forth in this filing, will, just as the Commission found for similar recent credit filings by the New York Independent System Operator, Inc. ("NYISO") and the Midcontinent Independent System Operator, Inc. ("MISO"), "allow [PJM] to protect its customers from financial losses that result from unreasonable credit risks and defaults"[4] "while also providing additional clarity and transparency to market participants."[5] These changes will enhance PJM's ability to "act[] as a gatekeeper for the integrity of the markets it administers" and thereby "help ensure that rates are just and reasonable."[6]

I. OVERVIEW AND PURPOSE

A. Consultants Report and Recommendations, PJM Response, and Credit Rule Enhancements Development.

From January 2016 to June 2018, GreenHat "systematically amassed a large portfolio of FTRs," to the extent that "the GreenHat portfolio [] in less than three years [became] one of the largest portfolios of FTRs in PJM's history."[7] In June 2018, GreenHat was declared in payment default as a result of its failure to satisfy a payment of over

---

4 *N.Y. Indep. Sys. Operator, Inc.*, 170 FERC ¶ 61,054, at P 27 (2020) ("*NYISO*").

5 *Midcontinent Independent System Operator, Inc.*, 170 FERC ¶ 61,257, at P 8 (2020) ("*MISO*").

6 *NYISO*, 170 FERC ¶ 61,054, at P 27.

7 Consultants Report at 11.

$600,000 for its net realized losses.[8] Further missed payments by GreenHat, and further GreenHat defaults, followed.

PJM is not operated to make a profit and has no source of funds itself to sustain the losses attributable to Market Participant financial defaults. Yet, consistent with Order No. 741,[9] PJM Settlement acts as the counterparty to transactions in the PJM Markets. As a consequence, if a Market Participant defaults on its obligations to PJM, PJM Members are assessed, and must pay, the cost of such defaults in accordance with allocation rules in the Operating Agreement.[10]

In October 2018, the PJM Board commissioned an independent expert review of the PJM actions, inactions, organizational structure, internal practices, credit rules, and market rules that led or contributed to the GreenHat default. The resulting Consultants Report, dated March 26, 2019, made numerous recommendations for PJM to enhance its credit risk evaluation processes. These recommendations were grouped in seven areas for "specific actions [that] should be taken by PJM and its members to reduce the probability of a similar failure in FTR markets and to develop more efficient markets that can grow and introduce new financial products creating opportunities for all PJM members to manage their risks in PJM markets."[11]

---

8 Consultants Report at 8.

9 *Credit Reforms in Organized Wholesale Electric Markets*, Order No. 741, 133 FERC ¶ 61,060, at P 117 (2010), *order on reh'g*, Order No. 741-A, 134 FERC ¶ 61,126, *reh'g denied*, Order No. 741-B, 135 FERC ¶ 61,242 (2011).

10 Operating Agreement, section 15.2.

11 Consultants Report, Appendix at 1; *see also* Appendix at 1-5 (detailing recommendations).

As most relevant to this filing, the Consultants Report identified the following areas of PJM's credit risk management as requiring enhancement:

- policies to address critical risks (a flawed collateral methodology gave GreenHat room to grow its FTR portfolio without control);
- procedures to provide PJM better information about the financial strength of its members (i.e. "Know Your Customer" procedures); and
- participant risk management tools and procedures (PJM's expectations of participant risk management went unfulfilled, giving GreenHat cover).[12]

The Consultants Report's recommendations, as most relevant to this filing, included that PJM should:

- Include additional credit/collateral best practices into the PJM Tariff, including:
  - Better defining the remedies available to promptly declare defaults.
- Clarify the role of PJM as manager of risk in its markets; including:
  - Revise the Tariff's definition of "material adverse change;"
  - Provide PJM discretion to deal with unanticipated market emergency events and changes in market participants' risk profiles; and
  - Establish certain parallel credit rules focused on FTRs.
- Build a Know Your Customer risk evaluation function into its market procedures and rules, i.e., put in place sensible internal practices to increase an understanding of market participants' risk profiles, and bring more clarity around criteria used to direct PJM's discretionary power, including:
  - Provide for background checks on member applicants;
  - Perform due diligence on whether the membership applicant actually utilizes the systems and processes for risk management that it describes to PJM;
  - Provide explicit authority and procedures for rejection of membership applications; and

12 Consultants Report at 9.

- Provide for updates to participant financial qualifications and risk profile information, and clarify PJM's right to act on Member's failure to meet such requirements.

- Implement technical practices for participant risk management, i.e., establish a more robust participant risk management capability to identify problems before they become serious issues, including:
    - Create internal PJM participant risk management reports, generated on a periodic basis according to the frequency of opportunities for participants to change portfolio positions; and
    - Limit or suspend a participant's activities in the PJM Markets based on a company's specific risk profile; and
    - Clarify with the Independent Market Monitor for PJM any PJM expectations regarding risk management of some market participant behaviors and reporting such to PJM.[13]

Following issuance of the Consultants Report, PJM issued a PJM Observation Response on May 10, 2019[14] in response to credit risk management issues highlighted by the Consultants Report. PJM explained, "PJM and its members have created the Financial Risk Mitigation Senior Task Force ("FRMSTF") to discuss and recommend tariff-related changes to risk mitigation and management in PJM."[15] PJM prepared the PJM Observation Response in part "to assist the FRMSTF in its mission [by] . . . closely review[ing] the recommendations of the [GreenHat] Report and offer[ing] observations and notes" on those recommendations.[16] PJM stated its belief that the Consultants Report's "recommendations,

---

13 Consultants Report, Appendix at 3.

14 *Observations on the Report of the Independent Consultants on the GreenHat Default Recommendations*, PJM Interconnection, L.L.C. (May 10, 2019), https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20190513/20190513-item-04-observations-on-report-of-independent-consultants-on-greenhat-default-recommendations.ashx ("PJM Observation Response").

15 PJM Observation Response at 3.

16 PJM Observation Response at 3.

coupled with the observations [in the PJM Observation Response] and stakeholder feedback in response to [related] circulated framing questions, form a solid foundation for credible reform to the way financial market risk is mitigated and managed in the PJM marketplace."[17]

The FRMSTF convened 14 meetings over the course of more than eleven months, resulting in approval of a package of credit risk evaluation reforms which were informed by the recommendations in the Consultants Report highlighted above.[18] PJM staff also had a significant number of individual meetings and conference calls with representatives of more than fifty PJM Members to discuss PJM's proposals. PJM staff then converted the approved reforms into proposed Tariff and Operating Agreement revisions, leading to over three months of engagement with stakeholders on the proposed revisions, culminating in overwhelming stakeholder support for these revisions by the Markets and Reliability Committee and Members Committee, as further discussed in detail in Section III of this transmittal letter.

B. High-Level Introduction to the Proposed Credit Rule Enhancements, and Discussion of Certain Guiding Principles and Objectives.

The credit rule revisions resulting from the foregoing extensive review, analysis, development, and stakeholder process, as submitted with this filing, aim to materially enhance PJM's standards and procedures for evaluating and mitigating credit risk. To that

---

[17] PJM Observation Response at 3.

[18] FRMSTF efforts and other PJM internal and stakeholder activities to evaluate and implement the recommendations of the Consultants Report remain ongoing and are expected to continue through at least 2020. The Tariff and Operating Agreement revisions submitted here are therefore potentially only one of several rounds of revisions aimed at helping the PJM Markets remain stable and robust into the future.

end, these revisions, developed in accordance with the package approved by the FRMSTF, focus on establishing updated credit risk evaluation and minimum participation requirements for Market Participants in PJM, including establishing or revising:

- criteria PJM will use to evaluate Market Participant and Guarantor risk for participation in all of the PJM Markets;
- the types of documents and other information Applicants, Market Participants, and Guarantors must submit for review in the credit evaluation process;
- PJM's ability to request additional Collateral and/or restrict the use of Collateral posted by Applicants and Market Participants;[19]
- provisions for demonstrating minimum capitalization requirements and other measures of creditworthiness;
- PJM's authority to limit, suspend, or terminate Market Participants that represent unreasonable credit risk to PJM Markets or fail to meet PJM's minimum participation requirements; and
- definitions necessary to implement the above changes.

These credit rule changes have been guided by certain important principles and objectives, grounded in the analysis and recommendations in the Consultants Report, PJM's considered approach to moving forward recommendations in that report requiring credit rule changes (as reflected in the PJM Observations Response), valuable stakeholder guidance and feedback through the FRMSTF and beyond, credit practices by other RTOs and ISOs, and Commission policy and precedent. PJM highlights and discusses in the next

---

[19] Restricting the use of Collateral is not a new concept in PJM. *See* Tariff, Attachment Q, Introduction and section I.C.2. Specifically, PJM's existing credit rules allow PJM to establish certain restrictions on available credit by requiring that some amounts of credit, i.e. Restricted Collateral, may not be available to satisfy credit requirements. With the revisions proposed in this filing, however, PJM will be expanding its ability to restrict the use of Collateral as necessary to protect PJM Members from the increased risk of a particular Market Participant's market positions under certain specified circumstances. PJM is also proposing to define the term Restricted Collateral to capture this concept.

three subsections of this transmittal three of those guiding principles and considerations, i.e., the critical importance of its initial and ongoing Know Your Customer process; the RTO's essential role in preserving the integrity of the markets and protecting PJM Members from undue risk exposure; and the importance of a reasonable level of PJM discretion—driven by data and guided by clearly articulated principles—to make effective and reliable risk evaluations of prospective and current Market Participants.

1. The need for robust "Know Your Customer" risk evaluation provisions

A key part of PJM's proposed approach to improving its credit evaluation process is the implementation of initial and ongoing risk evaluation practices based on "Know Your Customer" standards. "Know Your Customer" (or "Know Your Counterparty") is credit industry shorthand for evaluating each customer's or counterparty's financial condition and risk profile using standard credit risk evaluation tools, but applying them to each customer or counterparty's unique facts and circumstances. A Know Your Customer process is similar to utilizing the qualitative factors the Commission has directed RTOs and ISOs to include in their assessments of the credit risks a party poses to the marketplace.[20] Indeed, the Commission stated that

> Qualitative factors to be considered include, among others: applicant's history; nature of organization and operating environment; management; contractual obligations; governance policies, financial and accounting policies, risk management and credit policies; market risk including price exposures, credit exposures, and operational exposures; event risk; and the state or local regulatory environment.[21]

---

[20] *See Policy Statement on Electric Creditworthiness*, 109 FERC ¶ 61,186, at P 13 (2004) ("Policy Statement").

[21] Policy Statement at P 13 n.13.

Thus, Commission guidance calls for PJM to "look under the hood" and understand how an entity has operated in the past and how it plans to operate in the PJM Markets going forward. Without an examination of such entity-specific information, PJM is not able to properly evaluate an entity's risk profile.

Indeed, the Consultants Report noted gaps in participant screening and monitoring, and observed, by comparison, "membership in registered exchanges is considerably more restricted than the practice at PJM" and "[r]egistered exchanges have formal membership processes, conduct formal background investigations into member applicants and their senior officials, and maintain rules and procedures to deny membership should an applicant pose a risk on the basis of its background."[22] As noted above, the Consultants Report expressly recommended PJM implement more robust "Know Your Customer" practices.[23]

PJM's proposed implementation of a Know Your Customer approach to risk evaluation protocols implements the Commission's Policy Statement and employs tools similar to those used by exchanges, banks, other service providers, and the risk management functions of energy companies that manage counterparty risk.[24] These include:

- Establishing the identity of the customer and the customer's legitimate activities;
- Additional information collected for potentially higher risk customers; and

---

22 Consultants Report at 16-17.

23 Consultants Report, Appendix at 3.

24 PJM Financial Risk Mitigation Senior Task Force, *Credit & Collateral Best Practices*, PJM Interconnection, L.L.C., 9 (Oct. 18, 2019), https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20191018-item-06-credit-and-collateral-best-practices.ashx.

- Ongoing review of customers; review against flagged lists (external or internal).[25]

Part and parcel of Know Your Customer risk evaluation processes is the ability to:

- Require explanation from Applicants or Market Participants;
- Request evidence of corrective action (e.g., discontinued behavior, additional controls);
- Require additional collateral or restrict collateral;
- Additional monitoring and verification; and
- Limit, suspend or deny a Market Participant or individual's access to the PJM market based on reasonable grounds for insecurity about the entity or individual's risk profile, gathered from confidential, discretionary and/or public information.[26]

Consistent with the individualized criteria the Commission noted in its Policy Statement, Know Your Customer risk evaluation policies cannot be purely formulaic or prescriptive because different participants present different types and levels of risk to the markets. In addition, in order to assess the risk of particular families of companies, PJM will need to understand risks presented by a Market Participant's affiliates.[27] Therefore, PJM's credit policies must be flexible to enable PJM to evaluate the potential risks posed by the wide variety of entities that participate in its markets.

---

[25] PJM Financial Risk Mitigation Senior Task Force, *Credit & Collateral Best Practices* at 9.

[26] PJM Financial Risk Mitigation Senior Task Force, *Credit & Collateral Best Practices* at 13.

[27] For example, to assess the risks presented by equity/hedge funds, PJM must be able to look at relevant agreements to understand (a) the risks associated with investors and how they may aggregate with other funds, and (b) the risk associated with the top four or five principals of the fund.

2. *PJM, as the RTO, must have the appropriate tools to protect the markets from unreasonable credit risk.*

PJM, as an RTO, "acts as a gatekeeper for the integrity of the markets it administers"[28] and therefore must be able to protect its markets (and its Members) from participants that it determines would pose an unreasonable credit risk, based on "the likelihood that an Applicant will default on a financial obligation arising from its participation in any PJM Markets."[29] The importance of PJM's role in this regard cannot be understated. Should a Market Participant default, "the remaining credit risk exposure and costs are socialized across an ISO's/RTO's members."[30] Because PJM administers the process by which entities enter the market, PJM's risk profile and creditworthiness determinations will impact the risks faced by all Market Participants. The Commission has recognized that "market participants must trust ISOs/RTOs to implement their credit policies in a manner created to limit, as much as possible, the risk of credit defaults."[31] Reducing the risk of credit default (i.e., unreasonable credit risk) through "sound credit practices" is "necessary to prevent a disruption in the system."[32] Importantly, the Commission recently found that strengthening an RTO's ability to perform its role of gatekeeper "will help ensure that rates are just and reasonable."[33]

---

28 *NYISO*, 170 FERC ¶ 61,054, at P 27; Policy Statement at P 18; *see Light Power & Gas of NY LLC v. N.Y. Indep. Sys. Operator, Inc.*, 167 FERC ¶ 61,232, at P 42 (2019) ("*LPGNY*") ("RTOs and ISOs essentially serve as gatekeepers").

29 Proposed Tariff, Attachment Q, section II.D.

30 Policy Statement at P 17.

31 Policy Statement at P 18.

32 *NYISO*, 170 FERC ¶ 61,054, at P 29.

33 *NYISO*, 170 FERC ¶ 61,054, at P 27.

3. To effectively utilize "Know Your Customer" data and information for credit risk management purposes, PJM must have sufficient discretion in its credit evaluations and determinations to balance market risk against barriers to entry.

To enable PJM to act on the information compiled from its Know Your Customer risk evaluation process, PJM must be able to take reasonable proactive measures consistent with its Tariff to protect its markets from unreasonable credit risks. Therefore, PJM's proposed Tariff revisions do not attempt to specify or limit PJM's authority to act in any specific situations. As the Commission has recognized, an RTO needs "reasonable discretion to evaluate individual facts and circumstances, as necessary, to protect the [RTO]-administered markets without limiting [the RTO] to act only in specific scenarios of increased credit risk enumerated in the tariff."[34] Consistent with the Commission's finding in the *NYISO*, limiting PJM's authority to a pre-defined and fixed set of circumstances would inhibit PJM's ability to effectively anticipate unreasonable credit risks and take appropriate corrective action before such risks threaten significant financial harm to the PJM Markets (and PJM Members).[35] PJM also requires authority of sufficient scope to address the different risks posted by all different types of participants in the markets.

To improve transparency and predictability, however, PJM has explained in its revisions that its discretion can and will be guided by certain explicit "[i]ndicators of potentially unreasonable credit risk," including whether the participant has a:

---

34 *NYISO*, 170 FERC ¶ 61,054, at P 30.

35 *NYISO*, 170 FERC ¶ 61,054, at P 32 ("[W]e find that it is impractical and undesirable to list all examples that constitute an unreasonable credit risk and limit NYISO to act to protect the wholesale markets only in specific instances enumerated in the tariff.").

- history of market manipulation based upon a final adjudication of regulatory or legal proceedings,
- history of financial defaults,
- history of bankruptcy or insolvency within the past five (5) years, or a combination of current market and financial risk factors such as low capitalization,
- reasonably likely future material financial liability,
- low Internal Credit Score (discussed below), and/or;
- low externally derived credit score.[36]

Each entity's risk profile is inherently individual and fact dependent, including such factors as the entity's purpose for participating in the PJM Markets (e.g., hedging commercial risks arising from its ongoing operations, or having a business model solely focused on transacting or trading for financial gain/profit). Given that PJM today has over a thousand Members participating in the PJM Markets with vastly different business models, PJM has crafted the Tariff provisions (and received Member support for same) in a manner which avoids a "cookie cutter" approach to establishing or quantifying an unreasonable credit risk determination. Indeed, none of the factors listed above is determinative. Rather, all the relevant facts will be weighed and a decision will be made based on the totality of the circumstances for each individual entity at a particular time, since different entities will pose different risks at different points in time depending on, for example, the size of a company or scope of its participation and positions in the PJM Markets, the membership Sector of the company, history of market participation, etc.

36 Proposed Tariff, Attachment Q, section II.D.

PJM's proposed approach of assessing credit risk based on the unique circumstances facing each company, combined with the fact that PJM is not proposing to prescribe any new minimum capitalization floors or require a minimum amount of Collateral that must be posted regardless of the level of risk an entity poses, ensures that PJM's credit risk management rules will not present an unreasonable barrier to entry or unduly discriminate against any entity. Rather, each entity will be allowed to participate in the PJM Markets based on whether it poses an unreasonable credit risk, and if so, the extent it can mitigate such risk through the posting of Collateral or limitations on its market participation. As is standard with regard to any action or decision of an RTO, if an entity believes that PJM has acted in an unduly discriminatory or arbitrary manner in administering these revised credit rules, the entity may seek relief by filing a complaint with, or other filing seeking relief from, the Commission.[37] As described below, the proposed revisions require PJM to provide a written explanation for its determinations of unreasonable credit risk and need for (additional) Collateral, which "could form a record before a Commission proceeding if necessary."[38]

Through the tariff revisions proposed in this filing, PJM will be able to gather a significantly greater amount of information (and more current information) regarding the credit risk an entity may pose to the PJM Markets. Further, the proposed revisions provide a greater structure for obtaining and processing such information on an initial and ongoing basis. Such information will allow for *informed* and reasonable discretion in managing credit risks to the PJM Markets. Moreover, such discretion is consistent with *NYISO*,

---

37 *See NYISO*, 170 FERC ¶ 61,054, at P 32.

38 *See MISO*, 170 FERC ¶ 61,257, at P 8.

which affirmed that an RTO requires "necessary, reasonable discretion to implement its credit requirements."[39]

The wide variety of potential situations with which PJM must contend are illustrated by two recent situations: the GreenHat default in PJM and the Light Power & Gas of NY LLC ("LPGNY") attempted re-entry into NYISO. GreenHat presented PJM with the situation of a newly-formed company that quickly amassed one of the largest portfolios of FTRs in PJM's history.[40] However, that portfolio also included significant forward market exposure and unrealized losses, ultimately resulting in default. LPGNY presented the NYISO with the application from a company seeking to participate in NYISO markets while a predecessor entity, North Energy Power LLC ("North Energy"), was in bankruptcy and had failed to make payments to NYISO regarding purchases in NYISO's markets.[41] LPGNY and North Energy had "the same contacts and administrators, similar addresses, are engaged in the same business in the same territory, and seek to serve the same customers."[42] Also, "LPGNY did not begin engaging in business until North Energy defaulted on its NYISO obligations."[43]

In part as a response to *LPGNY*, NYISO filed tariff revisions to "augment its ability to protect market participants from defaults."[44] Ruling on the NYISO's proposal to reject an applicant that the NYISO determined would present an unreasonable credit risk, the

---

39 *NYISO*, 170 FERC ¶ 61,054, at P 30.

40 Consultants Report at 11.

41 *LPGNY*, 167 FERC ¶ 61,232, at P 3.

42 *LPGNY*, 167 FERC ¶ 61,232, at P 41.

43 *LPGNY*, 167 FERC ¶ 61,232, at P 41.

44 *NYISO*, 170 FERC ¶ 61,054, at P 3.

Commission denied arguments that such authority was discriminatory because it lacked specificity. Rather, the Commission recognized that "striking a balance between providing sufficient flexibility to an RTO/ISO to protect the wholesale markets and providing certainty to market participants is an inherently difficult aspect of sound credit policy."[45] Nevertheless, the Commission stated: "we find that it is impractical and undesirable to list all examples that constitute an unreasonable credit risk and limit NYISO to act to protect the wholesale markets only in specific instances enumerated in the tariff."[46]

These varied situations highlight the need for PJM to have and retain the discretion necessary to address differing situations, and avoid a "one size fits all" approach. The Commission has recognized that credit risk management policy assessments cannot be reduced to a mathematical formula, as "RTOs must consider both qualitative and quantitative measures in their assessment of the credit risk of a party and post the criteria they use to determine these factors."[47] Similarly, in the context of a "material adverse change," the Commission has explained that it "agrees with those parties that suggest that it would be short-sighted to limit the discretion of the market administrator to only those specified instances when it could invoke a 'material adverse change' clause to compel certain actions."[48]

---

[45] *NYISO*, 170 FERC ¶ 61,054, at P 32.

[46] *NYISO*, 170 FERC ¶ 61,054, at P 32.

[47] Policy Statement at P 13.

[48] Order No. 741 at P 150.

4. *PJM's proposal does not present any unreasonable barriers to entry.*

PJM's proposal does not present any unreasonable barriers to entry or unduly discriminate against any entity. PJM is not prescribing any new minimum capitalization floors or minimum amounts of Collateral that must be posted regardless of the level of risk an entity poses. Rather, PJM proposes to "monitor and manage" the credit risks to the PJM Markets and (PJM Members) by assessing the individualistic credit risk presented by each entity based on a multitude of factors, including its financial condition and the scope, breadth, and extent of the entity's participating in the PJM Markets (e.g., only buy and/or sell physical energy in the energy markets or only participate in the FTR markets). In addition to the existing (and unchanged) Collateral requirements for participation in the FTR markets, only those entities that pose an unreasonable credit risk to the PJM Markets will be asked to post Collateral-–commensurate with the risk posed--as a condition of entry and continued participation in the PJM Markets.

Thus, for example, if an entity that owns only a small (e.g., 20MW) battery resource applies to become a PJM Member and participate only as a physical player in the energy market, to assess that entity's credit risk, PJM would evaluate, among other things, the owner's financial condition and how it plans to participate in the PJM Markets. If PJM determines that, there is a "likelihood that an Applicant will default on a financial obligation arising from its participation in any PJM Markets,"[49] then PJM likely will require the posting of Collateral to mitigate such risk. However, because the credit risk associated with the participation of a small resource and only in the energy markets likely

---

[49] Proposed Tariff, Attachment Q, section II.D.

would be small, the amount of Collateral "commensurate with the Applicant's risk of financial default"[50] likely would also be small. Thus, the conditions of entry to such entity would be matters within its control (e.g., its financial condition, ability to access funds and/or commercial paper, and it's anticipated participation in the PJM market) and whether it can post the Collateral commensurate with the unreasonable credit risk posed.

C. Overview of the Proposed Credit Rule Enhancements.

The Consultants Report recommended that "PJM build[] a new keen awareness beyond just company names and market operational procedures," and faulted PJM for "fail[ing] to perform adequate 'Know Your Customer' procedures."[51] With the above background and guiding principles in mind, PJM proposes to add significant procedures for parties applying to participate in the PJM Markets and for existing Market Participants. Under PJM's proposed rules, PJM will be able to better identify the risks that each participant and its activities may pose to the PJM Markets, and through ongoing risk evaluation processes, rapidly detect changes in a Market Participant's financial health or risk profile. While PJM has informally begun to improve its internal practices, PJM, with the overwhelming support of its Members, is proposing revisions to its credit risk management policy to enhance and codify its improved and still-improving practices.

The primary means of assessing whether Market Participants may pose an unreasonable credit risk will be through more robust risk evaluations for new and existing Market Participants (and their guarantors, if any) and requiring collateral or other risk mitigation steps commensurate with the level of any such risk. Because Applicants, Market

---

[50] Proposed Tariff, Attachment Q, section II.D.

[51] Consultants Report, Appendix at 3.

Participants, and PJM Members each can pose risk to the PJM Markets, it is appropriate for PJM to perform an initial risk evaluation when an entity applies to participate in the PJM Markets and to perform ongoing risk evaluations for existing Market Participants and members. Thus, the proposed rules provide PJM access to more Know Your Customer information about each entity seeking to participate or participating in the PJM Markets, thereby allowing PJM to better manage the risks in its markets.

PJM's enhanced credit risk rules share the Commission's "goal of ensuring sufficient participation, adequate liquidity, and competitive results," while being "wary of unnecessary barriers to entry" for Market Participants.[52] The Commission recognized that these objectives can be competing and require a balancing of "protecting the market from risks posed by under-capitalized participants without adequate risk management procedures in place."[53] Accordingly, the Commission requires all organized electricity markets to be protected by "minimum participation criteria for market participants to be eligible to participate."[54]

PJM's current credit procedures aim to accomplish both these objectives through minimum participation criteria that include: initial and ongoing risk evaluations, an annual certification, verification of written risk management policies, and capitalization and collateral requirements. However, the current rules have proven insufficient and lack the authority for PJM to request the depth of information, and the ongoing and current information, required to understand an entity's risk level. Thus, while PJM is maintaining

---

52 Order No. 741 at P 123.

53 Order No. 741 at P 123.

54 18 C.F.R. § 35.47(f).

these general minimum participation criteria, it is strengthening the provisions implementing them. In particular, under the new procedures, PJM will:

- assess an entity's financial strength, risk profile, and creditworthiness;
- establish an Unsecured Credit Allowance, if appropriate;
- determine the level of Collateral appropriate to the entity based on its anticipated market activity and credit risk profile; and
- evaluate the credit support provided.[55]

By describing the types of data and information PJM will review to determine whether an entity presents an unreasonable credit risk to the PJM Markets, the revisions provide all parties notice of their various obligations and ongoing requirements, violation of which may result in default, and grounds PJM's ability to establish limits on market participation in the filed rate.[56] Thus, when implemented, the overall impact of the proposed credit revisions will authorize PJM to "monitor and manage" the credit risks posed by Market Participants.[57]

PJM describes and discusses these changes in detail in the following sections of this transmittal.

---

[55] Proposed Tariff, Attachment Q, section II.

[56] Proposed Tariff, Attachment Q, section I.

[57] Proposed Tariff, Attachment Q, section I.

II. PROPOSED REVISIONS

A. PJM Is Clarifying the Scope of Entities Subject to the Credit Policy to Authorize PJM to Monitor and Manage Credit Risks to the PJM Markets.

Currently, PJM's credit policy covers only Transmission Customers and Market Participants,[58] where a Market Participant is limited to only Market Buyers, Market Sellers, and Economic Load Response Participants, i.e., entities that participate in the PJM Interchange Energy Market.[59] Because the term PJM Interchange Energy Market is broadly defined as "the regional competitive market administered by [PJM] for the purchase and sale of spot electric energy at wholesale in interstate commerce and related services established" under the energy market rules in the Operating Agreement,[60] it is ambiguous as to whether it includes PJM's ancillary services markets, FTR market, Auction Revenue Rights market, or capacity market. Yet, entities participating in these markets can pose significant credit risk to PJM and its Members, who must backstop any default.

Accordingly, to ensure PJM has the proper tools to protect the PJM Markets from unreasonable credit risks, PJM is clarifying the scope of the terms "Market Participant"—but only for the purposes of PJM's credit policy—and "PJM Markets." Specifically, PJM is proposing to clarify that, for the purposes of PJM's credit rules and ability to suspend, limit, or deny market participation, Market Participant refers to "a Market Buyer, a Market

---

58 *See* Tariff, Attachment Q, section I (Introduction).

59 Tariff, Definitions E-F (definition of Economic Load Response Participant); Operating Agreement, Definitions M-N (definitions of Market Buyer, Market Participant, Market Seller).

60 Operating Agreement, Definitions O-P (definition of PJM Interchange Energy Market). PJM's energy market rules are set forth in Operating Agreement, Schedule 1 and the parallel provisions of Tariff, Attachment K-Appendix.

Seller, an Economic Load Response Participant, an FTR Participant, a Capacity Market Buyer, or a Capacity Market Seller."[61] The clarification to "PJM Markets" makes clear that it encompasses not just the PJM Interchange Energy Market and the capacity market, but also "any other market operated by PJM" and "Financial Transmission Rights transactions, or transactions in any other market operated" by PJM.[62] Taken together, these revisions will allow PJM to more effectively manage and monitor credit risks and maintain the integrity of the PJM Markets.

However, because PJM does not want to impose unnecessary burdens on entities that categorically pose little to no credit risk to the PJM Markets, PJM states at the beginning of Attachment Q that "[n]otwithstanding anything to the contrary in this Attachment Q, simply taking transmission service or procuring Ancillary Services via market-based rates does not imply market participation for purposes of applicability" of PJM's credit policy.[63] Further, recognizing that "Market Participant" is a widely used term and integral to the rules for PJM's various markets, PJM's proposed revisions clearly delineate that the change in scope is applicable only "when such term is used in or pertaining to" PJM's credit policy in Tariff, Attachment Q, Market Participant obligation

---

[61] Proposed Tariff, Definitions L-M-N (Market Participant "shall mean . . . when such term is used in or pertaining to Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4, shall mean a Market Buyer, a Market Seller, an Economic Load Response Participant, an FTR Participant, a Capacity Market Buyer, or a Capacity Market Seller."); proposed Operating Agreement, Definitions L-M (definition of Market Participant**).**

[62] Proposed Tariff, Definitions O-P-Q (definition of PJM Markets).

[63] Proposed Tariff, Attachment Q, section I (Applicability).

and enforcement of obligation provisions in Operating Agreement, section 15, and Schedule 1, sections 1.4.[64]

B. The First Point at Which PJM Undertakes Its Credit Reviews Is when an Entity Applies to Participate in the Markets.

Because each participant in the markets has different financial characteristics and a different business risk profile, PJM must evaluate each entity's application to become a Market Participant based on its specific circumstances. To do so, PJM is proposing to enhance how it evaluates an Applicant's[65] credit risk profile, including the determination as to whether (and how much) credit support is needed to allow the entity to participate in the PJM Markets without posing an unreasonable credit risk. PJM is proposing to increase the scope, quality, and nature of information available to PJM, thereby increasing the reliability of PJM's evaluation of the risk posed by each Market Participant.[66] Under these new credit risk rules, for each entity applying to participate in the PJM Markets, PJM will perform an "Initial Risk Evaluation" that will be holistic in approach and, as discussed in greater detail below, will:

- Require audited annual financial statements;
- Require other, industry-standard "Know-Your-Customer" disclosures;

---

[64] PJM is proposing changes to these provisions, as discuss below.

[65] To authorize PJM to assess (and mitigate) the credit risk of all entities that may pose a threat to the PJM Markets, PJM is proposing to expand the scope of the defined term "Applicant" to not only include an entity desiring to become a PJM Member or take Transmission Service, but also any entity desiring to become a Market Participant. Proposed Tariff, Definitions A-B (definition of Applicant).

[66] While much of the discussion in this letter refers to "Applicants," to the extent another party is actually providing credit support, e.g., through a Corporate Guaranty, or an affiliate to which the Corporate Guaranty will also apply (i.e., a "Guaranteed Affiliate"), such entity will be subject to the same risk evaluation as the Applicant. For convenience and ease of understanding, PJM will refer only to Applicant in this letter, unless specific rules apply to another entity.

- Employ credit risk scoring models evaluating quantitative and qualitative metrics, including various financial ratios, industry characteristics, financial risks, and the nature of the applicant's business;
- Incorporate knowledge of default history, litigation and other contingencies; and
- Consider rating agency reports and other references, as necessary.

The same quantitative and qualitative factors will be used regardless of whether the applicant has rated debt.[67] PJM will also be able to request additional information "reasonably required for PJM to perform its initial risk evaluation of Applicant's or Guarantor's creditworthiness and ability to comply with the [Tariff, Operating Agreement, and other PJM governing documents] related to settlements, billing, credit requirements, and other financial matters."[68]

Through this multi-prong approach, PJM will be able to combine a number of risk management tools to better understand the financial condition and business risk profile associated with an entity.

1. Rating agency reports and third-party references

As part of any credit risk evaluation, it is prudent to review reports published by a Rating Agency, i.e., a Nationally Recognized Statistical Rating Organization,[69] like Standard & Poor's ("S&P"), Moody's Investors Service ("Moody's), Fitch Ratings, or other Nationally Recognized Statistical Rating Organization that assess the financial condition, strength and stability of companies and "assign[] a rating that reflects its

---

67 Proposed Tariff, Attachment Q, section II.A.

68 Proposed Tariff, Attachment Q, section II.A.7.

69 "Nationally Recognized Statistical Rating Organization" shall have the meaning as set forth in section 3(62)(A) of the Securities Exchange Act, Pub. L. No. 73-291, 48 Stat. 881 (1934) (codified as amended at 15 U.S.C. §78(a) et seq.).

assessment of the ability of the company or governmental entity to make the debt payments."[70] Consistent with the purpose of PJM's credit risk evaluation, PJM will "focus on the Applicant's or its Guarantor's senior unsecured debt ratings."[71] PJM will also consider the PJM-derived Internal Credit Risk Score, discussed below.

In addition to such Rating Agency reports, PJM may require an Applicant to provide at least one bank reference and three Trade References,[72] i.e., "a reference from a contact or firm that had or has a material business relationship" with the Applicant.[73] PJM will use such references to better understand Applicant's financial capability to participate in the markets in which the Applicant seeks to participate and the Applicant's ability to manage risk. [74]

2. Financial statements and related information

PJM will continue to require each Applicant to provide PJM audited financial statements for the most recent three fiscal years,[75] but now will require them in a standardized format in accordance with either the US Generally Accepted Accounting Principles ("US GAAP") or any other format acceptable to PJM.[76] Provision of audited

70 Proposed Tariff, Definitions R-S (definition of Rating Agency).

71 Proposed Tariff, Attachment Q, section II.A.1.

72 Proposed Tariff, Attachment Q, section II.A.4.

73 Proposed Tariff, Definitions T-U-V (definition of Trade Reference).

74 MISO has a similar requirement for applicants to submit trade references in its credit policy. *See* MISO Open Access Transmission, Energy and Operating Reserve Markets Tariff, Attachment L (Credit Policy), section I.A.3 ("MISO Credit Policy").

75 Proposed Tariff, Attachment Q, section I.A.2

76 Proposed Tariff, Attachment Q, section II.A.2. If the Applicant has ne been around for three years, it must provide audited statements for its "period of existence." Proposed Tariff, Attachment Q, section II.A.2. Other formats acceptable to PJM may include, but are not limited to, municipalities designated financial reporting requirements, Canadian Generally Accepted Accounting Principles,

financial statements is required for participation in the markets administered by ISO New England Inc. ("ISO-NE"),[77] MISO,[78] California Independent System Operator ("CAISO"),[79] Southwest Power Pool, Inc. ("SPP"),[80] and NYISO.[81] PJM is also specifying that the audit must be performed by an Independent Auditor, i.e., an external accounting firm that is "independent in the performance of professional services" from the entity being audited.[82]

In order to provide PJM with a more complete and current picture of an Applicant or Guarantor's financial condition, PJM is proposing that Applicants and/or Guarantors must provide unaudited financial statements for each fiscal quarter since the most recently provided audited financial statements.[83] The other types of financial information required differ based on whether the applicant (1) has publicly-traded securities; (2) does not have publicly-traded securities; or (3) is newly formed and does not yet have audited financials or does not otherwise routinely prepare audited financial statements.

Australian Generally Accepted Accounting Principles and International Financial Reporting Standards (IFRS), for example.

77 *See* ISO New England Inc. Transmission, Markets and Services Tariff, Exhibit IA (ISO-NE Financial Assurance Policy), section II.B (Proof of Financial Viability for Applicants).

78 *See* MISO Open Access Transmission, Energy and Operating Reserve Markets Tariff, Attachment L (Credit Policy), section I.A.2 (Financial Statements and Related Information).

79 *See* California Independent System Operator Corporation Fifth Replacement FERC Electric Tariff (Open Access Transmission Tariff), section 12.1.1.3 (Financial Statements) ("CAISO Credit Policy").

80 *See* Southwest Power Pool, Inc. Open Access Transmission Tariff, Sixth Revised Volume No. 1 Superseding Fifth Revised Volume No. 1, Attachment X (Credit Policy), Article 3 (Credit Assessment), section 3.1.1.1 (Audited Financial Statements and Related Information) ("SPP Credit Policy").

81 *See* New York Independent System Operator, Inc. Market Administration and Control Area Services Tariff, Attachment K (Creditworthiness Requirements for Customers), section 26.2.1.6 (Financial Statements).

82 Proposed Tariff, Definitions I-J-K (definition of Independent Auditor).

83 Proposed Tariff, Attachment Q, section II.A.2.

If the Applicant has publicly-traded securities, the financial information would include the applicant's U.S. Securities and Exchange Commission ("SEC") Forms 10-K (annual report) and 10-Q (quarterly reports), and Form 8-K reports since the most recently filed Form 10-K.

If the Applicant does not have publicly-traded securities, it may not regularly publish financial statements comparable to those published by an entity that does have publicly-traded securities. Nonetheless, PJM will require comparable financial data to be provided, but such financial statements may be in different formats. PJM is requiring such Applicants to submit audited financial statements (annual), and quarterly financial statements, including Balance Sheets, Income Statements, Statements of Cash Flows, and Statements of Stockholder's or Member's Equity or Net Worth.[84] This information is typically required from all business customers by banks and other financial services companies for credit risk evaluation purposes.

In addition to standard financial statements, Applicants without publicly-traded securities will be required to provide PJM with "[d]isclosure equivalent to a Management's Discussion & Analysis" that includes "an executive overview of operating results and outlook, and compliance with debt covenants and indentures, and off balance sheet arrangements, if any."[85] PJM expects that the disclosure should not be general or boilerplate in nature, but rather reflect the facts and circumstances specific to the Applicant and/or its Guarantor. PJM is also requiring an auditor's report with an unqualified opinion

---

84 *See* proposed Tariff, Attachment Q, sections II.A.2(b)(i) and (ii).

85 Proposed Tariff, Attachment Q, sections II.A.2(b)(iii).

or letter that the audited financials comply with US GAAP or another format acceptable to PJM.[86]

PJM is adding disclosure requirements for newly formed Applicants that do not yet have three years of audited annual financial statements or do not routinely prepare audited financial statements. Such Applicants will need to provide "[e]quivalent financial information traditionally found in" the financial statements provided by privately held applicants, e.g., Balance Sheets, Income Statements, and Statements of Cash Flows,[87] and the same "[d]isclosure equivalent to a Management's Discussion & Analysis" required from entities that do not have publicly-traded securities.[88]

In addition, all types of Applicants will be required to provide a business risk profile "summary provided by the Principal responsible, or to be responsible, for PJM Market activity" stating:

- the "primary purpose(s) of activity or anticipated activity in the PJM Markets," i.e., does the Applicant intend to invest in or trade FTRs, or "'hedg[e] or mitigate[e] commercial risks,' as such phrase has meaning in the [Commodity Futures Trading Commission's ("CFTC")] regulations regarding the end-user exception to clearing);"[89]

- the Applicant's (and its Principals')[90] experience in managing risks in similar markets, such as "other organized RTO/ISO markets or on regulated commodity exchanges;"[91] and

86 Proposed Tariff, Attachment Q, sections II.A.2(b)(iv).

87 Proposed Tariff, Attachment Q, sections II.A.2(c)(i).

88 Proposed Tariff, Attachment Q, section II.A.2(c)(ii).

89 Proposed Tariff, Attachment Q, sections II.A.2(a)(iv), II.A.2(b)(v), and II.A.2(c)(iii).

90 Proposed Tariff, Definitions O-P-Q (definition of Principal).

91 Proposed Tariff, Attachment Q, sections II.A.2(a)(iv), II.A.2(b)(v), and II.A.2(c)(iii).

- "a high level overview" of how the Applicant plans to participate in the PJM Markets, e.g., a brief explanation of how the Applicant intends to accomplish the purpose of its activity in the PJM Markets.[92]

These Know Your Customer disclosure requirements will facilitate PJM's evaluation of the entity's risk profile and the relative risks it may pose to the PJM Markets. Thus, a summary of how the Applicant anticipates participating in the PJM Markets is critical to gaining a holistic understanding of the Applicant's risk profile; determining whether it poses an unreasonable credit risk, and determining what level of credit support or Collateral may be required to mitigate such risk (if any). These Know Your Customer disclosures also address one of the factors contributing to the GreenHat default.[93]

These Know Your Customer disclosure requirements are commonplace and employed generally by banks and energy companies that are evaluating counterparty credit risk in bilateral commodity and derivative transactions, and by market administrators such as commodities exchanges and other financial services providers, such as brokers. It is prudent for entities exposing themselves to credit risks to understand their customers or counterparties: who is creating the exposure—both the entity and the individuals making the decisions for the entity, what is their intended plan—how they plan to go about accomplishing their goals, and what has been their mode of operations—whether they have

[92] Proposed Tariff, Attachment Q, sections II.A.2(a)(iv), II.A.2(b)(v), and II.A.2(c)(iii). PJM notes that the version of these revisions that were posted for stakeholder approval on March 26, 2020 inadvertently neglected to delete the words "and (4) information sufficient for PJM to determine the Participant's anticipated activity" from sections II.A.2(a)(iv) and II.A.2(b)(v). That language has been deleted for the filing because the information requested in (4) is the same information that is requested in section II.A.2(a)(iv)(3) and section II.A.2(b)(v)(3). The referenced language was correctly removed from section II.A.2(c)(iii) before it was posted for the stakeholder vote. With this revision, the language in each of sections II.A.2(a)(iv), II.A.2(b)(v), and II.A.2(c)(iii) is identical, as intended.

[93] Consultants Report at 9.

defaulted in the past. These inquiries are standard credit risk due diligence by Market Participants themselves, and also reflective of the Know Your Customer diligence done by a responsible market administrator. Without such knowledge, a counterparty or a market administrator—and PJM is both—cannot accurately gauge risks and may unknowingly be subject to higher than acceptable risks from not understanding the financial condition and risk profiles of its counterparties and the participants in its markets. And, therefore, it would be reasonable to infer a higher risk profile.

For these reasons, PJM is requiring certain information about the individuals with leadership positions or that are in the positions with most responsibility over matters that may pose risks to the PJM Markets. These are the individuals whose prior and current experience may indicate to PJM whether an Applicant or a Participant is a bad actor. PJM is defining each member of this group of individuals of as a "Principal." Specifically, PJM is seeking limited information about an entity's:

(i) chief executive officer or senior manager that controls or directs strategy for the Participant,

(ii) chief legal officer or general counsel,

(iii) chief financial officer or senior manager that controls or directs the financial affairs and investments of the Participant,

(iv) chief risk officer or senior manager responsible for managing commodity and derivatives market risks, and

(v) officer or senior manager responsible for or to be responsible for transactions in the applicable PJM Markets.[94]

[94] Proposed Tariff, Definitions O-P-Q (definition of Principal).

With respect to the business risk profile summary (discussed above) required of all Applicants, PJM is proposing that one of the Participant's Principals provide such a summary. Also, PJM is requiring a summary of how the Applicant, or its Principals, have managed risks in PJM or similar markets. This latter requirement is vital to understanding whether the Applicant has the experience necessary to manage risks going forward. Additional disclosures related to Principals are discussed below.[95]

Because PJM is proposing to expand the scope of Know Your Customer data that must be submitted, and the frequency with which each Market Participant will be required to submit financial and risk information to PJM, PJM is also proposing a two-year transition mechanism to allow existing Market Participants that will be required to provide audited annual financial statement to adjust to such requirement. Accordingly, PJM is proposing a two-year transition period, from June 1, 2020 to May 31, 2022, in which "the Applicant or Guarantor may provide a combination of audited financial statements and/or equivalent financial information."[96]

Moreover, PJM also recognizes that alternatives to the standard Know Your Customer requirements may be necessary for certain entities, and the revisions allow PJM to specify alternative requirements for compliant submittals, sufficient for PJM to perform its credit and risk assessment but without creating new financial statements solely for PJM. For special entity types, like municipalities and cooperatives, PJM may need to "request

95 Reviewing such information about the Applicant's Principals is consistent with Recommendation C1 of the Consultants Report, which recommended outsourced background checks for an entity's three most senior officers. Consultants Report, Appendix at Recommendation C1.

96 Proposed Tariff, Attachment Q, sections II.A.2(d).

additional information as part of the initial and ongoing review process and will consider other qualitative factors in determining financial strength and creditworthiness."[97]

Thus, regardless of the type of entity, PJM is proposing that the Applicant provide credible, reliable, and current financial statements,[98] as well as high-level narrative disclosure regarding the Applicant's purpose for participating in the PJM Markets. The need for such information is vital to protecting the PJM Markets from exposure to unreasonable credit risk. However, if such financial or business information is unavailable or the Applicant, for any reason, does not provide it to PJM, PJM may reasonably infer that such Applicant has a higher risk profile, with the absence of evidence to the contrary. PJM should therefore have "the right to [] request Collateral and/or Restricted Collateral[99] to cover the amount of risk reasonably associated with the Applicant's activity in PJM markets."[100] Further, PJM could, in addition to or in lieu of such Collateral, restrict the Applicant from participating in certain PJM Markets, including "restricting the positions the Applicant (once it becomes a Market Participant) takes in the market."[101] Of course, failure to provide such financial or business data would not automatically trigger PJM to require additional credit support or market participation restriction. Rather, it would be

---

97 Proposed Tariff, Attachment Q, sections II.A.2.

98 To the extent any of the required information is available on the internet, the Applicant can fulfill its disclosure requirement by pointing PJM to where such information may be retrieved. Proposed Tariff, Attachment Q, section II.A.2.

99 In addition to proposing to add the defined term "Restricted Collateral" to capture a concept that is already in PJM's credit rules that allows PJM to establish certain restrictions on available credit by requiring that some amounts of credit, i.e. Restricted Collateral, may not be available to satisfy credit requirements, PJM is proposing the hold Restricted Collateral "until PJM has determined that the risk for which such Restricted Collateral is being held has subsided or been resolved." Proposed Tariff, Attachment Q, section II.F.

100 Proposed Tariff, Attachment Q, section II.A.2.

101 Proposed Tariff, Attachment Q, section II.A.2.

one of many factors that could weigh in favor of such a requirement, and may trigger a request from PJM for additional information from an Applicant during the application process. Such authority and practice will ensure PJM can achieve the "goal of ensuring sufficient participation, adequate liquidity, and competitive results."[102]

3. Internal Credit Score

Since the 2008 financial crisis, multidimensional credit scorecards and internal ratings based on quantitative and qualitative factors have become common for banks and other financial institutions, exchanges, and large business organizations that are standardizing the way they evaluate an entity's credit risk.[103] Such internal metrics are relied on in addition to external ratings provided by Moody's, S&P, and other rating agencies. Other RTOs and ISOs develop similar composite credit scores, including MISO[104] and SPP.[105]

In a similar way, as part of its evaluation of the credit risks posed to its markets by an applicant, PJM is proposing to use risk scoring methodologies to assign to each Applicant (and each Market Participant) an Internal Credit Score, which is a "composite numerical score determined by PJMSettlement using quantitative and qualitative metrics to estimate various predictors of a credit event happening to a Market Participant that may

---

102 Order No. 741 at P 123.

103 *See* Affidavit of Steven Dreyer on Behalf of PJM Interconnection, L.L.C. ¶ 5 ("Dreyer Aff."). The Dreyer Aff. is Attachment E to this filing.

104 *See* MISO Credit Policy, Attachment L (Credit Policy), section II (Creditworthiness and Total Credit Limit).

105 *See* SPP Credit Policy, Attachment X (Credit Policy), Article 4 (Creditworthiness and Total Credit Limit), section 4.2 (Composite Credit Score).

trigger a credit event."[106] Like reports from rating agencies like S&P and Moody's, PJM's Internal Credit Score is forward-looking,[107] and is "meant to supplement and be generally consistent with credit ratings issued by [those] recognized public credit rating agencies."[108]

To aid PJM in its development of the Internal Credit Score model, PJM consulted with Mr. Steven Dreyer. Mr. Dreyer has nearly 40 years of experience as a credit and financial analyst, including working at S&P Global Ratings where he was practice leader for North American Insurance Ratings, lead analytical manager for U.S. Utility & Infrastructure Ratings, and head of Investor Communications for the Americas. In the Affidavit submitted in support of this filing, Mr. Dreyer explains, consistent with industry practice, that PJM's Internal Credit Scores are qualitative and forward-looking, as "[h]istorical financial data alone is insufficient on which to base a credible credit evaluation; qualitative judgement is required to make projections."[109] Thus, PJM's Internal Credit Score model includes quantitative metrics, using the financial data provided above, and qualitative metrics, using "relevant factors that may be internal or external to a particular Applicant and/or its Guarantor."[110] PJM is proposing to employ a framework based on five tables memorialized in the Tariff that assess various quantitative and qualitative metrics (e.g., capital and leverage, liquidity, industry level) relative to each Applicant (and Market Participant). As noted in the proposed revisions, "[t]he particular metrics and scoring rules differ according to the Applicant's or Guarantor's line of business

---

106 Proposed Tariff, Definitions I-J-K (definition of Internal Credit Score).

107 Dreyer Aff. ¶ 7.

108 Dreyer Aff. ¶ 7.

109 Dreyer Aff. ¶ 6.

110 Proposed Tariff, Attachment Q, section II.A.3.

and the PJM Markets in which it anticipates participating, in order to account for varying sources and degrees of risk" to the PJM Markets and PJM Members.[111]

Through its model, PJM will evaluate an Applicant's or its Guarantor's "capital and leverage, cash flow coverage of fixed obligations, liquidity, profitability, and other qualitative factors."[112] The overall scores developed will range from 1-6, intended to be parallel, in general, to the six ratings categories used by S&P, Fitch, and Moody's. PJM will consider an Applicant's Internal Credit Risk Score and any available external ratings from a Rating Agency (e.g., S&P, Moody's) as "inputs" into determining an Applicant's, Guarantor's overall risk profile.[113]

By publishing in the Tariff the model's "tables, metrics, and whether a factor is a 'primary' or 'secondary' metric for that business type," PJM is providing "sufficient transparency for entities to be on notice as to what factors will be evaluated and which of those factors PJM will consider to be more important to the entity's credit risk level depending on business type."[114] Thus, Mr. Dreyer concludes, companies will be able to determine "a general range as to what credit score PJM will determine, and should not be surprised by the outcome" of PJM's model.[115] Further, during the stakeholder process, PJM provided many stakeholders with their respective illustrative Internal Credit Score, and PJM will continue to provide any entity its PJM-derived Internal Credit Score upon request.

---

[111] Proposed Tariff, Attachment Q, section II.A.3.

[112] Proposed Tariff, Attachment Q, section II.A.3.

[113] Proposed Tariff, Attachment Q, section II.A.3; proposed Tariff, Attachment Q, section II.E.6.

[114] Dreyer Aff. ¶ 15.

[115] Dreyer Aff. ¶ 15.

While "[t]he formulation of each metric will be consistently applied . . . across industries with slight variations based on identifiable differences in entity type, anticipated market activity, and risks to the PJM Markets and PJM members,"[116] PJM does not propose to state how it plans to weight the various metrics and qualitative factors, based on the advice of its credit risk expert Steven Dreyer. Mr. Dreyer explains that PJM should not publicize how the PJM model operates to derive a particular Applicant's Internal Credit Score. Rather, he advises that "PJM must be able to tailor its analysis for unique characteristics of the market participants it evaluates and to maintain flexibility to respond to changes in the economic and market environment."[117] He explains that setting in stone PJM's standards, by making them (or the underlying formulas) public, would be "unwise, and contrary to industry practice."[118] Further, as Mr. Dreyer explains, publishing the model or how PJM will consider the various factors and metrics could lead to entities gaming PJM's credit risk review by, for example, "swapping short-term for long-term obligations in advance of its ongoing credit review (only to unwind it after the fact)."[119]

4. History of litigation, contingencies, and defaults

A primary data point in most Know Your Customer diligence processes is to be aware of the entity's default history and any litigation, formal governmental investigations, or other proceedings, "involving Applicant or its Guarantor or any of their Principals that would likely have a material adverse impact on its financial condition and/or would likely

---

116 Proposed Tariff, Attachment Q, section II.A.3.

117 Dreyer Aff. ¶ 9.

118 Dreyer Aff. ¶ 10.

119 Dreyer Aff. ¶ 11.

materially affect the risk of non-payment by the Applicant or Guarantor" that is ongoing or occurred. Accordingly, PJM is requiring Applicants (or their Guarantors) to disclose such matters that have occurred within the past five years.[120] It is important recognize that PJM is not requiring disclosure of any and all litigation but rather only that litigation that may be an indicator of credit risk, i.e., the litigation that is likely to materially (adversely) affect the ability to pay debts in PJM. PJM is also requiring disclosure of prior bankruptcy petitions (filed by or against) the Applicant, Guarantor, or its Principals.[121] These, too, are standard Know Your Customer disclosures in the context of a credit risk evaluation.

PJM is also requiring disclosure of whether the Applicant, Guarantor, its Principals, or their "predecessors, subsidiaries, or Credit Affiliates that participate in any United States power markets" have been found, "based upon a final adjudication of regulatory and/or legal proceedings," responsible for a "material defalcation, market manipulation or fraud."[122] While the need for such information from the entity and Principals participating in the PJM Markets is axiomatic, PJM's extension of the request to include "Credit Affiliates" and other similar North American energy markets may require some explanation. First, PJM is adding the new defined term Credit Affiliate to mean basically any other business entity that controls, is controlled by or is under common control with the Applicant or a Principal of the Applicant. Unlike the defined term "Affiliate," a Credit Affiliate relationship is not presumed by reference to minimum ownership interest.[123]

---

[120] Proposed Tariff, Attachment Q, section II.A.5(i).

[121] Proposed Tariff, Attachment Q, section II.A.5(iii).

[122] Proposed Tariff, Attachment Q, section II.A.5(ii).

[123] *See* proposed Tariff, Definitions C-D (definition of Credit Affiliate) ("'Credit Affiliate' shall mean Principals, corporations, partnerships, firms, joint ventures, associations, joint stock companies, trusts, unincorporated organizations or entities, one of which directly or indirectly controls the other

Given the seriousness of a finding of market manipulation or fraud and the likelihood of recidivism, to properly perform its gatekeeping function and protect the integrity of the markets, for Know Your Customer purposes, PJM must be made aware of any history of such bad actions by entities or persons closely affiliated with the Applicant. PJM requires such information relative to Principals and Credit Affiliates because such prior actions may (or may not) be an indicator of substantial risks to PJM Markets. However, the relative importance accorded any such disclosure in PJM's risk evaluation may be significant or small—commensurate with the direct or indirect relationship between any such prior action or event and the Applicant's anticipated participation in the PJM Markets.

Applicants and Guarantors must also disclose "any violation" of "any federal or state regulations or laws regarding energy commodities" by any organization "responsible for regulating activity in North American markets for electricity, natural gas or electricity-related commodity products."[124] This type of information is inherently relevant when evaluating whether an entity poses an unreasonable credit risk to the PJM Markets.

Finally, PJM is also requiring disclosure of an Applicant's current default status and default history, but only with respect to "any energy related generation or transmission project (e.g. generation, solar, development), and within any wholesale or retail energy market" or on an exchange, that has not been cured within the previous five years.[125] PJM

---

or that are both under common Control. 'Control,' as that term is used in this definition, shall mean the possession, directly or indirectly, of the power to direct the management or policies of a person or an entity.").

124 Proposed Tariff, Attachment Q, section II.A.5(iv).

125 Proposed Tariff, Attachment Q, section II.A.6.

is not requiring information about "[d]efaults of a non-recourse project financed entity,"[126] because such information would not necessarily be relevant to an evaluation of credit risk.

The "Know Your Customer" information described above will allow PJM to understand the financial condition and risk profile of the Applicant and to better assess the potential risks the Applicant may pose to the PJM Markets. It cannot be disputed that information about an Applicant's recent financial default history as well as its recent behavior in PJM Markets or other North American energy markets will assist PJM in better assessing the risks an Applicant may pose to the PJM Markets. However, in making such assessment, PJM will also consider any explanation provided, as well as any actions taken by the Applicant, including compliance efforts to resolve an investigation, or any actions proposed to mitigate any potential risks to PJM Markets.

5. Other disclosures and additional information

To round out the picture, PJM is requiring Applicants and Guarantors to disclose any Credit Affiliates that are PJM Members or that otherwise participate directly or indirectly in the PJM Markets or any other energy commodity markets in North America.[127] An Applicant must also provide its governing agreements, articles of incorporation, or similar documentation, the names of its five most senior Principals, and "information pertaining to any non-compliance with debt covenants and indentures."[128]

While the above disclosure requirements should provide PJM with a good overview of the Applicant's financial condition and the risks it may pose to the PJM Markets, no list

[126] Proposed Tariff, Attachment Q, section II.A.6.

[127] Proposed Tariff, Attachment Q, section II.A.7.

[128] Proposed Tariff, Attachment Q, section II.A.7.

can be truly comprehensive. Accordingly, PJM is including a provision authorizing it to request, and for Applicants to provide, "any other information or documentation reasonably required for PJM to perform the initial risk evaluation of Applicant's or Guarantor's creditworthiness and ability to comply with the requirements contained in the Agreements related to settlements, billing, credit requirements, and other financial matters."[129]

6. Results of initial risk evaluation and whether an Applicant poses an unreasonable credit risk

PJM will evaluate the information required above and PJM will determine whether an Applicant (or its Guarantor) poses an unreasonable credit risk. Whether an Applicant poses an unreasonable credit risk "shall be determined by the likelihood that an Applicant will default on a financial obligation arising from its participation in any PJM Markets."[130] While PJM's assessment will be holistic in nature and will take into account each item disclosed (or that PJM gleans from other sources), PJM is proposing that the Tariff provide a non-exhaustive list of "[i]ndicators of potentially unreasonable credit risk" including a:

- history of market manipulation based upon a final adjudication of regulatory and/or legal proceedings,
- history of financial defaults, a history of bankruptcy or insolvency within the past five (5) years, or
- combination of current market and financial risk factors such as low capitalization, a reasonably likely future material financial liability, a low

---

129 Proposed Tariff, Attachment Q, section II.A.7. PJM is also adding a provision to make sure Applicants are on notice that "PJM will conduct a supplemental risk evaluation process for Applicants, Participants, and Guarantors applying to conduct virtual and export transactions or participate in any PJM Markets," as described in Tariff, Attachment Q, section IV. Proposed Tariff, Attachment Q, section II.B.

130 Proposed Tariff, Attachment Q, section II.D.

> Internal Credit Score (derived pursuant to section II.A.3 above) and/or a low externally derived credit score.[131]

The presence of one of these factors may or may not lead to a determination of unreasonable credit risk, but these are the types of factors that would support such a determination. PJM will base its determination of the totality of the circumstances at the time, on a case by case basis.

To the extent PJM finds an Applicant poses an unreasonable credit risk, PJM may require Collateral to mitigate such risk at a level "commensurate with the Applicant's risk of financial default."[132] If PJM determines that Collateral is insufficient (or if the Applicant cannot or does not want to post that amount of credit support) to fully cover the risk, PJM may reject an application to participate in the PJM Markets or limit or deny an applicant's ability to participate in the markets "to the extent and for the time period it determines is necessary to mitigate the unreasonable credit risk to the PJM Markets."[133] And, "if Collateral, additional Collateral or Restricted Collateral cannot address the unreasonable credit risk," PJM will reject an application to participate in the PJM Markets[134]

PJM's unreasonable credit risk determinations must not be cabined by an overly-prescriptive Tariff, but rather, PJM should have the "reasonable discretion to evaluate individual facts and circumstances, as necessary, to protect the [PJM]-administered markets without limiting [PJM] to act only in specific scenarios of increased credit risk

131 Proposed Tariff, Attachment Q, section II.D.

132 Proposed Tariff, Attachment Q, section II.D.

133 Proposed Tariff, Attachment Q, section II.D.

134 Proposed Tariff, Attachment Q, section II.E.8.

enumerated in the tariff."[135] Indeed, it would be imprudent and unreasonable to prevent PJM from requiring Collateral, or even rejecting an application entirely, if an Applicant posed an unreasonable credit risk for reasons that were not specifically enumerated in the Tariff. The ultimate responsibility of a market gatekeeper is to close the gate if it identifies what it determines is an unreasonable credit risk. In Order No. 741, the Commission held that an RTO's credit policy "should allow the ISOs and RTOs to use their discretion to request additional collateral in response to unusual or unforeseen circumstances."[136] While the Commission made that statement in the context of Material Adverse Changes, the same conclusion holds for a determination of unreasonable credit risk. After all, both contexts seek to achieve the same goal: protect the PJM Markets and PJM Members from a Market Participant's default. Thus, the Commission has recognized that providing discretion to the RTO in assessing credit risk appropriately "strik[es] a balance between providing sufficient flexibility to an RTO/ISO to protect the wholesale markets and providing certainty to market participants is an inherently difficult aspect of sound credit policy."[137]

Before completing its initial risk evaluation, PJM will communicate any concerns about the extent to which the Applicant poses an unreasonable credit risk to the Applicant in writing "and attempt to better understand the circumstances surrounding that Applicant's financial and credit position."[138] If PJM determines that Collateral is required to mitigate any level of unreasonable credit risk posed by an Applicant, it will provide a written

---

[135] *NYISO*, 170 FERC ¶ 61,054, at P 30.

[136] Order No. 741 at P 147.

[137] *NYISO*, 170 FERC ¶ 61,054, at P 32.

[138] Proposed Tariff, Attachment Q, section II.D.

explanation of such decision.[139] If an Applicant believes that PJM's determination is unduly discriminatory or arbitrary, it may seek relief by filing complaint, or other filing seeking relief, with the Commission, and it can use PJM's written explanation that the Applicant poses an unreasonable credit risk to "form a record before a Commission proceeding if necessary."[140]

C. To Manage and Monitor Credit Risk in the PJM Markets, PJM Will Perform Ongoing Credit Evaluations of All Participants.

Because "risk management is not a static endeavor," and circumstances change and entities that had not previously posed an unreasonable credit risk may come to do so, "[e]very market administrator needs to perform frequent risk analysis on its participants to ensure that existing collateral and creditworthiness standards are sufficient."[141] Thus, to better protect its markets, PJM is proposing to institute a formal process of ongoing risk evaluations for each Market Participant.[142] Such evaluations will be performed on "at least an annual basis" and will generally consider the same types of Know Your Customer information as provided in an initial risk evaluation, but updated.[143] Thus, Market Participants will be required to provide updated: Rating Agency reports and financial statements;[144] disclosure of litigation, commitments, and contingencies;[145] current default

---

[139] *See* proposed Tariff, Attachment Q, section II.D.

[140] *MISO*, 170 FERC ¶ 61,257, at P 8.

[141] Order No. 741 at P 135.

[142] Proposed Tariff, Attachment Q, section II.E.

[143] Proposed Tariff, Attachment Q, section III.C.

[144] Proposed Tariff, Attachment Q, section II.E.1.

[145] Proposed Tariff, Attachment Q, section II.E.4.

status;[146] and any other information requested by PJM.[147] PJM will also continue to monitor and assess each Market Participant's Internal Credit Score using the same rubric and information as for the initial risk evaluation.[148] Ongoing risk evaluations generally only differ from the initial risk evaluations in three respects: the provision of financial statements, provision of trade references (which are required only at the initial stage), and disclosure of Material Adverse Changes. Failure to provide required information will affect the Market Participant's "eligib[ility] to participate in any PJM Markets."[149]

1. Audited financial statements and transition mechanism for existing Market Participants

Currently, PJM's credit provisions only require audited financial statements in the context of determining an Unsecured Credit Allowance or to support a company's capitalization,[150] and notification of Material Adverse Changes is only applicable to a Market Participant with an Unsecured Credit Allowance.[151] However, to ensure PJM has the ongoing financial data it needs to monitor and manage credit risk in the PJM Markets, PJM is proposing that Market Participants will have an "ongoing" obligation to provide the same "financial statements and related information" required of Applicants (as discussed above and set forth in Tariff, Attachment Q, section II.A.2), with one exception.[152] With regard to the business risk profile summary to be provided by the

---

146 Proposed Tariff, Attachment Q, section II.E.5.

147 Proposed Tariff, Attachment Q, section II.E.7.

148 Proposed Tariff, Attachment Q, section II.E.6.

149 Proposed Tariff, Attachment Q, section II.E.

150 *See* Tariff, Attachment Q, sections I.C.1.b.2.ii and II.A.2.

151 *See* Tariff, Attachment Q, section II.A.3.

152 Proposed Tariff, Attachment Q, section II.E.2.

Principal responsible for PJM Market activity,[153] the Principal only needs provide "the experience of the Participant (and its Principals) in managing risks in similar markets"[154] to the extent the Principal "was not serving in the position when the prior summary was provided."[155]

With regard to financial statements, Market Participants (or their Guarantors) will need to provide audited annual financial statements in US GAAP or other acceptable format for each fiscal year and no later than 120 days after the end of each fiscal year.[156] Similarly, Market Participants must submit "financial statements, which may be unaudited, for each completed fiscal quarter of the current fiscal year, promptly upon their issuance, but no later than sixty (60) calendar days after the end of each fiscal quarter."[157] However, PJM may, upon request, grant an extension of time for the Market Participant, if the audited financials are not available within prescribed time frame.

2. Material Adverse Changes

The only new type of information required for an ongoing risk evaluation is whether the Market Participant has experienced or is experiencing a Material Adverse Change since the date of the most recent audited financial statements delivered to PJM. "Events in credit markets can change the fortunes of a participant very quickly," as the Commission has recognized, noting the over-the-weekend collapse of Lehman Brothers in September

---

153 *See* proposed Tariff, Attachment Q, sections II.A.2(a)(iv), II.A.2(b)(v), II.A.2(c)(iii).

154 Proposed Tariff, Attachment Q, sections II.A.2(a)(iv), II.A.2(b)(v), II.A.2(c)(iii).

155 Proposed Tariff, Attachment Q, section II.E.2.

156 Proposed Tariff, Attachment Q, section II.E.2.

157 Proposed Tariff, Attachment Q, section II.E.2.

2008.[158] Accordingly, in Order No. 741, the Commission required RTOs and ISOs to provide an "illustrative, rather than exhaustive,"[159] list of "conditions under which they will request additional collateral due to a material adverse change."[160] PJM's current credit policy includes such a non-exhaustive list of eleven occurrences that may constitute a material adverse change in a Market Participant's financial condition, allowing PJM to request additional collateral within two Business Days.[161] This list of illustrative examples is similar or identical to the examples in several other RTO and ISO credit policies, and PJM plans to retain nearly every item on this list, as discussed below.

As an initial matter, PJM has determined that its credit policy would benefit from additional clarity on the fundamentals of what constitutes a Material Adverse Change. To that end, PJM is proposing to define Material Adverse Change as (1) "any material adverse change in the financial condition" of the Participant (or Guarantor), or (2) "any adverse change, event or occurrence which, individually or in the aggregate is likely to have a material adverse effect on the ability of the Participant" to meet its financial obligations in PJM or to the entity's business operations generally.[162] This definitional clarification also informs the application of the Tariff-stated list of events Material Adverse Changes, by allowing that any event listed "may" constitute a Material Adverse Change. Thus, for

---

[158] Order No. 741 at P 135.

[159] Order No. 741 at P 149.

[160] Order No. 741 at P 147; *see also* 18 C.F.R. § 35.47(g) (requiring each RTO/ISO tariff to "[p]rovide a list of examples of circumstances when a market administrator may invoke a 'material adverse change' as a justification for requiring additional collateral; this list does not limit a market administrator's right to invoke such a clause in other circumstances.").

[161] Tariff, Attachment Q, section II.A.3.

[162] Proposed Tariff, Definitions L-M-N (definition of Material Adverse Change).

example, the resignation of a Principal could be a Material Adverse Change, but that would be dependent on the circumstances specific to that company, such that the resignation, considered in the aggregate with other events at the time, would have to be likely to result in an adverse change in the Participant's ability to meet its financial obligations.

Regarding the list of possible Material Adverse Changes, as part of PJM's review of its credit rules and through the stakeholder process, PJM has determined that the current list generally presents events that PJM would consider a Material Adverse Change. However, PJM found that the list needs to be revised and updated, with nine events retained (with some revision to their description), two removed, and four added.[163]

PJM is proposing to remove two items—downgrade in debt rating, and being placed on a credit watch list. These events may be too incremental in nature and do not necessarily rise to the level of events that should be enumerated. A downgrade in rating from AA to A, without other adverse circumstances, clearly would not be likely to materially adversely affect the entity's risk of default. In any event, the list is non-exhaustive, so if an entity's debt rating fell by two or three notches, or fell from A to below investment grade, PJM would still have the discretion to consider such event a Material Adverse Change.

To better put Market Participants on notice of the type of company-specific events PJM is likely to consider a Material Adverse Change, PJM is adding four additional occurrences that it may consider to be Material Adverse Changes, and that could result in additional risk evaluation steps or require the posting of additional Collateral. Specifically, PJM is adding the following occurrences to the non-exhaustive list:

---

163 *Compare* proposed Tariff, Attachment Q, section II.E.3(a)-(i), *with* Tariff, Attachment Q, section II.A.3(c)-(k).

- a confirmed, undisputed material financial default in a bilateral arrangement with another Participant or counterparty that has not been cured or remedied after any required notice has been given and any cure period has elapsed;
- the sale by a Participant of all or substantially all of its bilateral position(s) in the PJM Markets;
- any adverse changes in financial condition which, individually, or in the aggregate, are material; and,
- any adverse changes, events or occurrences which, individually or in the aggregate, could affect the ability of the entity to pay its debts as they become due or could reasonably be expected to have a material adverse effect on any current or future financial results or financial condition.[164]

Each of these four occurrences may adversely impact a Market Participant's financial condition and may warrant posting of additional Collateral (or other risk mitigation measures) to protect the PJM Markets from unreasonable credit risk.

The final item PJM is adding to the list is a catchall that codifies for PJM a provision similar to one recently accepted by the Commission for NYISO for which the Commission advised that "a reasonable amount of discretion because it is neither practical nor productive for NYISO to define every single circumstance that could result in a material adverse change."[165] The Commission recently found a similar item just and reasonable for inclusion on NYISO's list of material adverse changes.[166] Indeed, including such circumstances as a Material Adverse Change will provide PJM with authority it lacked when facing a situation like that posed by GreenHat. As the Consultants Report noted, PJM's existing Material Adverse Change provision "does not contain a general or catch-

---

164 Proposed Tariff, Attachment Q, section II.E.3(j)-(m).

165 *NYISO*, 170 FERC ¶ 61,054, at P 30.

166 *NYISO*, 170 FERC ¶ 61,054, at P 31.

all provision to empower PJM to view a forward looking situation such as a participant's amassing a large, losing trading portfolio and declare a Material [Adverse] Change in order to demand additional collateral."[167] These four additional items, particularly the last one on the above list, would provide PJM with necessary authority to act and "protect its customers from financial losses that result from unreasonable credit risks and defaults."[168]

As the current list is non-exhaustive, PJM could consider these four events to be material adverse changes—even though they are not specifically listed—and require additional collateral or risk mitigation steps. But, to be as transparent as possible and inform Market Participants that PJM considers that such events may have the ability to impact a Market Participant's financial condition, PJM is proposing to enumerate them in the Tariff. However, the list remains non-exhaustive, and any event or circumstance, identified by the Market Participant or PJM, indicating that a Market Participant may present an unreasonable credit risk to the PJM Markets, including the FTR markets and any other markets operated by PJM, or Members, may be considered a Material Adverse Change.

Because it is not possible for PJM to continuously monitor the details of the financial condition and risk profile of all Market Participants at all times, PJM is maintaining the currently effective Tariff requirement of placing the onus on the Market Participant to inform PJM of any Material Adverse Change, and PJM is proposing to require Market Participants to inform PJM of such events within five Business Days of the

---

[167] Consultants Report at 23.

[168] *NYISO*, 170 FERC ¶ 61,054, at P 27.

event.[169] As the Commission recognized in Order No. 741, it is important for market administrators to act quickly and "request additional collateral before a crisis starts."[170] PJM is also keeping the authority that it "may also independently establish from available information that a Participant and/or its Guarantor has experienced a Material Adverse Change in its financial condition."[171]

Furthermore, PJM is proposing to codify that upon identification of a Material Adverse Change, PJM will "evaluate the financial strength and risk profile of the Market Participant."[172] PJM will do so at the time of the change, and as a result of the identified change, PJM will conduct such evaluations "on a more frequent basis going forward."[173] To the extent PJM "identifies unreasonable credit risk to any PJM Market," PJM will take steps to mitigate such financial exposure, including "requiring the Market Participant and/or each Guarantor to provide Collateral, additional Collateral or additional Restricted Collateral that is commensurate with the amount of risk in which the Market Participant wants to engage, and/or limiting the Market Participant's ability to participate" in the PJM Markets.[174] Where appropriate, PJM will typically first seek to obtain Collateral from a Market Participant before seeking to limit the Market Participant's ability to participate in the PJM Markets.

---

169 Proposed Tariff, Attachment Q, section II.E.3.

170 Order No. 741 at P 137.

171 Proposed Tariff, Attachment Q, section II.E.3; *compare id.*, *with* Tariff, Attachment Q, section II.A.3.

172 Proposed Tariff, Attachment Q, section II.E.3.

173 Proposed Tariff, Attachment Q, section II.E.3.

174 Proposed Tariff, Attachment Q, section II.E.3.

Just as required under PJM's current credit rules, in the event PJM determines that a Material Adverse Change has occurred and warrants provision of additional collateral, PJM will so notify the Market Participant in writing and provide a written explanation for why such determination was made.[175] In addition, to the extent the Market Participant's financial condition has improved since PJM last evaluated the entity's risk, PJM may reduce the amount of collateral required. PJM will provide such determination in writing, in which PJM will provide an explanation of the change and identify "the amount of the Collateral reduction and indicat[e] when and how the reduction will be made."[176]

3. *Results of ongoing risk evaluations*

If PJM's ongoing evaluation of the credit risk posed by a Market Participant shows that the participant poses an unreasonable credit risk to the PJM Markets, PJM may notify the Market Participant (or its Guarantor) immediately and advise why it believes the Market Participant poses an unreasonable credit risk, and may either (1) issue a Collateral Call, or (2) "limit or suspend the Market Participant's participation in any PJM Markets" as necessary to mitigate such risk.[177] However, "PJM will only limit or suspend a Market Participant's market participation if Collateral, additional Collateral or Restricted Collateral cannot address the unreasonable credit risk."[178] PJM could also modify a Market Participant's Unsecured Credit Allowance, as "reasonably necessary to support current or

---

175 *See* proposed Tariff, Attachment Q, section II.E.3; *compare id.*, *with* Tariff, Attachment Q, section II.A.3.

176 *See* proposed Tariff, Attachment Q, section II.E.3.

177 Proposed Tariff, Attachment Q, section II.E.8.

178 Proposed Tariff, Attachment Q, section II.E.8. PJM may base its determination on, among other things, "information and material provided to PJM during its ongoing risk evaluation process or in the Officer's Certification, and/or information gleaned by PJM from public and non-public sources." Proposed Tariff, Attachment Q, section II.E.8.

anticipated market activity."[179] Failure to provide any required Collateral "within the applicable cure period shall constitute an Event of Default."[180]

Before finalizing such a determination of unreasonable credit risk, just as with initial risk evaluations, PJM will communicate any concerns about the extent to which the Applicant poses an unreasonable credit risk to the Applicant in writing "and attempt to better understand the circumstances surrounding that Applicant's financial and credit position."[181] Market Participants may then, within five business days, provide supplemental information to address PJM's concerns, which may alleviate some or all of PJM's concerns, thereby reducing or eliminating the need for additional credit support or participation restrictions. PJM's final determination will be communicated in writing, and accompanied by a written explanation.[182]

D. PJM Is Simplifying the Unsecured Credit Allowance Provisions, as Much of the Information Gathering Will Occur in the Initial and Ongoing Risk Evaluations.

PJM is not proposing any significant changes to the provisions governing its evaluations for an Unsecured Credit Allowance. However, as part of PJM's review of its credit policies, PJM is reorganizing the placement of these provisions within Attachment Q. As a result, a look at the revised Tariff shows more redlines associated with

---

179 Proposed Tariff, Attachment Q, section II.E.8.

180 Proposed Tariff, Attachment Q, section II.E.8. The applicable cure period will be determined in accordance with proposed Operating Agreement, section 15.1.5.

181 Proposed Tariff, Attachment Q, section II.E.8.

182 Proposed Tariff, Attachment Q, section II.E.8. By PJM providing a written explanation for its determination that an Applicant poses an unreasonable credit risk, the Applicant would have material that "could form a record before a Commission proceeding if necessary." *MISO*, 170 FERC ¶ 61,257, at P 8. Again, as with the application of any provision of the Tariff, an Applicant that disagrees with PJM's decision can seek relief from the Commission.

these sections than substantive changes to them. In fact, PJM is making only a handful of substantive changes.

Because PJM's proposed initial and ongoing credit evaluations will examine much of the same data as an Unsecured Credit Allowance determination, PJM is proposing to remove language that will be duplicative upon acceptance of the proposed initial and ongoing risk evaluation provisions. Because PJM is proposing detailed provisions requiring Rating Agency reports, financial statements and related information, and notification of Material Adverse Changes for the initial and ongoing risk evaluations, PJM is replacing similar requirements in the section for determining an Unsecured Credit Allowance with cross-references to those new, more detailed sections.[183] PJM is also adding a catchall provision requiring each Market Participant requesting an Unsecured Credit Allowance to make the same disclosures related to Credit Affiliates and governing documents required as part of an initial risk evaluation in Attachment Q, section II.A.7, and to provide additional information upon PJM's request.[184]

PJM is proposing only a few substantive changes to the Unsecured Credit Allowance determination. First, PJM will calculate an Unsecured Credit Allowance based on external ratings from a Rating Agency, to the extent such a rating is available, and if multiple external ratings are available, PJM will use the "lower of the ratings."[185]

---

183 *See* proposed Tariff, Attachment Q, sections II.C.1(a) (Rating Agency Reports), II.C.1(b) (Financial Statements and Related Information), II.C.2 (Material Adverse Changes).

184 Proposed Tariff, Attachment Q, section II.C.3. In certain locations, PJM is also making explicit that Unsecured Credit Allowance cannot be counted toward FTR credit requirements, which must be satisfied through Collateral. *See* proposed Tariff, Attachment Q, sections II.C & II.H. This is consistent with Order No. 741 and Commission regulation section 35.47(c).

185 Proposed Tariff, Attachment Q, section II.G.1.

However, if no external rating is available, PJM will rely on its Internal Credit Score determination.[186] As such, PJM is proposing to revise the credit scoring rules currently in place, add references to the proposed Internal Credit Score rules, and utilize the same 1 to 6 rating, based on PJM's assessment of the entity's risk profile.[187]

To correspond with this change to the new Internal Credit Score metrics, PJM is updating the table for determining the Maximum Unsecured Credit Allowance dollar cap to reflect the Internal Credit Scores, add a column for the corresponding "Risk Rating" (i.e., 1-Very Low risk through 6-High risk), and update the corresponding Tangible Net Worth Factor.[188] For example, a Risk Rating of "1" equals "Very Low Risk" which would correspond to an external rating of AAA to AA- by S&P or Fitch, or Aaa to Aa3 by Moody's, and would correspond to a PJM-derived Internal Credit Score of 1.00 to 1.99.[189] The Tangible Net Worth Factor caps the amount of Unsecured Credit Allowance based on a percentage of the entity's Tangible Net Worth,[190] up to the Maximum Unsecured Credit Allowance for that Risk Ranking. However, the level of Unsecured Credit Allowance will be determined based on a number of factors, while the Tangible Net Worth Factor aids in setting a maximum amount.

PJM is also reducing the Tangible Net Worth Factor to zero for entities with a Risk Rating of medium to high (i.e., Internal Credit Scores of 3.5 to 6, or S&P/Fitch rating of

---

186 Proposed Tariff, Attachment Q, section II.G.1.

187 Proposed Tariff, Attachment Q, section II.G.1.

188 Proposed Tariff, Attachment Q, section II.G.2.

189 Proposed Tariff, Attachment Q, section II.G.2.

190 PJM is revising the definition of Tangible Net Worth to mean: "total assets less goodwill and other intangible assets, minus total liabilities." Proposed Definition of Tangible Net Worth. The actual Tangible Net Worth value should be unchanged, but this revised definition is simpler and clearer.

BB+ and below, or a Moody's rating of Ba1 and below). PJM is reducing the Maximum Unsecured Credit Allowance for entities with a risk rating of Medium to High (BB+ to BB on S&P and Fitch's rating scale, and Ba1 to Ba2 on Moody's rating scale) to zero. Such entities pose an unacceptable level of risk to be eligible for any level of Unsecured Credit Allowance. Rather, given the high risk rating, and to properly protect the PJM Markets and PJM Members, such entities will most likely be required to post Collateral or other credit support.

In addition, PJM is updating its rules for Unsecured Credit Limits for Affiliates to apply the limits to Credit Affiliates, and making corresponding changes in that provision to reflect this change.[191]

Finally, PJM is revising the rules for contesting an Unsecured Credit evaluation to make the following clarifications. One, to the extent a Participant is proposing to use a Corporate Guaranty to establish credit, "the Guarantor will be evaluated and the Unsecured Credit Allowance granted, if any, based on the financial strength and creditworthiness, and risk profile of the Guarantor."[192] Two, an Unsecured Credit Allowance or Corporate Guaranty is only "applicable to non-FTR credit requirements, for positions in PJM Markets other than the FTR market, because all FTR credit requirements must be satisfied by posting Collateral."[193] And, three, "PJM will identify any necessary Collateral requirements and establish a Working Credit Limit for each Participant."[194]

---

[191] *See* proposed Tariff, Attachment Q, section II.G.3.

[192] Proposed Tariff, Attachment Q, section II.H.

[193] Proposed Tariff, Attachment Q, section II.H.

[194] Proposed Tariff, Attachment Q, section II.H.

E. PJM Is Clarifying and Updating the Minimum Participation Requirements.

PJM's current credit policy sets forth minimum participation requirements, based on a list of eligibility requirements and verification of an internal risk management policy, supported by an annual officer certification. PJM is proposing to update and clarify these provisions and to expand the scope of the annual certification. As discussed below, such changes will enhance PJM's ability to monitor risk and mitigate the potential for unreasonable credit risk to its markets.

1. Annual certification

While PJM is proposing to retain the annual officer certification that is Tariff, Attachment Q, Appendix 1, PJM is proposing to expand that certification and move the associated rules to their own section within Attachment Q. In particular, PJM is moving the first two paragraphs from the existing "Risk Management and Verification" section to the new Annual Certification section. These two paragraphs detail the requirement that all Applicants must submit the officer certification in Appendix 1 as part of their credit applications and all Market Participants must submit the certification annually, between January 1 and April 30 for the current calendar year.[195] PJM is not proposing to change its current practices of accepting such certifications "as a matter of course," allowing these Market Participants to continue participating in the PJM Markets, unless they hear otherwise from PJM.[196] Also, as in the current Tariff, Market Participants that fail to provide the required certification by April 30 will be ineligible to transact in the PJM

---

195 Proposed Tariff, Attachment Q, section III.A.

196 Proposed Tariff, Attachment Q, section III.A.

Markets until PJM receives their certifications.[197] However, because the annual certification is the vehicle by which an entity attests to the accuracy of the information provided and is a minimum criterion for participating in the PJM Markets, PJM is proposing that such failure may result in a default under the Tariff, which would expose the Market Participant to, among other things, having its PJM membership terminated under Operating Agreement, section 15.1.1.[198]

PJM is also proposing to modify the existing Tariff provision in which PJM may suspend a Market Participant's transaction rights in the PJM Markets if it fails to comply with PJM's credit rules[199] to allow PJM the option to "limit" a Market Participant's transaction rights instead of a full suspension.[200] Furthermore, the Tariff revisions require Applicants and Market Participants to submit to PJM "any information or documentation reasonably and/or legally required to confirm Applicant's or Market Participant's compliance with the Agreements and the annual certification."[201] The proposed revisions strengthen existing requirements allow PJM more flexibility in remedies, and place Market Participants on notice of the potential penalties for failure to provide accurate information to PJM in the certification and their obligation to provide information reasonably necessary to confirm their compliance.

---

197 Proposed Tariff, Attachment Q, section III.A. In fact, the proposed rules retain the statement, in the existing Tariff, that "PJM will disable the Market Participant's access to any PJM Markets until such time as PJM receives the certification." Proposed Tariff, Attachment Q, section III.A.

198 Proposed Operating Agreement, section 15.1.1.

199 *See* Tariff, Attachment Q, section I.B.

200 Proposed Tariff, Attachment Q, section III.A.

201 Proposed Tariff, Attachment Q, Section III.A.

PJM is retaining the Annual Officer Certification Form in Appendix 1 to its credit policy, but is making some revisions to clarify and expand its scope. In Sections 1 and 2 of the form, PJM is moving the footnotes (regarding the "appropriate" level of training for the Participant's employees and defining the Participant's "independent risk management function") into the text, so parties can better understand the form. PJM is broadening the scope of some provisions that applied only to FTR trading to cover activities in all of the PJM Markets, not just the FTR market, such that under the proposed form, *all* Market Participants will have to certify that they have provided PJM with their most recent risk management policy.[202]

The revised certification also requires that, if the Participant provides audited financial statements, such statements must be in US GAAP format or another format acceptable to PJM.[203] If the Participant is not providing audited financial statements to support its "certification of qualification as an 'appropriate person,'" then the Participant must certify that it qualifies as an "'appropriate person' under one of the provisions in section 4(c)(3)(A)-(J) of the Commodities Exchange Act."[204] Alternatively, if the Participant is not providing audited financial statements to support its "certification of qualification as an 'eligible contract participant,'" the Participant must certify that it qualifies as an "'eligible contract participant' under one of the entities defined in section 1a(18)(A) of the Commodities Exchange Act."[205] These changes to section 6.a of the

---

[202] *See* proposed Tariff, Attachment Q, Appendix 1, sections 2.a & b.

[203] Proposed Tariff, Attachment Q, Appendix I, section 6.a.

[204] Proposed Tariff, Attachment Q, Appendix I, section 6.a.

[205] Proposed Tariff, Attachment Q, Appendix I, section 6.a.

certification form ensure that the form of financial materials provided complies with the updated disclosure requirements.[206]

Furthermore, in addition to the statements already contained in Tariff, Attachment Q, Appendix I, section 6.b, the Participant reasonably must certify "that the audited financial statements provided to PJM and/or PJMSettlement present fairly, pursuant to such disclosures in such audited financial statements, the financial position of the issuer as of the date of those audited financial statements."[207]

2. PJM market participation eligibility requirements

PJM is proposing to update its market participation eligibility provisions to generally reflect the enhancements in this proposal. The proposed revisions grant PJM the authority to "conduct periodic verification to confirm that Applicants and Market Participants can demonstrate that they meet the definition of 'appropriate person' to further ensure minimum criteria are in place."[208] This verification is included in the certification described above.[209] The revised language further provides that, "[i]f an Applicant or Market Participant does not provide sufficient evidence for verification to PJM within five (5) Business Days of written request, then such Applicant or Market Participant may result in a default under this Tariff."[210] Furthermore, the revised language provides that

---

206 PJM is not proposing to amend the certification form with respect to an entity that "fulfills the eligibility requirements of the Commodity Futures Trading Commission exemption order (78 F.R. 19880 – April 2, 2013) by being in the business" in the PJM Region of generating, transmitting, or distributing energy, or providing other electric service. Tariff, Attachment Q, Appendix I, section 6.c.

207 Proposed Tariff, Attachment Q, Appendix I, section 6.b.

208 Proposed Tariff, Attachment Q, section III.B.

209 Proposed Tariff, Attachment Q, section III.B.

210 Proposed Tariff, Attachment Q, section III.B.

"[d]emonstration of 'appropriate person' status and support of other certifications on the annual certification is one part of the Minimum Participation Requirements for any PJM Markets and does not obviate the need to meet the other Minimum Participation Requirements such as those for minimum capitalization and risk profile as set forth in this Attachment Q."[211] Requiring a participant to be an "appropriate person" under the Commodity Exchange Act is common requirement for participation in other RTO/ISO markets.[212] Indeed, MISO similarly requires that participants annually certify that they are an appropriate person under the Commodity Exchange Act.[213]

3. Risk management and verification

PJM is updating its rules on risk management policies to look beyond just participants in the FTR market. With this filing, PJM is proposing to now require that *all* Market Participants "must maintain current written risk management policies, procedures, or controls to address how market and credit risk is managed" and they must submit such policies to PJM at the time they submit their annual certification. This requirement was already included in existing Attachment Q, Appendix 1[214] but PJM is now proposing to make it explicit in Tariff, Attachment Q, section III.C. Also, PJM is making several changes to the existing Risk Management and Verification section to reflect this change in scope, including deleting as unnecessary an entire paragraph related to an FTR

---

[211] Proposed Tariff, Attachment Q, section III.B.

[212] *See* ISO-NE Credit Policy at section II.5 Attachment 4; CAISO Credit Policy at section 12.1(iv)(1); SPP Credit Policy, Attachment X (Credit Policy), Article 3 (Credit Assessment), section 3.1.1.8 (Minimum Criteria for Market Participants).

[213] MISO Credit Policy, Attachment L (Credit Policy), section III (Minimum Participation Requirements).

[214] Tariff, Attachment Q, Appendix 1, section 2.

Participant's representation in the annual certification. In addition, PJM is increasing the administrative cost associated with its review of Participants' risk policies, procedures, and controls to $1500.00[215] to reflect more closely the cost PJM incurs to review such policies.

Since having a written risk management policy is one of the minimum participation criteria required by Order No. 741,[216] PJM is strengthening its risk management policy requirements to make explicit that Applicants must demonstrate not only that they have a policy, but that they have actually implemented such policy and procedures, in order to be authorized to participate in the PJM Markets.[217] Participants will now be required to make an annual demonstration that they have "implemented and maintained prudent risk management policies and procedures in order to continue to participate in any PJM Markets."[218] Indeed, only by implementing such internal policies and procedures can Market Participants understand, monitor, and manage the risks of market participation, and avoid engaging in unanticipated speculative or risky market activity that may pose an unreasonable credit risk to PJM Markets.

PJM emphasizes the importance of such policies in ensuring the inadequacies of an entity's own risk management process does not pose an unreasonable credit risk. By having a robust policy in place and ensuring proper implementation and enforcement (and periodic re-evaluation) of the policy, a company can reduce its relative risk profile. It is axiomatic that market activities unbounded by prudent risk management can inadvertently

---

215 Proposed Tariff, Attachment Q, section III.C.

216 Order No. 741 at P 131.

217 Proposed Tariff, Attachment Q, section III.C.

218 Proposed Tariff, Attachment Q, section III.C.

(or purposefully) veer into extremely risky behavior, exposing not just the individual Market Participant, but the PJM Markets and PJM Members to unreasonable credit risk. For this reason, the Commission has required "each ISO and RTO [to] include in its tariff language . . . minimum participation criteria to be eligible to participate in the organized wholesale electric market, such as requirements related to adequate capitalization and risk management controls."[219]

PJM is proposing to move the existing provisions governing its periodic compliance verification process to new Attachment Q, section IV.B.[220] However, based on the recommendations of the Consultants Report, PJM is eliminating the list of eight criteria it used to evaluate Participants' risk management policies. As the Consultants Report explained, because "PJM['s Tariff] provides candidates with a listing of what PJM's requirements of a risk management policy are[,] . . . candidates [can] simply parrot that list of required components in their submittal of a risk management policy, assuring acceptance, without actually developing or implementing an effective risk management policy in compliance with the FERC Order 741."[221]

Instead of explicitly listing the review factors, PJM proposes revised language stating that the periodic reviews will determine whether Participants' policies, practices, and procedures "generally [] conform to prudent risk management practices for entities trading in any PJM Markets."[222] In addition, Participants' chief risk officers must provide

---

[219] Order No. 741 at P 131.

[220] Proposed Tariff, Attachment Q, section IV.B. PJM is proposing to move the material covered by the last five paragraphs of current Tariff, Attachment Q, section I.B.

[221] Consultants Report at 17.

[222] Proposed Tariff, Attachment Q, section IV.B.

"a high level summary . . . regarding any material violations, breaches, or compliance or disciplinary actions in connection with such risk management policies, practices and procedure within the prior twelve (12) months."[223]

PJM will prioritize its periodic reviews based on criteria including, but not limited to, the length of time the Participant has been in business and the history of the Participant and its Principals in the PJM Markets.[224]

As in the existing Tariff, a Participant's eligibility to transact in any PJM Markets "is conditioned upon PJM notifying the Participant of successful completion of PJM's verification of the Participant's risk management policies, practices and procedures."[225] If PJM is unable complete the verification process, the Participant has 14 calendar days to provide evidence sufficient to finish the verification. However, PJM is proposing that failure of the Participant to provide sufficient evidence during the cure period constitutes a default, because at that point the participant no longer meets the minimum participation criteria.[226]

Finally, PJM is proposing to expand the existing provision that warns Participants that they "are solely responsible for the positions they take and the obligations they assume in PJM Markets"[227] so that all Market Participants, not just FTR Participants, are on notice that PJM's risk evaluation is not a substitute for the Market Participant's own responsibility

---

223 Proposed Tariff, Attachment Q, section IV.B.

224 Proposed Tariff, Attachment Q, section IV.B.

225 Proposed Tariff, Attachment Q, section IV.B.

226 Proposed Tariff, Attachment Q, section IV.B.

227 Tariff, Attachment Q, section I.B.

to monitor and manage the risks of its participation in PJM Markets.[228] In addition, the revised provision states that PJM's review for "is limited to demonstrating basic compliance by a Participant showing the existence of written policies, procedures and controls to limit its risk in any PJM Markets,"[229] rather than only "FTR Markets."[230] The revised language also drops the existing reference to paragraph 3.b of the annual certification. This language appropriately expands language previously limited to FTR Participants and FTR markets to all Participants transacting in any PJM Markets. It is reasonable for PJM to expect that the responsibility for market decisions and for fulfilling any obligations undertaken in the PJM Markets should rest with the Participants who are transacting within those markets.

4. Clarifications to demonstration of capitalization and related provisions

To ensure continued access to the PJM Markets for smaller Market Participants, PJM is not proposing changes to the numerical minimum capitalization requirements for Market Participants. However, PJM is clarifying that Market Participants may meet minimum capitalization requirements by "demonstrating minimum levels of Tangible Net Worth or tangible assets"[231] through the data disclosed on their audited financial statements, both during the initial risk evaluation process and subsequent risk evaluations.[232] In addition, PJM is clarifying that Applicants must meet minimum

---

228 *See* proposed Tariff, Attachment Q, section IV.B.

229 Proposed Tariff, Attachment Q, section IV.B.

230 Tariff, Attachment Q, Section I.B.

231 Proposed Tariff, Attachment Q, section III.D.1.

232 Proposed Tariff, Attachment Q, section III.D.1(c).

capitalization requirements "[i]n advance of certification,"[233] and that Market Participants must demonstrate that they satisfy the minimum capitalization requirements annually.[234]

PJM also is updating the "Provision of Collateral" rules to make clear that if a Market Participant cannot demonstrate minimum capitalization, it can qualify to participate in any market operated by PJM "by posting Collateral, additional Collateral and/or Restricted Collateral."[235] This concept already formed the basis of these rules, but PJM is clarifying the scope and type of eligible Collateral.

Furthermore, PJM is revising the rules for restricting Collateral for FTR Participants unable to satisfy the minimum capitalization requirements. The current Tariff contains a provision that reduced Collateral provided to support FTR market activity by $500,000 plus 10% of the remaining Collateral.[236] The revised Tariff language eliminates the $500,000 plus 10% reduction and replaces it with a new standard reducing an FTR Participant's Collateral by an amount "of the current risk plus any anticipated future risk" to the PJM Markets "and may coincide with limitations on market participation."[237] Given that any Collateral that is restricted is "Restricted Collateral" that will be held by PJM, allowing PJM to restrict FTR-related Collateral commensurate with the risk posed provides greater protection to the markets and PJM's Members.

PJM also clarifies that "[t]he amount of this Restricted Collateral shall not be available to cover any credit requirements from market activity. The remaining value shall

---

233 Proposed Tariff, Attachment Q, section III.D.

234 Proposed Tariff, Attachment Q, section III.D.

235 Proposed Tariff, Attachment Q, section III.D.2.

236 Tariff, Attachment Q, section I.C.2.

237 Proposed Tariff, Attachment Q, section III.D.2(a).

be considered the amount available to satisfy requirements of this Attachment Q."[238] Similar revisions apply to Collateral provided by Participants engaging in Virtual Transactions or Export Transactions[239] and Collateral provided by Participants that do not engage in Virtual Transactions or Export Transactions.[240] These restrictions on the use of Collateral posted for the purpose of these types of transactions is reasonable, given that such transactions pose greater risk than other energy and ancillary services market transactions.

Finally, PJM is proposing to alter the determination of the amount of Unsecured Credit Allowance available to a participant that provides a Corporate Guaranty to increase its available credit (in addition to Collateral). Currently, such amount is the lesser of: (1) the Unsecured Credit Allowance available by the Corporate Guaranty, or (2) the face value of the Corporate Guaranty, but reduced by 10%.[241] PJM proposes to change the latter value to the face value of the Corporate Guaranty as reduced "commensurate with the amount of the current risk plus any anticipated future risk to any PJM Markets and PJM membership in general, and may coincide with limitations" on the Market Participant's ability to participate.[242] As with the proposed change discussed above, accounting for risk when determining an entity's available credit is logical and reasonable, and thus appropriately provides PJM with reasonable but flexible credit risk management tools to protect the markets and PJM's Members.

---

238 Proposed Tariff, Attachment Q, section III.D.2(b).

239 Proposed Tariff, Attachment Q, section III.D.2(b).

240 Proposed Tariff, Attachment Q, section III.D.2(c).

241 Tariff, Attachment Q, section I.C.2.

242 Proposed Tariff, Attachment Q, section III.D.2(b).

F. PJM Is Explicitly Requiring Ongoing Covenants to Ensure that Each Market Participant Timely Informs PJM About Its Financial Condition and Risk Profile.

PJM is adding to Attachment Q a new section IV that explicitly sets forth ongoing covenants pursuant to which Market Participants must provide timely information to PJM. Requiring submission of this kind of notice and information is consistent with PJM's role as "gatekeeper" of its markets. The key to protecting the PJM Markets from credit risk is PJM's ability to collect accurate and relevant information about those who participate in the markets.

Many of the requirements listed as an "Ongoing Covenant" are not new and are stated elsewhere in Attachment Q; but PJM is proposing to consolidate these ongoing requirements in a single location to facilitate Market Participant compliance. Thus, PJM is restating Market Participant submittal and reporting requirements that are existing and newly proposed in this filing. For example, the revised language provides for ongoing submittal of the Annual Officer Certification Form in Tariff, Attachment Q, Appendix 1;[243] a demonstration that the Participant meets the minimum participation requirements,[244] including minimum capitalization requirements;[245] and the Participant's risk management policies, procedures, and controls.[246] Further, if a Principal becomes aware of "any matter that has resulted or would reasonably be expected to result in a Material Adverse Change in the financial condition of the Participant or its Guarantor," the Participant must notify

---

243 Proposed Tariff, Attachment Q, section IV.A(6).

244 Proposed Tariff, Attachment Q, section IV.A(2).

245 Proposed Tariff, Attachment Q, section IV.A(7).

246 Proposed Tariff, Attachment Q, section IV.A(8).

PJM by the deadline set forth in Tariff, Attachment Q, section II.E.3 (as revised in this filing).[247]

In addition, the list also consolidates the new requirements for ongoing submittal of financial statements and other Know Your Customer financial disclosures required by Tariff, Attachment Q;[248] and other information reasonably required by PJM to confirm Tariff compliance and eligibility to participate in the PJM Markets.[249]

Participants must notify PJM, within five Business Days, of such items as a Principal becoming aware that a litigation or contingency event has occurred.[250] Also, if PJM requests, the Participant must demonstrate within five Business Days that it meets the definition of "appropriate person" or "eligible contract participant" as the Commodity Exchange Act and associated regulations define those terms.[251] Notice of a Credit Breach, Financial Default, or Credit Support Default must be provided to PJM within two Business Days after a Principal becomes aware of it.[252]

G. PJM Is Detailing Its Authority to Limit or Suspend Market Participation Where Market Participants Pose Unreasonable Credit Risk and Collateral Is Insufficient.

In response to the Consultants Report recommendation that PJM establish limits on market participation,[253] PJM has included new Section VIII in Attachment Q, entitled

247 Proposed Tariff, Attachment Q, section IV.A(3).

248 Proposed Tariff, Attachment Q, section IV.A(1).

249 Proposed Tariff, Attachment Q, section IV.A(10).

250 *See* proposed Tariff, Attachment Q, section IV.A(4).

251 Proposed Tariff, Attachment Q, section IV.A(9).

252 Proposed Tariff, Attachment Q, section IV.A(5).

253 Consultants Report, Appendix at 3.

"Suspension or Limitation on Market Participation."[254] Limitations on a Market Participant's activity or positions are a common remedy that market administrators use to mitigate credit risk exposure.[255] Moreover, they are consistent with the risk mitigation practices used by commodity exchanges to manage and reduce the credit risks that a market participant may represent to exchange markets when a market participant is experiencing financial distress, or market conditions would warrant a market participant posting more Collateral than the market participant is willing or able to post.[256] Accordingly, limitations on market activity, commensurate to the credit risks to the market, are sound and reasonable means by which a market administrator can manage the credit risk of a particular counterparty. Such restrictions reduce the potential loss to which the PJM Markets and PJM Members would be exposed if the Market Participant were to continue its market activities and default on its obligations. Accordingly, when a Market Participant "presents an unreasonable credit risk" or an Event of Default has occurred, PJM must have the authority to "take steps to mitigate the exposure of any PJM Markets, which may include, but is not limited to, requiring Collateral, additional Collateral or Restricted Collateral or suspending or limiting the Market Participant's ability to participate in the PJM Markets commensurate to the risk to any PJM Markets."[257]

---

254 Proposed Tariff, Attachment Q, section VIII.

255 *See, e.g.*, *Market Regulation Advisory Notice*, CME Group Inc., Rule 562 (Aug. 2, 2019), https://www.cmegroup.com/notices/market-regulation/2019/08/RA1907-5.pdf ("CME Group Rule 562"); *Nodal Exchange Rulebook*, Nodal Exchange, LLC, section 6.6 (Nov. 16, 2017), http://www.nodalexchange.com/wp-content/uploads/2017v4-Nodal-Exchange-Rulebook.pdf ("Nodal Exchange Rulebook").

256 *See* CME Group Rule 562; Nodal Exchange Rulebook at section 6.6.

257 Proposed Tariff, Attachment Q, section VIII.

Because limitations on market participation must take into account the risk profile and business strategy of particular Market Participants, PJM is not proposing a "one size fits all" approach. As explained in a recent position paper to PJM's Financial Risk Mitigation Senior Task Force, "PJM requires the discretion to limit the amount of risk in the market based on not only the financial health of a market participant but also the term and tenor of the positions that the market participant wants to take on."[258] PJM must be able to establish limits on market activities that are commensurate with the capital of a Market Participant and the type of positions it is taking in the PJM Markets. This discretion is also inherent in standard credit risk Know Your Customer principles. The point of Know Your Customer protocols is to enable PJM to understand each Market Participant's unique circumstances from the outset and continue to monitor financial condition and market behavior in the particular PJM Markets. The individualistic nature of Know Your Customer credit risk monitoring necessitates a flexible approach to limitations on market participation, should they be warranted in a particular situation.

Should PJM identify that a Market Participant represents an unreasonable credit risk, the Market Participant will understand and explain its circumstances as well as the ability to "cure" the risk by posting Collateral or implementing other risk mitigation steps identified by PJM. However, "[i]f a Participant fails to reduce or eliminate any unreasonable credit risks to PJM's satisfaction within the applicable cure period including without limitation by posting Collateral, additional Collateral or Restricted Collateral, PJM may treat such failure as an Event of Default."[259] Again, as discussed above, PJM's

---

258 PJM Financial Risk Mitigation Senior Task Force, *Credit & Collateral Best Practices* at 17.

259 Proposed Tariff, Attachment Q, section VIII.

authority to deem a failure to cure as an Event of Default necessarily involves discretion commensurate with the risk profile of the Market Participant and the severity and immediacy of the potential risk to the PJM Markets.

However, PJM is proposing exemptions to any limits on market participation for "any FTR transactions that the Participant reasonably demonstrates to PJM it has entered into to 'hedge or mitigate commercial risk' arising from its transactions in the PJM Interchange Energy Market that are intended to result in the actual flow of physical energy or ancillary services in the PJM Region."[260] This exemption recognizes the differing levels of risk posed by participants that may be seeking to hedge commercial risk exposure and those seeking to trade FTRs for financial gain. The low risk market behavior associated with commercial risk hedging is well understood and well recognized.

H. PJM Is Strengthening and Clarifying the Remedies Available for Events of Default.

Generally, when an event of default occurs, it allows one party to demand full payment of an outstanding balance before it is due. PJM's current credit policy provides that PJM can declare an Event of Default only under very narrow circumstances: (1) when a participant fails to remedy a Credit Breach[261] or (2) when a participant cannot meet a Collateral Call within two business days.[262] This narrowly defined authority has proved to be insufficient. In fact, the credit policy, as currently framed, fails to provide PJM sufficient authority to adequately protect its markets because it is limited to noncompliance

---

260 Proposed Tariff, Attachment Q, section VIII.

261 As currently defined in the Tariff, a "Credit Breach" is "the status of a Participant that does not currently meet the requirements of Tariff, Attachment Q or other provisions of the Agreements." Tariff, Definitions C-D (definition of Credit Breach).

262 Tariff, Attachment Q, section VI.

with the Tariff, Attachment Q, or the other Agreements and PJM must wait until after an entity has already defaulted to be able to demand payment in full. Rather, to better protect the markets and PJM's membership, PJM needs to be able to address a broader range of behavior that could threaten the PJM Markets, and to act proactively in response to events that pose a high, indeed an unreasonable, credit risk—PJM may need to exercise its remedies, mitigate market exposure to the risks posed by a Market Participant and require full payment before it is too late.

1. Expanded scope of Events of Default

To address these issues, PJM seeks to expand the types of events that constitute a default. The proposed revisions to the Tariff define "Event of Default" as "a Financial Default, Credit Breach, or Credit Support Default."[263]

a. <u>Financial Default</u>

PJM is defining the term Financial Default to capture four scenarios that provide grave doubts about the financial condition of the Market Participant and its ability to meet financial obligations as they become due. Specifically, a Participant is in Financial Default when it fails to pay an invoice, even after provided an opportunity to cure, or is otherwise "unable to meet its financial obligations as they become due."[264] A bankruptcy proceeding filed by or against the entity in which the entity "acquiesces or that is not dismissed within 60 days," or a general inability to pay debts as they become due also constitutes a Financial Default.[265] That these events should constitute a Financial Default is obvious. Failing to

---

263 Proposed Tariff, Definitions E-F (definition of Event of Default).

264 Proposed Tariff, Definitions E-F (definition of Financial Default).

265 Proposed Tariff, Definitions E-F (definition of Financial Default).

pay an invoice after notice has been provided and the cure period has expired, filing for bankruptcy or otherwise being insolvent or unable to pay debts as they become due, all raise clear concerns that would prompt PJM to take action to protect its markets.

In addition to these worrisome events, PJM is including a "Merger Without Assumption" as a Financial Default. A Merger Without Assumption is a standard default without a cure period in financial markets. It occurs when a Market Participant, or its credit support provider (e.g., a Guarantor):

> merges with or transfers all or substantially all of its assets to, or consolidates, amalgamates, reorganizes, reincorporates or reconstitutes into or as, another entity and, at the time of such consolidation, amalgamation, merger, transfer, reorganization, reincorporation or reconstitution (a) the resulting, surviving or transferee entity does not assume all the obligations of such Market Participant, or any Guarantor or other credit support provider of such Market Participant under the Agreements or any Credit Support Document to which it or its predecessor was a party; or (b) the benefits of any Credit Support Document do not extend (without the consent of the other party) to the performance by such resulting, surviving or transferee entity of its obligations under the Agreements.[266]

In the situations covered by the definition of "Merger Without Assumption," there is not adequate assurance that the surviving entity will stand by the obligations undertaken by its predecessor Market Participant to the PJM Markets. Accordingly, if such an event occurs, it clearly should constitute a default and PJM should have the immediate authority to exercise remedies and act to protect its markets.

[266] Proposed Tariff, Definitions L-M-N (definition of Merger Without Assumption).

b. Credit Breach

PJM's proposed revisions to the definition of "Credit Breach" do not change the intent of the current definition, which is any failure to meet the "the requirements of Tariff, Attachment Q or other provisions of the Agreements" is a Credit Breach.[267] However, PJM is proposing to clarify and expand the scope to include not only "the failure of a Participant to perform, observe, meet or comply with any requirements of the Tariff, Attachment Q or other provisions of the Agreements, other than a Financial Default," but also "a determination by PJM and notice to the Participant that a Participant represents an unreasonable credit risk to the PJM Markets; that, in either event, has not been cured or remedied after any required notice has been given and any cure period has elapsed."[268]

Generally speaking, Credit Breach encompasses other failures to satisfy the requirements of the Tariff, Attachment Q, or the Agreements that are not already covered as a Financial Default. It also includes situations in which PJM determines that a Market Participant presents an unreasonable credit risk that has not been cured or remedied. Thus, the definition of Credit Breach ensures that PJM has the authority to exercise remedies and act to protect its markets in situations that are not covered by Financial Default.

c. Credit Support Default

The third class of events that qualify as an Event of Default are Credit Support Defaults. As the name implies, a Credit Support Default occurs when there is a problem with the credit support (a Corporate Guaranty) provided to allow an entity to participate in

---

[267] Tariff, Definitions C-D (definition of Credit Breach).

[268] Proposed Tariff, Definitions C-D (definition of Credit Breach).

the PJM Markets. Any one of the following four events can result in a Credit Support Default:

- Guarantor failing to "make any payment, or to perform, observe, meet or comply with any provisions of the applicable Guaranty or Credit Support Document that has not been cured or remedied," even after notice;

- a Guarantor's representation in any Credit Support Document "that proves to be false, incorrect or misleading in any material respect when made or deemed made;"

- "the failure of a Guaranty or other Credit Support Document to be in full force and effect prior to the satisfaction of all obligations of such Participant to PJM, without PJM's consent;" or

- "a Guarantor repudiating, disaffirming, disclaiming or rejecting, in whole or in part, its obligations under the Guaranty or challenging the validity of the Guaranty."[269]

Because the strength of any Corporate Guaranty is integral to the PJM credit risk evaluation of a Market Participant, PJM must be able to continue to rely on the validity of such a Corporate Guaranty. Any failure of a guarantor to comply with the provisions of the guaranty or to perform its obligations under the guaranty raises a significant risk that, if the Market Participant is unable to meet its obligations, the guarantor will similarly default. Likewise, false statements by a guarantor or repudiation of obligations by the guarantor raise significant credit risks that threaten PJMs markets. If any of these Credit Support Defaults occur, PJM must have the authority to make a Collateral Call, or exercise remedies to protect its markets.

[269] Proposed Tariff, Definitions C-D (definition of Credit Support Default).

2. Revised remedies

The existing Attachment Q language permits PJM to issue a breach notice and/or a Collateral Call to the Market Participant at issue if PJM determines that a Credit Default has occurred.[270] The proposed revisions extend this authority to all Events of Default, including instances of Financial Default and Credit Support Default.[271] In general, throughout the revised Tariff, Attachment Q, section IX (formerly Tariff, Attachment Q, section VI), PJM has added Financial Default and Credit Support Default where the language previously referred only to Credit Default.

In addition, the proposed revisions authorize PJM to issue a "demand for additional documentation or assurances," and PJM "may also suspend payments of any amounts due to the Participant and limit, restrict or rescind the Market Participant's privileges to participate in any or all PJM Markets under the Agreements during any such cure period."[272] Failure to satisfy a demand for additional assurances within the cure period set forth in Operating Agreement, section 15.1.5 is itself an Event of Default under the proposed language.[273] If a defaulting Market Participant rectifies the Event of Default or satisfies a Collateral Call or demand for additional documentation or assurances, then the Participant will again be in compliance with Attachment Q, so long as no other Event of Default or demand for additional documentation or assurances remains outstanding.[274]

---

270 Tariff, Attachment Q, section VI.

271 Proposed Tariff, Attachment Q, section IX.

272 Proposed Tariff, Attachment Q, section IX.

273 Proposed Tariff, Attachment Q, section IX.

274 Proposed Tariff, Attachment Q, section IX.

If an Event of Default is continuing, PJM is authorized to act to exercise remedies and protect its Markets and Members. These actions include: "(a) suspension and/or termination of the Participant's ongoing Transmission service, (b) limitation, suspension and/or termination of participation in any PJM Markets, [and/or] (c) close out and liquidation of the Market Participant's market portfolio, exercising judgment in the manner in which this is achieved in any PJM Markets."[275] The proposed revisions maintain PJM's ability to "liquidate all or a portion of a Participant's Collateral at its discretion to satisfy Total Net Obligations."[276] In addition, the proposed revisions include language preserving PJM's right to utilize more than one remedy in a particular situation, stating that "[n]o remedy for an Event of Default is or shall be deemed to be exclusive of any other available remedy" and "[e]ach such remedy shall be distinct, separate and cumulative."[277]

In addition to the remedies described above, the proposed Tariff revisions provide PJM with authority, when an Event of Default is continuing, to:

> continue to retain all payments due to a Participant as a cash security for all such Participant's obligations under the Agreements (regardless of any restrictions placed on such Participant's use of Collateral for any account, market activity or capitalization purpose); provided, however, that an Event of Default will not be deemed cured or no longer continuing because PJM is retaining amounts due to the Participant, or because PJM has not yet applied Collateral or credit support to any amounts due PJM, unless PJM determines that the Participant has again satisfied all the Collateral requirements and application requirements as a new Applicant for participation in the PJM Markets, and consistent with the requirements and limitations of Operating Agreement, section 15.[278]

[275] Proposed Tariff, Attachment Q, section IX.

[276] Proposed Tariff, Attachment Q, section IX.

[277] Proposed Tariff, Attachment Q, section IX.

[278] Proposed Tariff, Attachment Q, section IX.

Under existing Attachment Q language, PJM has the authority to hold Collateral "for as long as [a defaulting party's] positions exist to protect PJM's membership." To this language, PJM proposes to add two additional bases for holding Collateral: the protection of the PJM Markets, and to "minimize or mitigate the impacts or potential impacts or risks associated with" a continuing Event of Default.[279] PJM proposes to modify its existing authority to hold Collateral, by stating that it may hold the Collateral "until PJM determines that the Participant's positions represent no risk exposure to the PJM Markets or the PJM Members."[280]

As the revised tariff language itself states, PJM requires the authority provided by this provision to protect its Markets and Members from unreasonable credit risks. This authority will enhance PJM's ability to carry out its "gatekeeper" function. As the market operator, PJM has a unique view of the material risks to the overall marketplace (and thus to the PJM Members) connected to one or more Market Participants, and how and whether those risks may reasonably be anticipated to affect the market as a whole. Given its unique vantage point over the entirety of a marketplace, and its responsibility to operate each market in a fair and efficient manner, while protecting the integrity of the market and protecting PJM Members, PJM requires a broad variety of remedies to exercise its market oversight and regulatory mandate to manage and mitigate credit risks. Accordingly, when faced with a Market Participant whose default could presents an unreasonable credit risk to the PJM Markets and PJM Members, PJM must be able to take necessary protective actions, including but not limited to: demanding additional documentation or assurances;

---

[279] Proposed Tariff, Attachment Q, section IX.

[280] Proposed Tariff, Attachment Q, section IX.

suspending or terminating the Market Participant's transmission service; limiting or suspending the Participant's market participation; closing out and liquidating its market portfolio; or retaining payments due to a Participant as security for the Participant's obligations.[281]

I. PJM Is Ensuring Protection in Bankruptcy Contexts by Properly Designating FTRs as Future Contracts and Swap Agreements.

PJM proposes a new section of Attachment Q—section X—to clearly articulate PJM's authority to act in cases where a Market Participant (which includes an FTR Participant) is subject to bankruptcy proceedings. The new language in section X is modeled on language from the ISO-NE Credit Policy.[282]

Section X begins by recognizing that PJM Settlement is the counterparty to all transactions in PJM Markets, aside from "(i) any bilateral transactions between Participants, or (ii) with respect to self-supplied or self-scheduled transactions reported to the Office of the Interconnection."[283] Section X also recognizes that, under a 2013 CFTC order,[284] the CFTC "exempts transactions offered or entered into in a market administered by PJM pursuant to the Tariff, including but not limited to FTR transactions, from the provisions of the Commodity Exchange Act and the CFTC's rules applicable to 'swaps,'

---

281 Proposed Tariff, Attachment Q, section VIII.

282 *See* ISO-NE Credit Policy at section XI.H.

283 Proposed Tariff, Attachment Q, section X.

284 *Final Order in Response to a Petition From Certain Independent System Operators and Regional Transmission Organizations To Exempt Specified Transactions Authorized by a Tariff or Protocol Approved by the Federal Energy Regulatory Commission or the Public Utility Commission of Texas From Certain Provisions of the Commodity Exchange Act Pursuant to the Authority Provided in the Act*, 78 Fed. Reg. 19,880 (Apr. 2, 2013).

with the exception of the CFTCs general anti-fraud and anti-manipulation authority and scienter-based prohibitions."[285]

Section X draws a distinction between the CFTC's treatment of FTR transactions in the PJM Markets under the Commodity Exchange Act and the treatment of FTR transactions under the Bankruptcy Code. The new language classifies FTR transactions as "forward contracts" and/or "swap agreements" within the meaning of the Bankruptcy Code,[286] and confirms that "PJM and each FTR Participant is a 'forward contract merchant' and/or a 'swap participant' within the meaning of the Bankruptcy Code for the purposes of FTR transactions,"[287] to enable PJM and/or PJMSettlement to terminate the transactions, set off obligations, or liquidate positions, as necessary, should PJM and/or PJMSettlement face a situation in which a Market Participant has entered bankruptcy proceedings. Ordinarily, the automatic stay in bankruptcy would prevent termination, liquidation, or set off of contract rights. Therefore, including language in the Tariff confirming that FTR transactions are "forward contracts" and/or "swap agreements," as those terms are defined in the Bankruptcy Code, preserves PJM's flexibility to act even in cases in which the Market Participant has entered bankruptcy proceedings.

Specifically, section X clarifies that PJM "has, and shall continue to have" certain enumerated rights (among others) when a Market Participant defaults.[288] These rights include:

---

285 Proposed Tariff, Attachment Q, section X.

286 Proposed Tariff, Attachment Q, section X.

287 Proposed Tariff, Attachment Q, section X.

288 Proposed Tariff, Attachment Q, section X.

- The right to terminate and/or liquidate any FTR transaction held by that Market Participant;
- The right to immediately proceed against any Collateral provided by the Market Participant;
- The right to set off any obligations due or owing to that Market Participant pursuant to any forward contract, swap agreement, or similar agreement against any amounts due and owing by that Market Participant pursuant to any forward contract, swap agreement, or similar agreement, such arrangement to constitute a "master netting agreement" within the meaning of the Bankruptcy Code; and
- The right to suspend or limit that Market Participant from entering into further FTR transactions.[289]

This Tariff language provides PJM the ability to protect its markets in the Event of Default by a Market Participant. The rights to terminate and liquidate a defaulting Market Participant's positions, immediately proceed against any Collateral provided by the Market Participant, and set off obligations that may be due or owing to a Market Participant now or in the future, including contingent obligations, against amounts that may be due or owing by the Market Participant, are necessary to enable PJM to promptly mitigate the impact of a default on the market. The right to suspend or limit a defaulting Market Participant's ability to enter into further transactions is an obviously important remedy as well, to allow PJM to prevent that Market Participant from entering the markets and increasing its market exposure until such time as PJM can determine that the Market Participant is financially sound and capable of managing the risks of its positions.

New section X makes clear that PJM maintains the rights and its ability to exercise the remedies discussed above, even "upon the commencement of a voluntary or involuntary proceeding for a Participant under the Bankruptcy Code."[290] Because an entity in

[289] Proposed Tariff, Attachment Q, section X.

[290] Proposed Tariff, Attachment Q, section X.

bankruptcy may try to assume certain agreements and reject others, section X states, "all transactions, including but not limited to FTR transactions, between PJM, on the one hand, and a Market Participant, on the other hand, are intended to be part of a single integrated agreement, and together with the Agreements constitute a 'master netting agreement.'"[291]

J. *To Appropriately Mitigate Unreasonable Credit Risk, PJM Is Revising Its Governing Documents to Provide Explicit Authority to Suspend or Terminate the Ability to Transact or Otherwise Participate in PJM's Markets.*

Part and parcel of PJM's ability to react to information it learns through the Know Your Customer process is the authority to suspend or terminate Market Participants in order to protect its markets from unreasonable credit risks. The Commission recognized this authority as part of the "gatekeeper" function of RTOs in *LPGNY* and *NYISO*. In *LPGNY*, the NYISO prevented LPGNY from entering its markets because LPGNY's predecessor, North Energy, had defaulted and had "outstanding and unpaid obligations to NYISO."[292] While LPGNY contended that it should not be treated as the same entity as North Energy and therefore should not be prevented from participating in NYISO's markets due to North Energy's default, the Commission held that "treating LPGNY and North Energy as the same Transmission Customer is consistent with the Commission's goals in the *Policy Statement on Electric Creditworthiness*, i.e., to protect the organized wholesale electric markets, and ultimately customers, from default by market participants."[293] The Commission emphasized that in the Policy Statement, it determined that RTOs "essentially

---

291 Proposed Tariff, Attachment Q, section X.

292 *LPGNY*, 167 FERC ¶ 61,232, at P 5.

293 *LPGNY*, 167 FERC ¶ 61,232, at P 42.

serve as gatekeepers" and "the goal of reducing [] mutualized default risk is an important one."[294] In the *LPGNY* case, the gatekeeper function ultimately meant that NYISO could find that LPGNY and North Energy were the same entity, and hold LPGNY's application in abeyance on that basis, thereby preventing LPGNY from accessing NYISO's markets. Likewise, in *NYISO*, the Commission accepted revisions to NYISO's tariff "to protect its customers from financial losses that result from unreasonable credit risks and defaults."[295]

Accordingly, PJM proposes to revise Operating Agreement, section 15.1.1 to provide PJM with the authority to limit, suspend, or terminate participation of Market Participants in the PJM Markets, when PJM determines the Market Participant is no longer meeting its obligations under the Tariff, Operating Agreement, or other PJM governing document. These modifications extend the already-existing authority to terminate participation rights of Market Buyers in section 15.1.1 to all Market Participants. Indeed, adding authority to limit and suspend the activity of all Market Participants allows PJM to impose penalties less severe than termination, though the revisions extend the violations for which these remedies may apply to include situations in which the Market Participant does not meet obligations "set forth in any of the Agreements, including but not limited to the obligation to be in compliance with the terms or operating characteristics of any of its prior scheduled transactions in any market operated by PJM, the creditworthiness requirements set forth in Tariff, Attachment Q and/or the obligation to make timely payment."[296]

---

294 *LPGNY*, 167 FERC ¶ 61,232, at P 42 (citing Policy Statement at PP 18-19).

295 *NYISO*, 170 FERC ¶ 61,054, at P 27.

296 Proposed Operating Agreement, section 15.1.1.

If PJM determines that limitation, suspension, or termination of a Market Participant's market activity is necessary, PJM and/or PJM Settlement must notify the affected Market Participant and provide a reasonable opportunity to cure under Operating Agreement, section 15.1.3. Market Participants subject to limitation, suspension, or termination will be reinstated "upon a determination by PJM and/or PJMSettlement that the Market Participant has satisfied the applicable requirements and is in compliance with the obligations set forth in the Agreements."[297] These modifications provide PJM the authority to flexibly adapt remedies to address the unreasonable credit risks posed, and avoid a "cookie cutter" approach that may limit PJM's ability to appropriately address certain violations, or may compel termination of a Market Participant's market activity, when a less draconian remedy could be appropriate. It is possible that, in some circumstances, a penalty less severe than termination is preferable to ensure the reliable operation of the grid or efficient functioning of the PJM Markets, such as in cases where terminating market participation or immediately liquidating market transactions could result in a risk to reliability, could temporarily leave end use customers without electricity, or could disproportionately harm smaller Market Participants.

Similarly, new language in the Operating Agreement, Schedule 1, section 1.4.7 states that "[i]f the Office of the Interconnection determines that the entity no longer satisfies its requirements to be a Market Participant, the Office of the Interconnection may limit and/or suspend that entity's activity in the PJM Markets until such time as it can satisfy the requirements, and if the requirements are not satisfied the Office of the

[297] Proposed Operating Agreement, section 15.1.1.

Interconnection may terminate that entity's approval to be a Market Participant."[298] This authority to limit, suspend, or terminate a Market Participant based on a determination that the applicant does not satisfy applicable requirements parallels the authority in the proposed revisions to Operating Agreement, section 15.1.1, discussed above.

Proposed language in Operating Agreement, Schedule 1, section 1.4.7 also requires the Office of the Interconnection to provide notice to an entity subject to suspension or termination, as well as notice to the Members Committee, including "whether there are any actions the entity can take that might cause the Office of the Interconnection to change its determination, including but not limited to providing even further additional information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes."[299] Additionally, section 1.4.7 provides an entity subject to termination with a right to seek "reconsideration or other action" provided such request is submitted to the Office of Interconnection within 30 calendar days from the initial notification to the Members Committee. This provision ensures that an entity subject to suspension or termination by the Office of the Interconnection understands the reasons for that action and has an opportunity, where appropriate, to seek reconsideration.

New Operating Agreement, Schedule 1, section 1.4.8 clarifies that an Applicant that previously defaulted on obligations owed to PJM and/or PJM Settlement, which resulted in an uncured loss to the market, is ineligible for reinstatement under Operating

---

[298] Proposed Operating Agreement, Schedule 1, section 1.4.7.

[299] Proposed Operating Agreement, Schedule 1, section 1.4.7.

Agreement, section 15.1 and will not be permitted to re-enter the PJM Markets.[300] Consistent with the Commission's decision in *LPGNY*, in which the Commission upheld NYISO's determination to treat LPGNY and North Energy as a single entity and prevent entry into NYISO's markets, proposed Operating Agreement, Schedule 1, section 1.4.8 makes clear that "PJM will evaluate relevant factors to determine if an Applicant seeking to participate in the PJM Markets under a different name, affiliation, or organization, should be treated as the same Market Participant that experienced a previous default that resulted in a loss to the PJM Markets under this provision."[301] PJM may consider "the interconnectedness of the business relationships, overlap in relevant personnel, similarity of business activities, overlap of customer base, and the business engaged in prior to the attempted re-entry," though PJM is not limited to these factors.[302] The Commission accepted nearly identical language in a recent NYISO filing.[303]

Furthermore, the Membership Requirements in Operating Agreement, section 11.6(a) incorporate a new provision stating that, to qualify as a Member, an Applicant must cure any outstanding default, "including but not limited to paying all outstanding and unpaid obligations due to PJM and/or PJMSettlement by any former Member that is an Affiliate of the Applicant, if any, as required by PJM and/or PJMSettlement based on its evaluation of the membership application."[304]

---

[300] Proposed Operating Agreement, Schedule 1, section 1.4.8.

[301] Proposed Operating Agreement, Schedule 1, section 1.4.8.

[302] Proposed Operating Agreement, Schedule 1, section 1.4.8.

[303] *See generally NYSIO*, 170 FERC ¶ 61,054.

[304] Proposed Operating Agreement, section 11.6(a)(iii).

Revised Operating Agreement, section 11.6(c) provides PJM and/or PJM Settlement with authority to reasonably seek additional data in support of a membership application beyond the Applicant's qualifications for membership.[305] The revised language also sets forth the criteria for PJM's review of membership applications:

> [a]mong other things, PJM will evaluate the application to determine whether the entity seeking to become a Member (i) is qualified for membership, (ii) satisfies the requirements for participation in one of the sectors in accordance with Operating Agreement, section 8.1, and/or (iii) presents any unreasonable, inherent or material risks to PJM, including but not limited to unreasonable credit risk pursuant to Tariff, Attachment Q that cannot be cured by posting Collateral or credit support commensurate with the risk of the anticipated market activity of the Applicant to the PJM Markets and PJM Members. Such review shall include an examination of whether the Applicant should be treated as a former Member that experienced an outstanding default in PJM, including but not limited to the interconnectedness of the business relationships, overlap in relevant personnel, similarity of business activities, overlap of customer base, and the business engaged in prior to the attempted re-entry, and other relevant factors.[306]

PJM must decide whether to accept an Applicant for membership "within ninety (90) days after receipt of all documentation and information required by the Agreements and/or requested by PJM and/or PJMSettlement in the consideration of the application for membership."[307] If the President of PJM denies an application, the Applicant will receive a written explanation of the denial.[308] Additionally, revised section 11.6(c) provides an Applicant with the right to appeal a denial of membership to FERC. PJM's written

---

305 *See* proposed Operating Agreement, section 11.6(c).

306 Proposed Operating Agreement, section 11.6(c).

307 Proposed Operating Agreement, section 11.6(c).

308 Proposed Operating Agreement, section 11.6(c).

explanation of the denial could be used by the Applicant to "form a record before a Commission proceeding if necessary."[309]

Like the provisions discussed above governing limitation, suspension and termination of a Market Participant's market activity, the proposed revisions to Operating Agreement, section 11.6(c) empower PJM to carry out its function of protecting the integrity of its markets, by taking action to prevent entry at the application stage, or suspending or terminating existing Market Participants, should unreasonable credit risks become apparent in the application.

K. PJM Is Also Making Various Miscellaneous Changes to the Tariff and Operating Agreement to Properly Implement the Proposal.

In addition to the above topical changes, PJM is proposing a number of smaller changes to carry these credit risk policy revisions through the rest of the Tariff and Operating Agreement. Thus, PJM is updating Operating Agreement, Schedule 1, section 1.4, which currently sets forth the rules for being a "Market Buyer" in the PJM Markets, to set forth the requirements to be a "Market Participant," including meeting all the credit risk requirements in Tariff, Attachment Q.[310] For the same reason, PJM is updating Tariff, Attachment DD, sections 4.4 and 5.5 to clarify that participation in PJM's capacity market requires compliance with PJM's Credit Risk Policy in Tariff, Attachment Q.[311]

---

[309] *MISO*, 170 FERC ¶ 61,257, at P 8.

[310] *See* proposed Operating Agreement, Schedule 1, section 1.4.

[311] *See* proposed Tariff, Attachment DD, sections 4.4 & 5.5.

PJM is also making some ministerial changes throughout the revised Tariff and Operating Agreement sections. Specifically, PJM is updating the outdated references to the "Office of the Interconnection" to refer simply to PJM, and similarly is updating reference to the "Credit Policy" to the "Credit Risk Management Policy" or "Attachment Q."[312]

As formally recognized in the Introduction of PJM's revised Credit Risk Policy, "[g]iven the interconnectedness and overlapping of their responsibilities, PJM Interconnection, L.L.C. and PJM Settlement, Inc. are referred to both individually and collectively [in Attachment Q] as 'PJM.'"[313]

Finally, as part of PJM's ongoing effort to standardize citations and cross-references in its governing documents, PJM is taking this opportunity to make various corrections to Tariff and Operating Agreement references, and other non-substantive changes through each of the eTariff sections included in this filing to apply PJM's standard formatting for references to Tariff and Operating Agreement sections.

III. STAKEHOLDER PROCESS

The proposed revisions were discussed and developed in the PJM FRMSTF during numerous meetings held from May 2, 2019 to January 13, 2020.[314] The proposal received 64 percent support as part of the Financial Risk Mitigation Senior Task Force poll.[315] PJM

---

312 *See, e.g.*, proposed Tariff, Attachment DD, section 5.6.

313 Proposed Tariff, Attachment Q, section I.

314 *See* Financial Risk Mitigation Senior Task Force, *Meeting Materials*, PJM Interconnection, L.L.C., https://www.pjm.com/committees-and-groups/task-forces/frmstf.aspx.

315 *See* Nigeria Bloczynski, *FRMSTF Voting Results: PJM Market Participating Risk Evaluation Enhancements*, PJM Interconnection, L.L.C., 2 (Dec. 17, 2019), https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20191217/20191217-item-03-1-voting-results-presentation.ashx.

first posted draft Tariff and Operating Agreement revisions on December 12, 2019, five days in advance of the December 17, 2019 FRMSTF meeting, where PJM went over the draft revisions and asked stakeholders to provide written feedback by January 6, 2020, so that PJM may assess, and where appropriate incorporate, those changes before discussion of the revisions at the January 13, 2020 FRMSTF meeting. On January 9 and 10, PJM posted a revised set of changes, which were discussed at the January 13, 2020 FRMSTF meeting. Following that meeting, stakeholders provided PJM with extensive, detailed, written and oral comments from individual stakeholders on those changes.

PJM presented the revisions to the Markets and Reliability Committee at its December 19, 2019 meeting. Following the January 13, 2020 FRMSTF meeting and in response to stakeholder feedback, PJM made additional revisions to the draft Tariff and Operating Agreement provisions. PJM presented these revisions for further discussion with stakeholders at two special Markets and Reliability Committee meetings held for the sole purpose of discussing in detail the proposed revisions on February 26, 2020 and March 13, 2020.[316] Indeed, these meetings were specifically "page turns" where PJM methodically went through the revisions and stakeholders were free to raise any and all concerns. In addition, following each special session, PJM received additional extensive, detailed, written and oral comments from individual stakeholders.

In all, PJM posted for stakeholder review various iterations of the draft Tariff and

---

316 *See* Markets and Reliability Committee, *MRC Special Session – Market Participant Risk Evaluation & Enhancement Page Turn*, PJM Interconnection, L.L.C. (Feb. 26, 2020), https://www.pjm.com/committees-and-groups/committees/mrc.aspx; Markets and Reliability Committee, *MRC Special Session – Market Participant Risk Evaluation & Enhancement Page Turn*, PJM Interconnection, L.L.C. (Mar. 13, 2020), https://www.pjm.com/committees-and-groups/committees/mrc.aspx.

Operating Agreement revisions on five occasions: December 12, 2019; January 9 and 10, 2020; February 19, 2020; March 10, 2020; and March 19, 2020.

The Markets and Reliability Committee overwhelmingly endorsed the revisions to the Tariff and Operating Agreement by with a Sector-weighted vote of 4.5 in favor and 0.5 against at its March 26, 2020 meeting. The Members Committee overwhelmingly endorsed the revisions to the Tariff and approved the revisions to the Operating Agreement by acclamation with one objection and three abstentions at its March 26, 2020 meeting.

To be clear, as is evident from the schedule outlined above, PJM gave its stakeholders much more time than usual (or even than it is required to do under its stakeholder process) to consider the proposed revisions. PJM recognized that additional time was warranted given the breadth of the revisions and to ensure that PJM could accommodate stakeholder issues where opportunities were available. To that end, in response to stakeholder feedback, PJM twice delayed putting these revisions up for a formal vote. Such delay provided stakeholders an additional two months to review and provide feedback on the proposed revisions since PJM first posted the draft language in early December 2019. Thus, stakeholders were provided significantly more time than usual to review language and comment on draft tariff revisions. PJM also used that time to review and consider stakeholder feedback and PJM found that many of the requested revisions were acceptable to PJM or the broader membership. In short, PJM and stakeholders engaged in a more robust than usual stakeholder process to develop the enclosed revisions to PJM's credit rules.

IV. EFFECTIVE DATE

PJM requests that the Commission issue an order by no later than May 30, 2020, which is 60 days from the date of this filing, with an effective date of June 1, 2020, for the proposed revisions, which is 62 days from the date of filing.

It is important that PJM receive an order from the Commission by May 30, 2020 so that the new rules will be in place for its upcoming long-term Financial Transmission Rights auction that is scheduled to commence on June 2, 2020. There are currently many companies rushing to become PJM Members under the current rules. One can only presume, and PJM is concerned, that the rush might be to put off satisfying the new requirements, such as the new requirements to pay for a default of a related entity before reinstatement as a Market Participant, or to provide PJM with additional Know Your Customer disclosures, or any of the other provisions that are not as robust under the PJM credit policies in effect today as they will be once the revisions herein are implemented. Our stakeholders are similarly concerned, as evidenced by the overwhelming support PJM received for moving forward expeditiously with these amendments. Not having the new rules in place prior to the June 2020 long-term FTR auction will increase the risk of having a default in the future—and that is not something PJM or its Members can risk. Accordingly, it is critical for PJM to get the proposed revisions in place in advance of that auction.

V. DOCUMENTS ENCLOSED

PJM enclosed the following:

1. This transmittal letter;
2. Attachment A: Revised sections of the Tariff (redlined version);

3. Attachment B: Revised sections of the Tariff (clean version);

4. Attachment C: Revised sections of the Operating Agreement (redlined version);

5. Attachment D: Revised sections of the Operating Agreement (clean version); and

6. Attachment E: Affidavit of Mr. Steven Dreyer on Behalf of PJM Interconnection, L.L.C.

VI. COMMUNICATIONS

Correspondence and communications with respect to this filing should be sent to the following persons:

Craig Glazer
Vice President – Federal Government Policy
PJM Interconnection, L.L.C.
1200 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 423-4743
Craig.Glazer@pjm.com

Jacqulynn B. Hugee
Senior Director & Managing Counsel
PJM Interconnection, L.L.C.
2750 Monroe Boulevard
Audubon, PA 19403
(610) 666-8208
Jacqulynn.Hugee@pjm.com

Paul M. Flynn
Andrew T. Swers
Ryan J. Collins
Wright & Talisman, P.C.
1200 G Street, N.W., Suite 600
Washington, DC 20005
(202) 393-1200
flynn@wrightlaw.com
swers@wrightlaw.com
collins@wrightlaw.com

VII. 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,[317] PJM will post a copy of this filing to

[317] *See* 18 C.F.R. §§ 35.2(e) and 385.2010(f)(3).

the FERC filings section of its internet site, located at the following link: http://www.pjm.com/documents/ferc-manuals/ferc-filings.aspx with a specific link to the newly-filed document, and will send an email on the same date as this filing to all PJM Members and all state utility regulatory commissions in the PJM Region[318] 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.

Also, a copy of this filing will be available on the Commission's eLibrary website located at the following link: http:/www.ferc.gov/docs-filing/elibrary.aspx in accordance with the Commission's regulations and Order No. 714.[319]

---

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

[319] *Electronic Tariff Filings*, Order No. 714, 124 FERC ¶ 61,270 (2008), *final rule*, Order No. 714-A, 147 FERC ¶ 61,115 (2014).

VIII. CONCLUSION

PJM respectfully requests that the Commission accept Tariff and Operating Agreement changes submitted in this filing.

Respectfully submitted,

/s/ *Ryan J. Collins*

Craig Glazer
Vice President – Federal Government Policy
PJM Interconnection, L.L.C.
1200 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 423-4743
craig.glazer@pjm.com

Paul M. Flynn
Andrew T. Swers
Ryan J. Collins
Wright & Talisman, P.C.
1200 G Street, N.W., Suite 600
Washington, DC 20005
(202) 393-1200
flynn@wrightlaw.com
swers@wrightlaw.com
collins@wrightlaw.com

Jacqulynn B. Hugee
Senior Director & Managing Counsel
PJM Interconnection, L.L.C.
2750 Monroe Boulevard
Audubon, PA 19403
(610) 666-8208
Jacqulynn.Hugee@pjm.com

Counsel for
PJM Interconnection, L.L.C.

March 31, 2020

Attachment A

Revisions to the
PJM Open Access Transmission Tariff

(Marked/Redline Format)

Definitions – A - B

Abnormal Condition:

"Abnormal Condition" shall mean any condition on the Interconnection Facilities which, determined in accordance with Good Utility Practice, is: (i) outside normal operating parameters such that facilities are operating outside their normal ratings or that reasonable operating limits have been exceeded; and (ii) could reasonably be expected to materially and adversely affect the safe and reliable operation of the Interconnection Facilities; but which, in any case, could reasonably be expected to result in an Emergency Condition. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not, standing alone, constitute an Abnormal Condition.

Acceleration Request:

"Acceleration Request" shall mean a request pursuant to Operating Agreement, Schedule 1, section 1.9.4A, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.9.4A, to accelerate or reschedule a transmission outage scheduled pursuant to Operating Agreement, Schedule 1, section 1.9.2 or Operating Agreement, Schedule 1, section 1.9.4, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.9.2 or Tariff, Attachment K-Appendix, section 1.9.4.

Additional Day-ahead Scheduling Reserves Requirement:

"Additional Day-ahead Scheduling Reserves Requirement" shall mean the portion of the Day-ahead Scheduling Reserves Requirement that is required in addition to the Base Day-ahead Scheduling Reserves Requirement to ensure adequate resources are procured to meet real-time load and operational needs, as specified in the PJM Manuals.

Affected System:

"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.

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.

Affiliate:

"Affiliate" shall mean any two or more entities, one of which C~~c~~ontrols the other or that are under common C~~c~~ontrol. "Control," as that term is used in this definition, shall mean the possession, directly or indirectly, of the power to direct the management or policies of an entity.

Ownership of publicly-traded equity securities of another entity shall not result in C~~c~~ontrol or affiliation for purposes of the Tariff or Operating Agreement if the securities are held as an investment, the holder owns (in its name or via intermediaries) less than 10 percent (10%) of the outstanding securities of the entity, the holder does not have representation on the entity's board of directors (or equivalent managing entity) or vice versa, and the holder does not in fact exercise influence over day-to-day management decisions. Unless the contrary is demonstrated to the satisfaction of the Members Committee, C~~c~~ontrol shall be presumed to arise from the ownership of or the power to vote, directly or indirectly, ten percent or more of the voting securities of such entity.

Agreements:

"Agreements" shall mean the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C., the PJM Open Access Transmission Tariff, the Reliability Assurance Agreement, and/or other agreements between PJM Interconnection, L.L.C. and its Members.

Ancillary Services:

"Ancillary Services" shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.

Annual Demand Resource:

"Annual Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Annual Energy Efficiency Resource:

"Annual Energy Efficiency Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Annual Resource:

"Annual Resource" shall mean a Generation Capacity Resource, an Annual Energy Efficiency Resource or an Annual Demand Resource.

Annual Resource Price Adder:

"Annual Resource Price Adder" shall mean, for Delivery Years starting June 1, 2014 and ending May 31, 2017, an addition to the marginal value of Unforced Capacity and the Extended Summer Resource Price Adder as necessary to reflect the price of Annual Resources required to meet the applicable Minimum Annual Resource Requirement.

Annual Revenue Rate:

"Annual Revenue Rate" shall mean the rate employed to assess a compliance penalty charge on a Curtailment Service Provider under Tariff, Attachment DD, section 11.

Annual Transmission Costs:

"Annual Transmission Costs" shall mean the total annual cost of the Transmission System for purposes of Network Integration Transmission Service shall be the amount specified in Attachment H for each Zone until amended by the applicable Transmission Owner or modified by the Commission.

Applicable Laws and Regulations:

"Applicable Laws and Regulations" shall mean all duly promulgated applicable federal, State and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority having jurisdiction over the relevant parties, their respective facilities, and/or the respective services they provide.

Applicable Regional Entity:

"Applicable Regional Entity" shall mean the Regional Entity for the region in which a Network Customer, Transmission Customer, New Service Customer, or Transmission Owner operates.

Applicable Standards:

"Applicable Standards" shall mean the requirements and guidelines of NERC, the Applicable Regional Entity, and the Control Area in which the Customer Facility is electrically located; the PJM Manuals; and Applicable Technical Requirements and Standards.

Applicable Technical Requirements and Standards:

"Applicable Technical Requirements and Standards" shall mean those certain technical requirements and standards applicable to interconnections of generation and/or transmission facilities with the facilities of an Interconnected Transmission Owner or, as the case may be and to the extent applicable, of an Electric Distributor, as published by Transmission Provider in a PJM Manual provided, however, that, with respect to any generation facilities with maximum generating capacity of 2 MW or less (synchronous) or 5 MW or less (inverter-based) for which the Interconnection Customer executes a Construction Service Agreement or Interconnection Service Agreement on or after March 19, 2005, "Applicable Technical Requirements and Standards" shall refer to the "PJM Small Generator Interconnection Applicable Technical Requirements and Standards." All Applicable Technical Requirements and Standards shall be publicly available through postings on Transmission Provider's internet website.

Applicant:

"Applicant" shall mean an entity desiring to become a PJM Member, become a Market

Participant, engage in market activities, or to take Transmission Service that has submitted the PJMSettlement credit application, PJMSettlement credit agreement and other required submittals as set forth in Tariff, Attachment Q.

Application:

"Application" shall mean a request by an Eligible Customer for transmission service pursuant to the provisions of the Tariff.

Attachment Facilities:

"Attachment Facilities" shall mean the facilities necessary to physically connect a Customer Facility to the Transmission System or interconnected distribution facilities.

Attachment H:

"Attachment H" shall refer collectively to the Attachments to the PJM Tariff with the prefix "H-" that set forth, among other things, the Annual Transmission Rates for Network Integration Transmission Service in the PJM Zones.

Auction Revenue Rights:

"Auction Revenue Rights" or "ARRs" shall mean the right to receive the revenue from the Financial Transmission Right auction, as further described in Operating Agreement, Schedule 1, section 7.4, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.

Auction Revenue Rights Credits:

"Auction Revenue Rights Credits" shall mean the allocated share of total FTR auction revenues or costs credited to each holder of Auction Revenue Rights, calculated and allocated as specified in Operating Agreement, Schedule 1, section 7.4.3, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.3.

Authorized Government Agency:

"Authorized Government Agency" means a regulatory body or government agency, with jurisdiction over PJM, the PJM Market, or any entity doing business in the PJM Market, including, but not limited to, the Commission, State Commissions, and state and federal attorneys general.

Avoidable Cost Rate:

"Avoidable Cost Rate" shall mean a component of the Market Seller Offer Cap calculated in accordance with Tariff, Attachment DD, section 6.

Balancing Congestion Charges:

"Balancing Congestion Charges" shall be equal to the sum of congestion charges collected from Market Participants that are purchasing energy in the Real-time Energy Market minus [the sum of congestion charges paid to Market Participants that are selling energy in the Real-time Energy Market plus any congestion charges calculated pursuant to the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 38), plus any congestion charges calculated pursuant to the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45), plus any congestion charges calculated pursuant to agreements between the Office of the Interconnection and other entities, plus any charges or credits calculated pursuant to Operating Agreement, Schedule 1, section 3.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 3.8, as applicable)].

Balancing Ratio:

"Balancing Ratio" shall have the meaning provided in Tariff, Attachment DD, section 10A.

Base Capacity Demand Resource:

"Base Capacity Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Base Capacity Demand Resource Constraint:

"Base Capacity Demand Resource Constraint" for the PJM Region or an LDA, shall mean, for the 2018/2019 and 2019/2020 Delivery Years, the maximum Unforced Capacity amount, determined by PJM, of Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources that is consistent with the maintenance of reliability. As more fully set forth in the PJM Manuals, PJM calculates the Base Capacity Demand Resource Constraint for the PJM Region or an LDA, by first determining a reference annual loss of load expectation ("LOLE") assuming no Base Capacity Resources, including no Base Capacity Demand Resources or Base Capacity Energy Efficiency Resources. The calculation for the PJM Region uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast and iteratively shifting the load distributions to result in the Installed Reserve Margin established for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). The calculation for each relevant LDA uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). For the relevant LDA calculation, the weekly capacity distributions are adjusted to reflect the Capacity Emergency Transfer Limit for the Delivery Year in question.

For both the PJM Region and LDA analyses, PJM then models the commitment of varying amounts of Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources (displacing otherwise committed generation) as interruptible from June 1 through September 30 and unavailable the rest of the Delivery Year in question and calculates the LOLE at each DR and EE level. The Base Capacity Demand Resource Constraint is the combined amount of Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources, stated as a percentage of the unrestricted annual peak load, that produces no more than a five percent increase in the LOLE, compared to the reference value. The Base Capacity Demand Resource Constraint shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

Base Capacity Demand Resource Price Decrement:

"Base Capacity Demand Resource Price Decrement" shall mean, for the 2018/2019 and 2019/2020 Delivery Years, a difference between the clearing price for Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources and the clearing price for Base Capacity Resources and Capacity Performance Resources, representing the cost to procure additional Base Capacity Resources or Capacity Performance Resources out of merit order when the Base Capacity Demand Resource Constraint is binding.

Base Capacity Energy Efficiency Resource:

"Base Capacity Energy Efficiency Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Base Capacity Resource:

"Base Capacity Resource" shall mean a Capacity Resource as described in Tariff, Attachment DD, section 5.5A(b).

Base Capacity Resource Constraint:

"Base Capacity Resource Constraint" for the PJM Region or an LDA, shall mean, for the 2018/2019 and 2019/2020 Delivery Years, the maximum Unforced Capacity amount, determined by PJM, of Base Capacity Resources, including Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources, that is consistent with the maintenance of reliability. As more fully set forth in the PJM Manuals, PJM calculates the above Base Capacity Resource Constraint for the PJM Region or an LDA, by first determining a reference annual loss of load expectation ("LOLE") assuming no Base Capacity Resources, including no Base Capacity Demand Resources or Base Capacity Energy Efficiency Resources. The calculation for the PJM Region uses the weekly load distribution from the Installed Reserve Margin study for the Delivery Year in question (based on the most recent load forecast and iteratively shifting the load distributions to result in the Installed Reserve Margin established for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). The calculation for each relevant LDA uses a weekly load distribution (based on the

Installed Reserve Margin study and the most recent load forecast for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). For the relevant LDA calculation, the weekly capacity distributions are adjusted to reflect the Capacity Emergency Transfer Limit for the Delivery Year in question. Additionally, for the PJM Region and relevant LDA calculation, the weekly capacity distributions are adjusted to reflect winter ratings.

For both the PJM Region and LDA analyses, PJM models the commitment of an amount of Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources equal to the Base Capacity Demand Resource Constraint (displacing otherwise committed generation). PJM then models the commitment of varying amounts of Base Capacity Resources (displacing otherwise committed generation) as unavailable during the peak week of winter and available the rest of the Delivery Year in question and calculates the LOLE at each Base Capacity Resource level. The Base Capacity Resource Constraint is the combined amount of Base Capacity Demand Resources, Base Capacity Energy Efficiency Resources and Base Capacity Resources, stated as a percentage of the unrestricted annual peak load, that produces no more than a ten percent increase in the LOLE, compared to the reference value. The Base Capacity Resource Constraint shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [one minus the pool-wide average EFORd] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

Base Capacity Resource Price Decrement:

"Base Capacity Resource Price Decrement" shall mean, for the 2018/2019 and 2019/2020 Delivery Years, a difference between the clearing price for Base Capacity Resources and the clearing price for Capacity Performance Resources, representing the cost to procure additional Capacity Performance Resources out of merit order when the Base Capacity Resource Constraint is binding.

Base Day-ahead Scheduling Reserves Requirement:

"Base Day-ahead Scheduling Reserves Requirement" shall mean the thirty-minute reserve requirement for the PJM Region established consistent with the Applicable Standards, plus any additional thirty-minute reserves scheduled in response to an RTO-wide Hot or Cold Weather Alert or other reasons for conservative operations.

Base Load Generation Resource

"Base Load Generation Resource" shall mean a Generation Capacity Resource that operates at least 90 percent of the hours that it is available to operate, as determined by the Office of the Interconnection in accordance with the PJM Manuals.

Base Offer Segment:

"Base Offer Segment" shall mean a component of a Sell Offer based on an existing Generation Capacity Resource, equal to the Unforced Capacity of such resource, as determined in accordance with the PJM Manuals. If the Sell Offers of multiple Market Sellers are based on a single Existing Generation Capacity Resource, the Base Offer Segments of such Market Sellers shall be determined pro rata based on their entitlements to Unforced Capacity from such resource.

Base Residual Auction:

"Base Residual Auction" shall mean the auction conducted three years prior to the start of the Delivery Year to secure commitments from Capacity Resources as necessary to satisfy any portion of the Unforced Capacity Obligation of the PJM Region not satisfied through Self-Supply.

Batch Load Demand Resource:

"Batch Load Demand Resource" shall mean a Demand Resource that has a cyclical production process such that at most times during the process it is consuming energy, but at consistent regular intervals, ordinarily for periods of less than ten minutes, it reduces its consumption of energy for its production processes to minimal or zero megawatts.

Behind The Meter Generation:

"Behind The Meter Generation" shall refer to a generation unit that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities has consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of the Interconnection); provided, however, that Behind The Meter Generation does not include (i) at any time, any portion of such generating unit's capacity that is designated as a Generation Capacity Resource; or (ii) in an hour, any portion of the output of such generating unit that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market.

Black Start Service:

"Black Start Service" shall mean the capability of generating units to start without an outside electrical supply or the demonstrated ability of a generating unit with a high operating factor (subject to Transmission Provider concurrence) to automatically remain operating at reduced levels when disconnected from the grid.

Border Yearly Charge:

"Border Yearly Charge" shall mean the yearly charge determined in accordance with Tariff, Schedule 7.

Breach:

"Breach" shall mean the failure of a party to perform or observe any material term or condition of Tariff, Part IV or Tariff, Part VI, or any agreement entered into thereunder as described in the relevant provisions of such agreement.

Breaching Party:

"Breaching Party" shall mean a party that is in Breach of Tariff, Part IV or Tariff, Part VI and/or an agreement entered into thereunder.

Business Day:

"Business Day" shall mean a day in which the Federal Reserve System is open for business and is not a scheduled PJM holiday.

Buy Bid:

"Buy Bid" shall mean a bid to buy Capacity Resources in any Incremental Auction.

Definitions – C-D

Canadian Guaranty:

"Canadian Guaranty" shall mean a Corporate Guaranty provided by an Affiliate of a Participant that is domiciled in Canada, and meets all of the provisions of Tariff, Attachment Q.

Cancellation Costs:

"Cancellation Costs" shall mean costs and liabilities incurred in connection with: (a) cancellation of supplier and contractor written orders and agreements entered into to design, construct and install Attachment Facilities, Direct Assignment Facilities and/or Customer-Funded Upgrades, and/or (b) completion of some or all of the required Attachment Facilities, Direct Assignment Facilities and/or Customer-Funded Upgrades, or specific unfinished portions and/or removal of any or all of such facilities which have been installed, to the extent required for the Transmission Provider and/or Transmission Owner(s) to perform their respective obligations under Tariff, Part IV and/or Tariff, Part VI.

Capacity:

"Capacity" shall mean the installed capacity requirement of the Reliability Assurance Agreement or similar such requirements as may be established.

Capacity Emergency Transfer Limit:

"Capacity Emergency Transfer Limit" or "CETL" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Emergency Transfer Objective:

"Capacity Emergency Transfer Objective" or "CETO" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Export Transmission Customer:

"Capacity Export Transmission Customer" shall mean a customer taking point to point transmission service under Tariff, Part II to export capacity from a generation resource located in the PJM Region that has qualified for an exception to the RPM must-offer requirement as described in Tariff, Attachment DD, section 6.6(g).

Capacity Import Limit:

"Capacity Import Limit" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Interconnection Rights:

“Capacity Interconnection Rights” shall mean the rights to input generation as a Generation Capacity Resource into the Transmission System at the Point of Interconnection where the generating facilities connect to the Transmission System.

Capacity Market Buyer:

“Capacity Market Buyer” shall mean a Member that submits bids to buy Capacity Resources in any Incremental Auction.

Capacity Market Seller:

“Capacity Market Seller” shall mean a Member that owns, or has the contractual authority to control the output or load reduction capability of, a Capacity Resource, that has not transferred such authority to another entity, and that offers such resource in the Base Residual Auction or an Incremental Auction.

Capacity Performance Resource:

“Capacity Performance Resource” shall mean a Capacity Resource as described in Tariff, Attachment DD, section 5.5A(a).

Capacity Performance Transition Incremental Auction:

“Capacity Performance Transition Incremental Auction” shall have the meaning specified in Tariff, Attachment DD, section 5.14D.

Capacity Resource:

“Capacity Resource” shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Resource Clearing Price:

“Capacity Resource Clearing Price” shall mean the price calculated for a Capacity Resource that offered and cleared in a Base Residual Auction or Incremental Auction, in accordance with Tariff, Attachment DD, section 5.

Capacity Storage Resource:

“Capacity Storage Resource” shall mean any Energy Storage Resource that participates in the Reliability Pricing Model or is otherwise treated as capacity in PJM’s markets such as through a Fixed Resource Requirement Capacity Plan.

Capacity Transfer Right:

"Capacity Transfer Right" shall mean a right, allocated to LSEs serving load in a Locational Deliverability Area, to receive payments, based on the transmission import capability into such Locational Deliverability Area, that offset, in whole or in part, the charges attributable to the Locational Price Adder, if any, included in the Zonal Capacity Price calculated for a Locational Delivery Area.

Capacity Transmission Injection Rights:

"Capacity Transmission Injection Rights" shall mean the rights to schedule energy and capacity deliveries at a Point of Interconnection of a Merchant Transmission Facility with the Transmission System. Capacity Transmission Injection Rights may be awarded only to a Merchant D.C. Transmission Facility and/or Controllable A.C. Merchant Transmission Facilities that connects the Transmission System to another control area. Deliveries scheduled using Capacity Transmission Injection Rights have rights similar to those under Firm Point-to-Point Transmission Service or, if coupled with a generating unit external to the PJM Region that satisfies all applicable criteria specified in the PJM Manuals, similar to Capacity Interconnection Rights.

Charge Economic Maximum Megawatts:

"Charge Economic Maximum Megawatts" shall mean the greatest magnitude of megawatt power consumption available for charging in economic dispatch by an Energy Storage Resource Model Participant in Continuous Mode or in Charge Mode. Charge Economic Maximum Megawatts shall be the Economic Minimum for an Energy Storage Resource in Charge Mode or in Continuous Mode.

Charge Economic Minimum Megawatts:

"Charge Economic Minimum Megawatts" shall mean the smallest magnitude of megawatt power consumption available for charging in economic dispatch by an Energy Storage Resource Model Participant in Charge Mode. Charge Economic Minimum Megawatts shall be the Economic Maximum for an Energy Storage Resource in Charge Mode.

Charge Mode:

"Charge Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that only includes negative megawatt quantities (i.e., the Energy Storage Resource Model Participant is only withdrawing megawatts from the grid).

Charge Ramp Rate:

"Charge Ramp Rate" shall mean the Ramping Capability of an Energy Storage Resource Model Participant in Charge Mode.

Cold/Warm/Hot Notification Time:

“Cold/Warm/Hot Notification Time” shall mean the time interval between PJM notification and the beginning of the start sequence for a generating unit that is currently in its cold/warm/hot temperature state. The start sequence may include steps such as any valve operation, starting feed water pumps, startup of auxiliary equipment, etc.

Cold/Warm/Hot Start-up Time:

For all generating units that are not combined cycle units, “Cold/Warm/Hot Start-up Time” shall mean the time interval, measured in hours, from the beginning of the start sequence to the point after generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero for a generating unit in its cold/warm/hot temperature state. For combined cycle units, “Cold/Warm/Hot Start-up Time” shall mean the time interval from the beginning of the start sequence to the point after first combustion turbine generator breaker closure in its cold/warm/hot temperature state, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero. For all generating units, the start sequence may include steps such as any valve operation, starting feed water pumps, startup of auxiliary equipment, etc. Other more detailed actions that could signal the beginning of the start sequence could include, but are not limited to, the operation of pumps, condensers, fans, water chemistry evaluations, checklists, valves, fuel systems, combustion turbines, starting engines or systems, maintaining stable fuel/air ratios, and other auxiliary equipment necessary for startup.

Cold Weather Alert:

“Cold Weather Alert” shall mean the notice that PJM provides to PJM Members, Transmission Owners, resource owners and operators, customers, and regulators to prepare personnel and facilities for expected extreme cold weather conditions.

Collateral:

“Collateral” shall be a cash deposit, including any interest thereon, or a L~~l~~etter of C~~c~~redit issued for the benefit of PJM or PJMSettlement, in an amount and form determined by and acceptable to PJM or PJMSettlement, provided by a Participant to PJM or PJMSettlement as credit support ~~security~~ in order to participate in the PJM Markets or take Transmission Service.

Collateral Call:

“Collateral Call” shall mean a notice to a Participant that additional Collateral, or possibly early payment, is required in order to remain in, or to regain, compliance with Tariff, Attachment Q.

Commencement Date:

“Commencement Date” shall mean the date on which Interconnection Service commences in accordance with an Interconnection Service Agreement.

Committed Offer:

The "Committed Offer" shall mean 1) for pool-scheduled resources, an offer on which a resource was scheduled by the Office of the Interconnection for a particular clock hour for an Operating Day, and 2) for self-scheduled resources, either the offer on which the Market Seller has elected to schedule the resource or the applicable offer for the resource determined pursuant to Operating Agreement, Schedule 1, section 6.4, and the parallel provisions of Tariff, Attachment K-Appendix, section 6.4, or Operating Agreement, Schedule 1, section 6.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 6.6, for a particular clock hour for an Operating Day.

Completed Application:

"Completed Application" shall mean an application that satisfies all of the information and other requirements of the Tariff, including any required deposit.

Compliance Aggregation Area (CAA):

"Compliance Aggregation Area" or "CAA" shall mean a geographic area of Zones or sub-Zones that are electrically-contiguous and experience for the relevant Delivery Year, based on Resource Clearing Prices of, for Delivery Years through May 31, 2018, Annual Resources and for the 2018/2019 Delivery Year and subsequent Delivery Years, Capacity Performance Resources, the same locational price separation in the Base Residual Auction, the same locational price separation in the First Incremental Auction, the same locational price separation in the Second Incremental Auction, the same locational price separation in the Third Incremental Auction.

Conditional Incremental Auction:

"Conditional Incremental Auction" shall mean an Incremental Auction conducted for a Delivery Year if and when necessary to secure commitments of additional capacity to address reliability criteria violations arising from the delay in a Backbone Transmission upgrade that was modeled in the Base Residual Auction for such Delivery Year.

CONE Area:

"CONE Area" shall mean the areas listed in Tariff, Attachment DD, section 5.10(a)(iv)(A) and any LDAs established as CONE Areas pursuant to Tariff, Attachment DD, section 5.10(a)(iv)(B).

Confidential Information:

"Confidential Information" shall mean any confidential, proprietary, or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy, or compilation relating to the present or planned business of a New Service Customer, Transmission Owner, or other Interconnection Party or Construction Party, which is designated as confidential by the party supplying the information, whether conveyed verbally, electronically, in writing, through inspection, or otherwise, and shall include, without limitation, all information relating to the producing party's technology, research and development, business affairs and pricing, and any information supplied by any New Service Customer, Transmission Owner, or other Interconnection Party or Construction Party to another such party prior to the execution of an Interconnection Service Agreement or a Construction Service Agreement.

Congestion Price:

"Congestion Price" shall mean the congestion component of the Locational Marginal Price, which is the effect on transmission congestion costs (whether positive or negative) associated with increasing the output of a generation resource or decreasing the consumption by a Demand Resource, based on the effect of increased generation from or consumption by the resource on transmission line loadings, calculated as specified in Operating Agreement, Schedule 1, section 2, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

Consolidated Transmission Owners Agreement, PJM Transmission Owners Agreement or Transmission Owners Agreement:

"Consolidated Transmission Owners Agreement," "PJM Transmission Owners Agreement" or "Transmission Owners Agreement" shall mean the certain Consolidated Transmission Owners Agreement dated as of December 15, 2005, by and among the Transmission Owners and by and between the Transmission Owners and PJM Interconnection, L.L.C. on file with the Commission, as amended from time to time.

Constraint Relaxation Logic:

"Constraint Relaxation Logic" shall mean the logic applied in the market clearing software where the transmission limit is increased to prevent the Transmission Constraint Penalty Factor from setting the Marginal Value of a transmission constraint.

Constructing Entity:

"Constructing Entity" shall mean either the Transmission Owner or the New Services Customer, depending on which entity has the construction responsibility pursuant to Tariff, Part VI and the applicable Construction Service Agreement; this term shall also be used to refer to an Interconnection Customer with respect to the construction of the Customer Interconnection Facilities.

Construction Party:

"Construction Party" shall mean a party to a Construction Service Agreement. "Construction Parties" shall mean all of the Parties to a Construction Service Agreement.

Construction Service Agreement:

"Construction Service Agreement" shall mean either an Interconnection Construction Service Agreement or an Upgrade Construction Service Agreement.

Contingent Facilities:

"Contingent Facilities" shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent and, if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

Continuous Mode:

"Continuous Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that includes both negative and positive megawatt quantities (i.e., the Energy Storage Resource Model Participant is capable of continually and immediately transitioning from withdrawing megawatt quantities from the grid to injecting megawatt quantities onto the grid or injecting megawatts to withdrawing megawatts). Energy Storage Resource Model Participants operating in Continuous Mode are considered to have an unlimited ramp rate. Continuous Mode requires Discharge Economic Maximum Megawatts to be zero or correspond to an injection, and Charge Economic Maximum Megawatts to be zero or correspond to a withdrawal.

Control Area:

"Control Area" shall mean an electric power system or combination of electric power systems bounded by interconnection metering and telemetry to which a common automatic generation control scheme is applied in order to:

(1) match the power output of the generators within the electric power system(s) and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);

(2) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;

(3) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice; and

(4) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

Control Zone:

"Control Zone" shall have the meaning given in the Operating Agreement.

Controllable A.C. Merchant Transmission Facilities:

"Controllable A.C. Merchant Transmission Facilities" shall mean transmission facilities that (1) employ technology which Transmission Provider reviews and verifies will permit control of the amount and/or direction of power flow on such facilities to such extent as to effectively enable the controllable facilities to be operated as if they were direct current transmission facilities, and (2) that are interconnected with the Transmission System pursuant to Tariff, Part IV and Tariff, Part VI.

Coordinated External Transaction:

"Coordinated External Transaction" shall mean a transaction to simultaneously purchase and sell energy on either side of a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Coordinated Transaction Scheduling:

"Coordinated Transaction Scheduling" or "CTS" shall mean the scheduling of Coordinated External Transactions at a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Corporate Guaranty:

"Corporate Guaranty" shall mean a legal document, in a form acceptable to PJM and/or PJMSettlement, used by a~~n~~ Credit Affiliate of an entity to guaranty the obligations of another entity.

Cost of New Entry:

"Cost of New Entry" or "CONE" shall mean the nominal levelized cost of a Reference Resource, as determined in accordance with Tariff, Attachment DD, section 5.

Costs:

As used in Tariff, Part IV, Tariff, Part VI and related attachments, "Costs" shall mean costs and expenses, as estimated or calculated, as applicable, including, but not limited to, capital expenditures, if applicable, and overhead, return, and the costs of financing and taxes and any Incidental Expenses.

Counterparty:

"Counterparty" shall mean PJMSettlement as the contracting party, in its name and own right and not as an agent, to an agreement or transaction with a Market Participant or other entities, including the agreements and transactions with customers regarding transmission service and other transactions under the PJM Tariff and the Operating Agreement. PJMSettlement shall not be a counterparty to (i) any bilateral transactions between Members, or (ii) any Member's self-supply of energy to serve its load, or (iii) any Member's self-schedule of energy reported to the Office of the Interconnection to the extent that energy serves that Member's own load .

Credit Affiliate:

"Credit Affiliate" shall mean Principals, corporations, partnerships, firms, joint ventures, associations, joint stock companies, trusts, unincorporated organizations or entities, one of which directly or indirectly controls the other or that are both under common Control. "Control," as that term is used in this definition, shall mean the possession, directly or indirectly, of the power to direct the management or policies of a person or an entity.

Credit Available for Export Transactions:

"Credit Available for Export Transactions" shall mean a designation of credit to be used for Export Transactions that is allocated by each Market Participant from its Credit Available for Virtual Transactions, and which reduces the Market Participant's Credit Available for Virtual Transactions accordingly.

Credit Available for Virtual Transactions:

"Credit Available for Virtual Transactions" shall mean the Market Participant's Working Credit Limit for Virtual Transactions calculated on its credit provided in compliance with its Peak Market Activity requirement plus available credit submitted above that amount, less any unpaid billed and unbilled amounts owed to PJMSettlement, plus any unpaid unbilled amounts owed by PJMSettlement to the Market Participant, less any applicable credit required for Minimum Participation Requirements, FTRs, RPM activity, or other credit requirement determinants as defined in Tariff, Attachment Q.

Credit Breach:

"Credit Breach" shall mean (a) the ~~status~~ failure of a Participant to ~~that does not currently~~perform, observe, meet or comply with any~~the~~ requirements of Tariff, Attachment Q or other provisions of the Agreements, other than a Financial Default, or (b) a determination by PJM and notice to the Participant that a Participant represents an unreasonable credit risk to the PJM Markets; that, in either event, has not been cured or remedied after any required notice has been given and any cure period has elapsed.

Credit-Limited Offer:

"Credit-Limited Offer" shall mean a Sell Offer that is submitted by a Market Participant in an RPM Auction subject to a maximum credit requirement specified by such Market Participant.

~~**Credit Score:**~~

~~"Credit Score" shall mean a composite numerical score scaled from 0-100 as calculated by PJMSettlement that incorporates various predictors of creditworthiness.~~

Credit Support Default:

“Credit Support Default,” shall mean (a) the failure of any Guarantor of a Market Participant to make any payment, or to perform, observe, meet or comply with any provisions of the applicable Guaranty or Credit Support Document that has not been cured or remedied, after any required notice has been given and an opportunity to cure (if any) has elapsed, (b) a representation made or deemed made by a Guarantor in any Credit Support Document that proves to be false, incorrect or misleading in any material respect when made or deemed made, (c) the failure of a Guaranty or other Credit Support Document to be in full force and effect prior to the satisfaction of all obligations of such Participant to PJM, without PJM’s consent, or (d) a Guarantor repudiating, disaffirming, disclaiming or rejecting, in whole or in part, its obligations under the Guaranty or challenging the validity of the Guaranty.

Credit Support Document:

“Credit Support Document” shall mean any agreement or instrument in any way guaranteeing or securing any or all of a Participant’s obligations under the Agreements (including, without limitation, the provisions of Tariff, Attachment Q), any agreement entered into under, pursuant to, or in connection with the Agreements or any agreement entered into under, pursuant to, or in connection with the Agreements and/or any other agreement to which PJM, PJMSettlement and the Participant are parties, including, without limitation, any Corporate Guaranty, Letter of Credit, or agreement granting PJM and PJMSettlement a security interest.

CTS Enabled Interface:

“CTS Enabled Interface” shall mean an interface between the PJM Control Area and an adjacent Control Area at which the Office of the Interconnection has authorized the use of Coordinated Transaction Scheduling (“CTS”). The CTS Enabled Interfaces between the PJM Control Area and the New York Independent System Operator, Inc. Control Area shall be designated in the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C., Schedule A (PJM Rate Schedule FERC No. 45). The CTS Enabled Interfaces between the PJM Control Area and the Midcontinent Independent System Operator, Inc. shall be designated consistent with Attachment 3, section 2 of the Joint Operating Agreement between Midcontinent Independent System Operator, Inc. and PJM Interconnection, L.L.C.

CTS Interface Bid:

“CTS Interface Bid” shall mean a unified real-time bid to simultaneously purchase and sell energy on either side of a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Curtailment:

"Curtailment" shall mean a reduction in firm or non-firm transmission service in response to a transfer capability shortage as a result of system reliability conditions.

Curtailment Service Provider:

"Curtailment Service Provider" or "CSP" shall mean a Member or a Special Member, which action on behalf of itself or one or more other Members or non-Members, participates in the PJM Interchange Energy Market, Ancillary Services markets, and/or Reliability Pricing Model by causing a reduction in demand.

Customer Facility:

"Customer Facility" shall mean Generation Facilities or Merchant Transmission Facilities interconnected with or added to the Transmission System pursuant to an Interconnection Request under Tariff, Part IV.

Customer-Funded Upgrade:

"Customer-Funded Upgrade" shall mean any Network Upgrade, Local Upgrade, or Merchant Network Upgrade for which cost responsibility (i) is imposed on an Interconnection Customer or an Eligible Customer pursuant to Tariff, Part VI, section 217, or (ii) is voluntarily undertaken by a New Service Customer in fulfillment of an Upgrade Request. No Network Upgrade, Local Upgrade or Merchant Network Upgrade or other transmission expansion or enhancement shall be a Customer-Funded Upgrade if and to the extent that the costs thereof are included in the rate base of a public utility on which a regulated return is earned.

Customer Interconnection Facilities:

"Customer Interconnection Facilities" shall mean all facilities and equipment owned and/or controlled, operated and maintained by Interconnection Customer on Interconnection Customer's side of the Point of Interconnection identified in the appropriate appendices to the Interconnection Service Agreement and to the Interconnection Construction Service Agreement, including any modifications, additions, or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Customer Facility with the Transmission System.

Daily Deficiency Rate:

"Daily Deficiency Rate" shall mean the rate employed to assess certain deficiency charges under Tariff, Attachment DD, section 7, Tariff, Attachment DD, section 8, Tariff, Attachment DD, section 9, or Tariff, Attachment DD, section 13.

Daily Unforced Capacity Obligation:

"Daily Unforced Capacity Obligation" shall mean the capacity obligation of a Load Serving Entity during the Delivery Year, determined in accordance with Reliability Assurance

Agreement, Schedule 8, or, as to an FRR entity, in Reliability Assurance Agreement, Schedule 8.1.

Day-ahead Congestion Price:

"Day-ahead Congestion Price" shall mean the Congestion Price resulting from the Day-ahead Energy Market.

Day-ahead Energy Market:

"Day-ahead Energy Market" shall mean the schedule of commitments for the purchase or sale of energy and payment of Transmission Congestion Charges developed by the Office of the Interconnection as a result of the offers and specifications submitted in accordance with Operating Agreement, Schedule 1, section 1.10 and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.

Day-ahead Energy Market Injection Congestion Credits:

"Day-ahead Energy Market Injection Congestion Credits" shall mean those congestion credits paid to Market Participants for supply transactions in the Day-ahead Energy Market including generation schedules, Increment Offers, Up-to Congestion Transactions, import transactions, and Day-Ahead Pseudo-Tie Transactions.

Day-ahead Energy Market Transmission Congestion Charges:

"Day-ahead Energy Market Transmission Congestion Charges" shall be equal to the sum of Day-ahead Energy Market Withdrawal Congestion Charges minus [the sum of Day-ahead Energy Market Injection Congestion Credits plus any congestion charges calculated pursuant to the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 38), plus any congestion charges calculated pursuant to the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45), plus any congestion charges calculated pursuant to agreements between the Office of the Interconnection and other entities, as applicable)].

Day-ahead Energy Market Withdrawal Congestion Charges:

"Day-ahead Energy Market Withdrawal Congestion Charges" shall mean those congestion charges collected from Market Participants for withdrawal transactions in the Day-ahead Energy Market from transactions including Demand Bids, Decrement Bids, Up-to Congestion Transactions, Export Transactions, and Day-Ahead Pseudo-Tie Transactions.

Day-ahead Loss Price:

"Day-ahead Loss Price" shall mean the Loss Price resulting from the Day-ahead Energy Market.

Day-ahead Prices:

"Day-ahead Prices" shall mean the Locational Marginal Prices resulting from the Day-ahead Energy Market.

Day-Ahead Pseudo-Tie Transaction:

"Day-Ahead Pseudo-Tie Transaction" shall mean a transaction scheduled in the Day-ahead Energy Market to the PJM-MISO interface from a generator within the PJM balancing authority area that Pseudo-Ties into the MISO balancing authority area.

Day-ahead Scheduling Reserves:

"Day-ahead Scheduling Reserves" shall mean thirty-minute reserves as defined by the Reliability*First* Corporation and SERC.

Day-ahead Scheduling Reserves Market:

"Day-ahead Scheduling Reserves Market" shall mean the schedule of commitments for the purchase or sale of Day-ahead Scheduling Reserves developed by the Office of the Interconnection as a result of the offers and specifications submitted in accordance with Operating Agreement, Schedule 1, section 1.10 and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.

Day-ahead Scheduling Reserves Requirement:

"Day-ahead Scheduling Reserves Requirement" shall mean the sum of Base Day-ahead Scheduling Reserves Requirement and Additional Day-ahead Scheduling Reserves Requirement.

Day-ahead Scheduling Reserves Resources:

"Day-ahead Scheduling Reserves Resources" shall mean synchronized and non-synchronized generation resources and Demand Resources electrically located within the PJM Region that are capable of providing Day-ahead Scheduling Reserves.

Day-ahead Settlement Interval:

"Day-ahead Settlement Interval" shall mean the interval used by settlements, which shall be every one clock hour.

Day-ahead System Energy Price:

"Day-ahead System Energy Price" shall mean the System Energy Price resulting from the Day-ahead Energy Market.

Deactivation:

“Deactivation” shall mean the retirement or mothballing of a generating unit governed by Tariff, Part V.

Deactivation Avoidable Cost Credit:

“Deactivation Avoidable Cost Credit” shall mean the credit paid to Generation Owners pursuant to Tariff, Part V, section 114.

Deactivation Avoidable Cost Rate:

“Deactivation Avoidable Cost Rate” shall mean the formula rate established pursuant to Tariff, Part V, section 115 .

Deactivation Date:

“Deactivation Date” shall mean the date a generating unit within the PJM Region is either retired or mothballed and ceases to operate.

Decrement Bid:

“Decrement Bid” shall mean a type of Virtual Transaction that is a bid to purchase energy at a specified location in the Day-ahead Energy Market. A cleared Decrement Bid results in scheduled load at the specified location in the Day-ahead Energy Market.

Default:

As used in the Interconnection Service Agreement and Construction Service Agreement, “Default” shall mean the failure of a Breaching Party to cure its Breach in accordance with the applicable provisions of an Interconnection Service Agreement or Construction Service Agreement.

Delivering Party:

“Delivering Party” shall mean the entity supplying capacity and energy to be transmitted at Point(s) of Receipt.

Delivery Year:

“Delivery Year” shall mean the Planning Period for which a Capacity Resource is committed pursuant to the auction procedures specified in Tariff, Attachment DD, or pursuant to an FRR Capacity Plan under Reliability Assurance Agreement, Schedule 8.1.

Demand Bid:

"Demand Bid" shall mean a bid, submitted by a Load Serving Entity in the Day-ahead Energy Market, to purchase energy at its contracted load location, for a specified timeframe and megawatt quantity, that if cleared will result in energy being scheduled at the specified location in the Day-ahead Energy Market and in the physical transfer of energy during the relevant Operating Day.

Demand Bid Limit:

"Demand Bid Limit" shall mean the largest MW volume of Demand Bids that may be submitted by a Load Serving Entity for any hour of an Operating Day, as determined pursuant to Operating Agreement, Schedule 1, section 1.10.1B, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1B.

Demand Bid Screening:

"Demand Bid Screening" shall mean the process by which Demand Bids are reviewed against the applicable Demand Bid Limit, and rejected if they would exceed that limit, as determined pursuant to Operating Agreement, Schedule 1, section 1.10.1B, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1B.

Demand Resource:

"Demand Resource" shall mean a resource with the capability to provide a reduction in demand.

Demand Resource Factor or DR Factor:

"Demand Resource Factor" or ("DR Factor") shall have the meaning specified in the Reliability Assurance Agreement.

Designated Agent:

"Designated Agent" shall mean any entity that performs actions or functions on behalf of the Transmission Provider, a Transmission Owner, an Eligible Customer, or the Transmission Customer required under the Tariff.

Designated Entity:

"Designated Entity" shall have the same meaning provided in the Operating Agreement.

Direct Assignment Facilities:

"Direct Assignment Facilities" shall mean facilities or portions of facilities that are constructed for the sole use/benefit of a particular Transmission Customer requesting service under the Tariff. Direct Assignment Facilities shall be specified in the Service Agreement that governs service to the Transmission Customer and shall be subject to Commission approval.

Direct Charging Energy:

"Direct Charging Energy" shall mean the energy that an Energy Storage Resource purchases from the PJM Interchange Energy Market and (i) later resells to the PJM Interchange Energy Market; or (ii) is lost to conversion inefficiencies, provided that such inefficiencies are an unavoidable component of the conversion, storage, and discharge process that is used to resell energy back to the PJM Interchange Energy Market.

Direct Load Control:

"Direct Load Control" shall mean load reduction that is controlled directly by the Curtailment Service Provider's market operations center or its agent, in response to PJM instructions.

Discharge Economic Maximum Megawatts:

"Discharge Economic Maximum Megawatts" shall mean the maximum megawatt power output available for discharge in economic dispatch by an Energy Storage Resource Model Participant in Continuous Mode or in Discharge Mode. Discharge Economic Maximum Megawatts shall be the Economic Maximum for an Energy Storage Resource in Discharge Mode or in Continuous Mode.

Discharge Economic Minimum Megawatts:

"Discharge Economic Minimum Megawatts" shall mean the minimum megawatt power output available for discharge in economic dispatch by an Energy Storage Resource Model Participant in Discharge Mode. Discharge Economic Minimum Megawatts shall be the Economic Minimum for an Energy Storage Resource in Discharge Mode.

Discharge Mode:

"Discharge Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that only includes positive megawatt quantities (i.e., the Energy Storage Resource Model Participant is only injecting megawatts onto the grid).

***Discharge Ramp Rate**:*

"Discharge Ramp Rate" shall mean the Ramping Capability of an Energy Storage Resource Model Participant in Discharge Mode.

Dispatch Rate:

"Dispatch Rate" shall mean the control signal, expressed in dollars per megawatt-hour, calculated and transmitted continuously and dynamically to direct the output level of all generation resources dispatched by the Office of the Interconnection in accordance with the Offer Data.

Dispatched Charging Energy:

"Dispatched Charging Energy" shall mean Direct Charging Energy that an Energy Storage Resource Model Participant receives from the electric grid pursuant to PJM dispatch while providing *one of the following* services in the PJM markets*: Energy Imbalance Service pursuant to Tariff, Schedule 4; Regulation; Tier 2 Synchronized Reserves; or Reactive Service. Energy Storage Resource Model Participants shall be considered to be providing Energy Imbalance Service when they are dispatchable by PJM in real-time*.

Dynamic Schedule:

"Dynamic Schedule" shall have the same meaning provided in the Operating Agreement.

Dynamic Transfer:

"Dynamic Transfer" shall have the same meaning provided in the Operating Agreement.

Definitions – E - F

Economic-based Enhancement or Expansion:

"Economic-based Enhancement or Expansion" shall have the same meaning provided in the Operating Agreement.

Economic Load Response Participant:

"Economic Load Response Participant" shall mean a Member or Special Member that qualifies under Operating Agreement, Schedule 1, section 1.5A, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.5A, to participate in the PJM Interchange Energy Market and/or Ancillary Services markets through reductions in demand.

Economic Maximum:

"Economic Maximum" shall mean the highest incremental MW output level, submitted to PJM market systems by a Market Participant, that a unit can achieve while following economic dispatch.

Economic Minimum:

"Economic Minimum" shall mean the lowest incremental MW output level, submitted to PJM market systems by a Market Participant, that a unit can achieve while following economic dispatch.

Effective FTR Holder:

"Effective FTR Holder" shall mean:

(i) For an FTR Holder that is either a (a) privately held company, or (b) a municipality or electric cooperative, as defined in the Federal Power Act, such FTR Holder, together with any Affiliate, subsidiary or parent of the FTR Holder, any other entity that is under common ownership, wholly or partly, directly or indirectly, or has the ability to influence, directly or indirectly, the management or policies of the FTR Holder; or

(ii) For an FTR Holder that is a publicly traded company including a wholly owned subsidiary of a publicly traded company, such FTR Holder, together with any Affiliate, subsidiary or parent of the FTR Holder, any other PJM Member has over 10% common ownership with the FTR Holder, wholly or partly, directly or indirectly, or has the ability to influence, directly or indirectly, the management or policies of the FTR Holder; or

(iii) an FTR Holder together with any other PJM Member, including also any Affiliate, subsidiary or parent of such other PJM Member, with which it shares common ownership, wholly or partly, directly or indirectly, in any third entity which is a PJM Member (e.g., a joint venture).

EFORd:

"EFORd" shall have the meaning specified in the PJM Reliability Assurance Agreement.

Electrical Distance:

"Electrical Distance" shall mean, for a Generation Capacity Resource geographically located outside the metered boundaries of the PJM Region, the measure of distance, based on impedance and in accordance with the PJM Manuals, from the Generation Capacity Resource to the PJM Region.

Eligible Customer:

"Eligible Customer" shall mean:

(i) Any electric utility (including any Transmission Owner and any power marketer), Federal power marketing agency, or any person generating electric energy for sale for resale is an Eligible Customer under the Tariff. Electric energy sold or produced by such entity may be electric energy produced in the United States, Canada or Mexico. However, with respect to transmission service that the Commission is prohibited from ordering by Section 212(h) of the Federal Power Act, such entity is eligible only if the service is provided pursuant to a state requirement that the Transmission Provider or Transmission Owner offer the unbundled transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner.

(ii) Any retail customer taking unbundled transmission service pursuant to a state requirement that the Transmission Provider or a Transmission Owner offer the transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner, is an Eligible Customer under the Tariff. As used in Tariff, Part VI, Eligible Customer shall mean only those Eligible Customers that have submitted a Completed Application.

Emergency Action:

"Emergency Action" shall mean any emergency action for locational or system-wide capacity shortages that either utilizes pre-emergency mandatory load management reductions or other emergency capacity, or initiates a more severe action including, but not limited to, a Voltage Reduction Warning, Voltage Reduction Action, Manual Load Dump Warning, or Manual Load Dump Action.

Emergency Condition:

"Emergency Condition" shall mean a condition or situation (i) that in the judgment of any Interconnection Party is imminently likely to endanger life or property; or (ii) that in the judgment of the Interconnected Transmission Owner or Transmission Provider is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Transmission System, the Interconnection Facilities, or the transmission systems or distribution systems to which the Transmission System is directly or indirectly connected; or (iii) that in the judgment of Interconnection Customer is imminently likely (as determined in a non-discriminatory manner) to cause damage to the Customer Facility or to the Customer Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions, provided that a Generation Interconnection Customer is not obligated by an Interconnection Service Agreement to possess black start capability. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one or more of the enumerated conditions or situations identified in this definition also exists.

Emergency Load Response Program:

"Emergency Load Response Program" shall mean the program by which Curtailment Service Providers may be compensated by PJM for Demand Resources that will reduce load when dispatched by PJM during emergency conditions, and is described in Operating Agreement, Schedule 1, section 8 and the parallel provisions of Tariff, Attachment K-Appendix, section 8.

Energy Efficiency Resource:

"Energy Efficiency Resource" shall have the meaning specified in the PJM Reliability Assurance Agreement.

Energy Market Opportunity Cost:

"Energy Market Opportunity Cost" shall mean the difference between (a) the forecasted cost to operate a specific generating unit when the unit only has a limited number of available run hours due to limitations imposed on the unit by Applicable Laws and Regulations, and (b) the forecasted future Locational Marginal Price at which the generating unit could run while not violating such limitations. Energy Market Opportunity Cost therefore is the value associated with a specific generating unit's lost opportunity to produce energy during a higher valued period of time occurring within the same compliance period, which compliance period is determined by the applicable regulatory authority and is reflected in the rules set forth in PJM Manual 15. Energy Market Opportunity Costs shall be limited to those resources which are specifically delineated in Operating Agreement, Schedule 2.

Energy Resource:

"Energy Resource" shall mean a Generating Facility that is not a Capacity Resource.

Energy Settlement Area:

"Energy Settlement Area" shall mean the bus or distribution of busses that represents the physical location of Network Load and by which the obligations of the Network Customer to PJM are settled.

Energy Storage Resource:

"Energy Storage Resource" shall mean a resource capable of receiving electric energy from the grid and storing it for later injection to the grid that participates in the PJM Energy, Capacity and/or Ancillary Services markets as a Market Participant.

Energy Storage Resource Model Participant:

"Energy Storage Resource Model Participant" shall mean an Energy Storage Resource utilizing the Energy Storage Resource Participation Model.

Energy Storage Resource Participation Model:

"Energy Storage Resource Participation Model" shall mean the participation model accepted by the Commission in Docket No. ER19-469-000.

Energy Transmission Injection Rights:

"Energy Transmission Injection Rights" shall mean the rights to schedule energy deliveries at a specified point on the Transmission System. Energy Transmission Injection Rights may be awarded only to a Merchant D.C. Transmission Facility that connects the Transmission System to another control area. Deliveries scheduled using Energy Transmission Injection Rights have rights similar to those under Non-Firm Point-to-Point Transmission Service.

Environmental Laws:

"Environmental Laws" shall mean applicable Laws or Regulations relating to pollution or protection of the environment, natural resources or human health and safety.

Environmentally-Limited Resource:

"Environmentally-Limited Resource" shall mean a resource which has a limit on its run hours imposed by a federal, state, or other governmental agency that will significantly limit its availability, on either a temporary or long-term basis. This includes a resource that is limited by a governmental authority to operating only during declared PJM capacity emergencies.

Equivalent Load:

"Equivalent Load" shall mean the sum of a Market Participant's net system requirements to serve its customer load in the PJM Region, if any, plus its net bilateral transactions.

Event of Default:

"Event of Default," as that term is used in Tariff, Attachment Q, shall mean a Financial Default, Credit Breach, or Credit Support Default.

Existing Generation Capacity Resource:

"Existing Generation Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Export Credit Exposure:

"Export Credit Exposure" is determined for each Market Participant for a given Operating Day, and shall mean the sum of credit exposures for the Market Participant's Export Transactions for that Operating Day and for the preceding Operating Day.

Export Nodal Reference Price:

"Export Nodal Reference Price" at each location is the 97th percentile, shall be, the real-time hourly integrated price experienced over the corresponding two-month period in the preceding calendar year, calculated separately for peak and off-peak time periods. The two-month time periods used in this calculation shall be January and February, March and April, May and June, July and August, September and October, and November and December.

Export Transaction:

"Export Transaction" shall be a transaction by a Market Participant that results in the transfer of energy from within the PJM Control Area to outside the PJM Control Area. Coordinated External Transactions that result in the transfer of energy from the PJM Control Area to an adjacent Control Area are one form of Export Transaction.

Export Transaction Price Factor:

"Export Transaction Price Factor" for a prospective time interval shall be the greater of (i) PJM's forecast price for the time interval, if available, or (ii) the Export Nodal Reference Price, but shall not exceed the Export Transaction's dispatch ceiling price cap, if any, for that time interval. The Export Transaction Price Factor for a past time interval shall be calculated in the same manner as for a prospective time interval, except that the Export Transaction Price Factor may use a tentative or final settlement price, as available. If an Export Nodal Reference Price is not available for a particular time interval, PJM may use an Export Transaction Price Factor for that time interval based on an appropriate alternate reference price.

Export Transaction Screening:

"Export Transaction Screening" shall be the process PJM uses to review the Export Credit Exposure of Export Transactions against the Credit Available for Export Transactions, and deny or curtail all or a portion of an Export Transaction, if the credit required for such transactions is greater than the credit available for the transactions.

Export Transactions Net Activity:

"Export Transactions Net Activity" shall mean the aggregate net total, resulting from Export Transactions, of (i) Spot Market Energy charges, (ii) Transmission Congestion Charges, and (iii) Transmission Loss Charges, calculated as set forth in Operating Agreement, Schedule 1 and the parallel provisions of Tariff, Attachment K-Appendix. Export Transactions Net Activity may be positive or negative.

Extended Primary Reserve Requirement:

"Extended Primary Reserve Requirement" shall equal the Primary Reserve Requirement in a Reserve Zone or Reserve Sub-zone, plus 190 MW, plus any additional reserves scheduled under emergency conditions necessary to address operational uncertainty. The Extended Primary Reserve Requirement is calculated in accordance with the PJM Manuals.

Extended Summer Demand Resource:

"Extended Summer Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Extended Summer Resource Price Adder:

"Extended Summer Resource Price Adder" shall mean, for Delivery Years through May 31, 2018, an addition to the marginal value of Unforced Capacity as necessary to reflect the price of Annual Resources and Extended Summer Demand Resources required to meet the applicable Minimum Extended Summer Resource Requirement.

Extended Synchronized Reserve Requirement:

"Extended Synchronized Reserve Requirement" shall equal the Synchronized Reserve Requirement in a Reserve Zone or Reserve Sub-zone, plus 190 MW, plus any additional reserves scheduled under emergency conditions necessary to address operational uncertainty. The Extended Synchronized Reserve Requirement is calculated in accordance with the PJM Manuals.

External Market Buyer:

"External Market Buyer" shall mean a Market Buyer making purchases of energy from the PJM Interchange Energy Market for consumption by end-users outside the PJM Region, or for load in the PJM Region that is not served by Network Transmission Service.

External Resource:

"External Resource" shall mean a generation resource located outside the metered boundaries of the PJM Region.

Facilities Study:

“Facilities Study” shall be an engineering study conducted by the Transmission Provider (in coordination with the affected Transmission Owner(s)) to: (1) determine the required modifications to the Transmission Provider’s Transmission System necessary to implement the conclusions of the System Impact Study; and (2) complete any additional studies or analyses documented in the System Impact Study or required by PJM Manuals, and determine the required modifications to the Transmission Provider’s Transmission System based on the conclusions of such additional studies. The Facilities Study shall include the cost and scheduled completion date for such modifications, that will be required to provide the requested transmission service or to accommodate a New Service Request. As used in the Interconnection Service Agreement or Construction Service Agreement, Facilities Study shall mean that certain Facilities Study conducted by Transmission Provider (or at its direction) to determine the design and specification of the Customer Funded Upgrades necessary to accommodate the New Service Customer’s New Service Request in accordance with Tariff, Part VI, section 207.

Federal Power Act:

“Federal Power Act” shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a, et seq.

FERC or Commission:

“FERC” or “Commission” shall mean the Federal Energy Regulatory Commission or any successor federal agency, commission or department exercising jurisdiction over the Tariff, Operating Agreement and Reliability Assurance Agreement.

FERC Market Rules:

“FERC Market Rules” mean the market behavior rules and the prohibition against electric energy market manipulation codified by the Commission in its Rules and Regulations at 18 CFR §§ 1c.2 and 35.37, respectively; the Commission-approved PJM Market Rules and any related proscriptions or any successor rules that the Commission from time to time may issue, approve or otherwise establish.

Final Offer:

“Final Offer” shall mean the offer on which a resource was dispatched by the Office of the Interconnection for a particular clock hour for the Operating Day.

Final RTO Unforced Capacity Obligation:

“Final RTO Unforced Capacity Obligation” shall mean the capacity obligation for the PJM Region, determined in accordance with RAA, Schedule 8.

Financial Close:

“Financial Close” shall mean the Capacity Market Seller has demonstrated that the Capacity Market Seller or its agent has completed the act of executing the material contracts and/or other documents necessary to (1) authorize construction of the project and (2) establish the necessary funding for the project under the control of an independent third-party entity. A sworn, notarized certification of an independent engineer certifying to such facts, and that the engineer has personal knowledge of, or has engaged in a diligent inquiry to determine, such facts, shall be sufficient to make such demonstration. For resources that do not have external financing, Financial Close shall mean the project has full funding available, and that the project has been duly authorized to proceed with full construction of the material portions of the project by the appropriate governing body of the company funding such project. A sworn, notarized certification by an officer of such company certifying to such facts, and that the officer has personal knowledge of, or has engaged in a diligent inquiry to determine, such facts, shall be sufficient to make such demonstration.

Financial Default:

"Financial Default" shall mean (a) the failure of a Member or Transmission Customer to make any payment for obligations under the Agreements when due, including but not limited to an invoice payment that has not been cured or remedied after notice has been given and any cure period has elapsed, (b) a bankruptcy proceeding filed by a Member, Transmission Customer or its Guarantor, or filed against a Member, Transmission Customer or its Guarantor and to which the Member, Transmission Customer or Guarantor, as applicable, acquiesces or that is not dismissed within 60 days, (c) a Member, Transmission Customer or its Guarantor, if any, is unable to meet its financial obligations as they become due, or (d) a Merger Without Assumption occurs in respect of the Member, Transmission Customer or any Guarantor of such Member or Transmission Customer.

Financial Transmission Right:

"Financial Transmission Right" or "FTR" shall mean a right to receive Transmission Congestion Credits as specified in Operating Agreement, Schedule 1, section 5.2.2 and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.2.

Financial Transmission Right Obligation:

"Financial Transmission Right Obligation" shall mean a right to receive Transmission Congestion Credits as specified in Operating Agreement, Schedule 1, section 5.2.2(b), and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.2(b).

Financial Transmission Right Option:

"Financial Transmission Right Option" shall mean a right to receive Transmission Congestion Credits as specified in Operating Agreement, Schedule 1, section 5.2.2(c), and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.2(c).

Firm Point-To-Point Transmission Service:

“Firm Point-To-Point Transmission Service” shall mean Transmission Service under the Tariff that is reserved and/or scheduled between specified Points of Receipt and Delivery pursuant to Tariff, Part II.

Firm Transmission Feasibility Study:

“Firm Transmission Feasibility Study” shall mean a study conducted by the Transmission Provider in accordance with Tariff, Part II, section 19.3 and Tariff, Part III, section 32.3.

Firm Transmission Withdrawal Rights:

“Firm Transmission Withdrawal Rights” shall mean the rights to schedule energy and capacity withdrawals from a Point of Interconnection of a Merchant Transmission Facility with the Transmission System. Firm Transmission Withdrawal Rights may be awarded only to a Merchant D.C. Transmission Facility that connects the Transmission System with another control area. Withdrawals scheduled using Firm Transmission Withdrawal Rights have rights similar to those under Firm Point-to-Point Transmission Service.

First Incremental Auction:

“First Incremental Auction” shall mean an Incremental Auction conducted 20 months prior to the start of the Delivery Year to which it relates.

Flexible Resource:

“Flexible Resource” shall mean a generating resource that must have a combined Start-up Time and Notification Time of less than or equal to two hours; and a Minimum Run Time of less than or equal to two hours.

Forecast Pool Requirement:

“Forecast Pool Requirement” shall have the meaning specified in the Reliability Assurance Agreement.

Foreign Guaranty:

“Foreign Guaranty” shall mean a Corporate Guaranty provided by an Affiliate of a Participant that is domiciled in a foreign country, and meets all of the provisions of Tariff, Attachment Q.

Form 715 Planning Criteria:

“Form 715 Planning Criteria” shall have the same meaning provided in the Operating Agreement.

FTR Credit Limit:

"FTR Credit Limit" shall mean the amount of credit established with PJMSettlement that an FTR Participant has specifically designated to be used for FTR activity in a specific customer account. Any such credit so set aside shall not be considered available to satisfy any other credit requirement the FTR Participant may have with PJMSettlement.

FTR Credit Requirement:

"FTR Credit Requirement" shall mean the amount of credit that a Participant must provide in order to support the FTR positions that it holds and/or for which it is bidding. The FTR Credit Requirement shall not include months for which the invoicing has already been completed, provided that PJMSettlement shall have up to two Business Days following the date of the invoice completion to make such adjustments in its credit systems. FTR Credit Requirements are calculated and applied separately for each separate customer account.

FTR Flow Undiversified:

"FTR Flow Undiversified" shall have the meaning established in Tariff, Attachment Q, section VI.C.6~~G~~.

FTR Historical Value:

For each FTR for each month, "FTR Historical Value" shall mean the weighted average of historical values over three years for the FTR path using the following weightings: 50% - most recent year; 30% - second year; 20% - third year.

FTR Holder:

"FTR Holder" shall mean the PJM Member that has acquired and possesses an FTR.

FTR Monthly Credit Requirement Contribution:

For each FTR, for each month, "FTR Monthly Credit Requirement Contribution" shall mean the total FTR cost for the month, prorated on a daily basis, less the FTR Historical Value for the month. For cleared FTRs, this contribution may be negative; prior to clearing, FTRs with negative contribution shall be deemed to have zero contribution.

FTR Net Activity:

"FTR Net Activity" shall mean the aggregate net value of the billing line items for auction revenue rights credits, FTR auction charges, FTR auction credits, and FTR congestion credits, and shall also include day-ahead and balancing/real-time congestion charges up to a maximum net value of the sum of the foregoing auction revenue rights credits, FTR auction charges, FTR auction credits and FTR congestion credits.

FTR Participant:

"FTR Participant" shall mean any Market Participant that provides or is required to provide Collateral in order to participate in PJM's FTR ~~auctions~~market.

FTR Portfolio Auction Value:

"FTR Portfolio Auction Value" shall mean for each customer account of a Market Participant, the sum, calculated on a monthly basis, across all FTRs, of the FTR price times the FTR volume in MW.

Fuel Cost Policy:

"Fuel Cost Policy" shall mean the document provided by a Market Seller to PJM and the Market Monitoring Unit in accordance with PJM Manual 15 and Operating Agreement, Schedule 2, which documents the Market Seller's method used to price fuel for calculation of the Market Seller's cost-based offers for a generation resource.

Full Notice to Proceed:

"Full Notice to Proceed" shall mean that all material third party contractors have been given the notice to proceed with construction by the Capacity Market Seller or its agent, with a guaranteed completion date backed by liquidated damages.

Definitions – G - H

Generating Market Buyer:

"Generating Market Buyer" shall mean an Internal Market Buyer that is a Load Serving Entity that owns or has contractual rights to the output of generation resources capable of serving the Market Buyer's load in the PJM Region, or of selling energy or related services in the PJM Interchange Energy Market or elsewhere.

Generation Capacity Resource:

"Generation Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Generation Interconnection Customer:

"Generation Interconnection Customer" shall mean an entity that submits an Interconnection Request to interconnect a new generation facility or to increase the capacity of an existing generation facility interconnected with the Transmission System in the PJM Region.

Generation Interconnection Facilities Study:

"Generation Interconnection Facilities Study" shall mean a Facilities Study related to a Generation Interconnection Request.

Generation Interconnection Feasibility Study:

"Generation Interconnection Feasibility Study" shall mean a study conducted by the Transmission Provider (in coordination with the affected Transmission Owner(s)) in accordance with Tariff, Part IV, section 36.2.

Generation Interconnection Request:

"Generation Interconnection Request" shall mean a request by a Generation Interconnection Customer pursuant to Tariff, Part IV, subpart A, to interconnect a generating unit with the Transmission System or to increase the capacity of a generating unit interconnected with the Transmission System in the PJM Region.

Generation Owner:

"Generation Owner" shall mean a Member that owns, leases with rights equivalent to ownership, or otherwise controls and operates one or more operating generation resources located in the PJM Region. The foregoing notwithstanding, for a planned generation resource to qualify a Member as a Generation Owner, such resource shall have cleared an RPM auction, and for Energy Resources, the resource shall have a FERC-jurisdictional interconnection agreement or wholesale market participation agreement within PJM. Purchasing all or a portion of the output of a generation resource shall not be sufficient to qualify a Member as a Generation Owner. For purposes of Members Committee sector classification, a Member that is primarily a retail end-user of electricity that owns generation may qualify as a Generation Owner if: (1) the generation resource is the subject of a FERC-jurisdictional interconnection agreement or wholesale market participation agreement within PJM; (2) the average physical unforced capacity owned by the Member and its affiliates over the five Planning Periods immediately preceding the relevant Planning Period exceeds the average PJM capacity obligation of the Member and its affiliates over the same time period; and (3) the average energy produced by the Member and its affiliates within PJM over the five Planning Periods immediately preceding the relevant Planning Period exceeds the average energy consumed by the Member and its affiliates within PJM over the same time period.

Generation Resource Maximum Output:

"Generation Resource Maximum Output" shall mean, for Customer Facilities identified in an Interconnection Service Agreement or Wholesale Market Participation Agreement, the Generation Resource Maximum Output for a generating unit shall equal the unit's pro rata share of the Maximum Facility Output, determined by the Economic Maximum values for the available units at the Customer Facility. For generating units not identified in an Interconnection Service Agreement or Wholesale Market Participation Agreement, the Generation Resource Maximum Output shall equal the generating unit's Economic Maximum.

Generator Forced Outage:

"Generator Forced Outage" shall mean an immediate reduction in output or capacity or removal from service, in whole or in part, of a generating unit by reason of an Emergency or threatened Emergency, unanticipated failure, or other cause beyond the control of the owner or operator of the facility, as specified in the relevant portions of the PJM Manuals. A reduction in output or removal from service of a generating unit in response to changes in market conditions shall not constitute a Generator Forced Outage.

Generator Maintenance Outage:

"Generator Maintenance Outage" shall mean the scheduled removal from service, in whole or in part, of a generating unit in order to perform necessary repairs on specific components of the facility, if removal of the facility meets the guidelines specified in the PJM Manuals.

Generator Planned Outage:

"Generator Planned Outage" shall mean the scheduled removal from service, in whole or in part, of a generating unit for inspection, maintenance or repair with the approval of the Office of the Interconnection in accordance with the PJM Manuals.

Good Utility Practice:

“Good Utility Practice” shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather is intended to include acceptable practices, methods, or acts generally accepted in the region; including those practices required by Federal Power Act, s~~S~~ection 215(a)(4).

Governmental Authority:

“Governmental Authority” shall mean any federal, state, local or other governmental, regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, arbitrating body, or other governmental authority having jurisdiction over any Interconnection Party or Construction Party or regarding any matter relating to an Interconnection Service Agreement or Construction Service Agreement, as applicable.

Guarantor:

“Guarantor” shall mean a credit support provider for a Participant that provides a Corporate Guaranty accepted by PJM and/or PJMSettlement, and for which PJM has made a determination that the Guarantor meets applicable creditworthiness requirements under Tariff, Attachment Q.

Hazardous Substances:

“Hazardous Substance” shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “radioactive substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Hot Weather Alert:

“Hot Weather Alert” shall mean the notice provided by PJM to PJM Members, Transmission Owners, resource owners and operators, customers, and regulators to prepare personnel and facilities for extreme hot and/or humid weather conditions which may cause capacity requirements and/or unit unavailability to be substantially higher than forecast are expected to persist for an extended period.

Definitions – I – J - K

IDR Transfer Agreement:

"IDR Transfer Agreement" shall mean an agreement to transfer, subject to the terms of Tariff, Part VI, section 237, Incremental Deliverability Rights to a party for the purpose of eliminating or reducing the need for Local or Network Upgrades that would otherwise have been the responsibility of the party receiving such rights.

Immediate-need Reliability Project:

"Immediate-need Reliability Project" shall have the same meaning provided in the Operating Agreement.

Inadvertent Interchange:

"Inadvertent Interchange" shall mean the difference between net actual energy flow and net scheduled energy flow into or out of the individual Control Areas operated by PJM.

Incidental Expenses:

"Incidental Expenses" shall mean those expenses incidental to the performance of construction pursuant to an Interconnection Construction Service Agreement, including, but not limited to, the expense of temporary construction power, telecommunications charges, Interconnected Transmission Owner expenses associated with, but not limited to, document preparation, design review, installation, monitoring, and construction-related operations and maintenance for the Customer Facility and for the Interconnection Facilities.

Incremental Auction:

"Incremental Auction" shall mean any of several auctions conducted for a Delivery Year after the Base Residual Auction for such Delivery Year and before the first day of such Delivery Year, including the First Incremental Auction, Second Incremental Auction, Third Incremental Auction or Conditional Incremental Auction. Incremental Auctions (other than the Conditional Incremental Auction shall be held for the purposes of:

(i) allowing Market Sellers that committed Capacity Resources in the Base Residual Auction for a Delivery Year, which subsequently are determined to be unavailable to deliver the committed Unforced Capacity in such Delivery Year (due to resource retirement, resource cancellation or construction delay, resource derating, EFORd increase, a decrease in the Nominated Demand Resource Value of a Planned Demand Resource, delay or cancellation of a Qualifying Transmission Upgrade, or similar occurrences) to submit Buy Bids for replacement Capacity Resources; and

(ii) allowing the Office of the Interconnection to reduce or increase the amount of committed capacity secured in prior auctions for such Delivery Year if, as a result of changed circumstances or expectations since the prior auction(s), there is, respectively, a significant excess or significant deficit of committed capacity for such Delivery Year, for the PJM Region or for an LDA.

Incremental Auction Revenue Rights:

"Incremental Auction Revenue Rights" shall mean the additional Auction Revenue Rights, not previously feasible, created by the addition of Incremental Rights-Eligible Required Transmission Enhancements, Merchant Transmission Facilities, or of one or more Customer-Funded Upgrades.

Incremental Available Transfer Capability Revenue Rights:

"Incremental Available Transfer Capability Revenue Rights" shall mean the rights to revenues that are derived from incremental Available Transfer Capability created by the addition of Merchant Transmission Facilities or of one of more Customer-Funded Upgrades.

Incremental Capacity Transfer Right:

"Incremental Capacity Transfer Right" shall mean a Capacity Transfer Right allocated to a Generation Interconnection Customer or Transmission Interconnection Customer obligated to fund a transmission facility or upgrade, to the extent such upgrade or facility increases the transmission import capability into a Locational Deliverability Area, or a Capacity Transfer Right allocated to a Responsible Customer in accordance with Tariff, Schedule 12A.

Incremental Deliverability Rights (IDRs):

"Incremental Deliverability Rights" or "IDRs" shall mean the rights to the incremental ability, resulting from the addition of Merchant Transmission Facilities, to inject energy and capacity at a point on the Transmission System, such that the injection satisfies the deliverability requirements of a Capacity Resource. Incremental Deliverability Rights may be obtained by a generator or a Generation Interconnection Customer, pursuant to an IDR Transfer Agreement, to satisfy, in part, the deliverability requirements necessary to obtain Capacity Interconnection Rights.

Incremental Energy Offer:

"Incremental Energy Offer" shall mean offer segments comprised of a pairing of price (in dollars per MWh) and megawatt quantities, which must be a non-decreasing function and taken together produce all of the energy segments above a resource's Economic Minimum. No-load Costs are not included in the Incremental Energy Offer.

Incremental Multi-Driver Project:

"Incremental Multi-Driver Project" shall have the same meaning provided in the Operating Agreement.

Incremental Rights-Eligible Required Transmission Enhancements:

"Incremental Rights-Eligible Required Transmission Enhancements" shall mean Regional Facilities and Necessary Lower Voltage Facilities or Lower Voltage Facilities (as defined in Tariff, Schedule 12) and meet one of the following criteria: (1) cost responsibility is assigned to non-contiguous Zones that are not directly electrically connected; or (2) cost responsibility is assigned to Merchant Transmission Providers that are Responsible Customers.

Increment Offer:

"Increment Offer" shall mean a type of Virtual Transaction that is an offer to sell energy at a specified location in the Day-ahead Energy Market. A cleared Increment Offer results in scheduled generation at the specified location in the Day-ahead Energy Market.

Independent Auditor:

"Independent Auditor" shall mean an external accountant or external accounting firm who is not an employee of, not otherwise related to, not obligated to, has no interest in, and is independent in the performance of professional services for, the entity he/she/it is auditing, its management and/or its owners.

Initial Operation:

"Initial Operation" shall mean the commencement of operation of the Customer Facility and Customer Interconnection Facilities after satisfaction of the conditions of Tariff, Attachment O-Appendix 2, section 1.4 (an Interconnection Service Agreement).

Interconnected Entity:

"Interconnected Entity" shall mean either the Interconnection Customer or the Interconnected Transmission Owner; Interconnected Entities shall mean both of them.

Interconnected Transmission Owner:

"Interconnected Transmission Owner" shall mean the Transmission Owner to whose transmission facilities or distribution facilities Customer Interconnection Facilities are, or as the case may be, a Customer Facility is, being directly connected. When used in an Interconnection Construction Service Agreement, the term may refer to a Transmission Owner whose facilities must be upgraded pursuant to the Facilities Study, but whose facilities are not directly interconnected with those of the Interconnection Customer.

Interconnection Construction Service Agreement:

"Interconnection Construction Service Agreement" shall mean the agreement entered into by an Interconnection Customer, Interconnected Transmission Owner and the Transmission Provider pursuant to Tariff, Part VI, Subpart B and in the form set forth in Tariff, Attachment P, relating to construction of Attachment Facilities, Network Upgrades, and/or Local Upgrades and coordination of the construction and interconnection of an associated Customer Facility. A separate Interconnection Construction Service Agreement will be executed with each Transmission Owner that is responsible for construction of any Attachment Facilities, Network Upgrades, or Local Upgrades associated with interconnection of a Customer Facility.

Interconnection Customer:

"Interconnection Customer" shall mean a Generation Interconnection Customer and/or a Transmission Interconnection Customer.

Interconnection Facilities:

"Interconnection Facilities" shall mean the Transmission Owner Interconnection Facilities and the Customer Interconnection Facilities.

Interconnection Feasibility Study:

"Interconnection Feasibility Study" shall mean either a Generation Interconnection Feasibility Study or Transmission Interconnection Feasibility Study.

Interconnection Party:

"Interconnection Party" shall mean a Transmission Provider, Interconnection Customer, or the Interconnected Transmission Owner. Interconnection Parties shall mean all of them.

Interconnection Request:

"Interconnection Request" shall mean a Generation Interconnection Request, a Transmission Interconnection Request and/or an IDR Transfer Agreement.

Interconnection Service:

"Interconnection Service" shall mean the physical and electrical interconnection of the Customer Facility with the Transmission System pursuant to the terms of Tariff, Part IV and Tariff, Part VI and the Interconnection Service Agreement entered into pursuant thereto by Interconnection Customer, the Interconnected Transmission Owner and Transmission Provider.

Interconnection Service Agreement:

"Interconnection Service Agreement" shall mean an agreement among the Transmission Provider, an Interconnection Customer and an Interconnected Transmission Owner regarding interconnection under Tariff, Part IV and Tariff, Part VI.

Interconnection Studies:

"Interconnection Studies" shall mean the Interconnection Feasibility Study, the System Impact Study, and the Facilities Study described in Tariff, Part IV and Tariff, Part VI.

Interface Pricing Point:

"Interface Pricing Point" shall have the meaning specified in Operating Agreement, Schedule 1, section 2.6A, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.6A.

Intermittent Resource:

"Intermittent Resource" shall mean a Generation Capacity Resource with output that can vary as a function of its energy source, such as wind, solar, run of river hydroelectric power and other renewable resources.

Internal Credit Score:

"Internal Credit Score" shall mean a composite numerical score determined by PJMSettlement using quantitative and qualitative metrics to estimate various predictors of a credit event happening to a Market Participant that may trigger a credit event.

Internal Market Buyer:

"Internal Market Buyer" shall mean a Market Buyer making purchases of energy from the PJM Interchange Energy Market for ultimate consumption by end-users inside the PJM Region that are served by Network Transmission Service.

Interregional Transmission Project:

"Interregional Transmission Project" shall mean transmission facilities that would be located within two or more neighboring transmission planning regions and are determined by each of those regions to be a more efficient or cost effective solution to regional transmission needs.

Interruption:

"Interruption" shall mean a reduction in non-firm transmission service due to economic reasons pursuant to Tariff, Part II, section 14.7.

Definitions – L – M – N

Letter of Credit:

"Letter of Credit" shall mean a Credit Support Document acceptable to PJM and/or PJM Settlement, issued by a financial institution acceptable to PJM and/or PJM Settlement, naming PJM and/or PJMSettlement as beneficiary, in substantially the form posted on PJM's website.

Limited Demand Resource:

"Limited Demand Resource**"** shall have the meaning specified in the Reliability Assurance Agreement.

Limited Demand Resource Reliability Target:

"Limited Demand Resource Reliability Target**"** for the PJM Region or an LDA, shall mean the maximum amount of Limited Demand Resources determined by PJM to be consistent with the maintenance of reliability, stated in Unforced Capacity that shall be used to calculate the Minimum Extended Summer Demand Resource Requirement for Delivery Years through May 31, 2017 and the Limited Resource Constraint for the 2017/2018 and 2018/2019 Delivery Years for the PJM Region or such LDA. As more fully set forth in the PJM Manuals, PJM calculates the Limited Demand Resource Reliability Target by first: i) testing the effects of the ten-interruption requirement by comparing possible loads on peak days under a range of weather conditions (from the daily load forecast distributions for the Delivery Year in question) against possible generation capacity on such days under a range of conditions (using the cumulative capacity distributions employed in the Installed Reserve Margin study for the PJM Region and in the Capacity Emergency Transfer Objective study for the relevant LDAs for such Delivery Year) and, by varying the assumed amounts of DR that is committed and displaces committed generation, determines the DR penetration level at which there is a ninety percent probability that DR will not be called (based on the applicable operating reserve margin for the PJM Region and for the relevant LDAs) more than ten times over those peak days; ii) testing the six-hour duration requirement by calculating the MW difference between the highest hourly unrestricted peak load and seventh highest hourly unrestricted peak load on certain high peak load days (e.g., the annual peak, loads above the weather normalized peak, or days where load management was called) in recent years, then dividing those loads by the forecast peak for those years and averaging the result; and (iii) (for the 2016/2017 and 2017/2018 Delivery Years) testing the effects of the six-hour duration requirement by comparing possible hourly loads on peak days under a range of weather conditions (from the daily load forecast distributions for the Delivery Year in question) against possible generation capacity on such days under a range of conditions (using a Monte Carlo model of hourly capacity levels that is consistent with the capacity model employed in the Installed Reserve Margin study for the PJM Region and in the Capacity Emergency Transfer Objective study for the relevant LDAs for such Delivery Year) and, by varying the assumed amounts of DR that is committed and displaces committed generation, determines the DR penetration level at which there is a ninety percent probability that DR will not be called (based on the applicable operating reserve margin for the PJM Region and for the relevant LDAs) for more than six hours over any one or more of the tested peak days. Second, PJM adopts the lowest result from these three tests as the Limited Demand Resource Reliability Target. The Limited Demand Resource Reliability Target shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the DR Factor] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

Limited Resource Constraint:

"Limited Resource Constraint" shall mean, for the 2017/2018 Delivery Year and for FRR Capacity Plans the 2017/2018 and Delivery Years, for the PJM Region or each LDA for which the Office of the Interconnection is required under Tariff, Attachment DD, section 5.10(a) to establish a separate VRR Curve for a Delivery Year, a limit on the total amount of Unforced Capacity that can be committed as Limited Demand Resources for the 2017/2018 Delivery Year in the PJM Region or in such LDA, calculated as the Limited Demand Resource Reliability Target for the PJM Region or such LDA, respectively, minus the Short Term Resource Procurement Target for the PJM Region or such LDA, respectively.

Limited Resource Price Decrement:

"Limited Resource Price Decrement" shall mean, for the 2017/2018 Delivery Year, a difference between the clearing price for Limited Demand Resources and the clearing price for Extended Summer Demand Resources and Annual Resources, representing the cost to procure additional Extended Summer Demand Resources or Annual Resources out of merit order when the Limited Resource Constraint is binding.

List of Approved Contractors:

"List of Approved Contractors" shall mean a list developed by each Transmission Owner and published in a PJM Manual of (a) contractors that the Transmission Owner considers to be qualified to install or construct new facilities and/or upgrades or modifications to existing facilities on the Transmission Owner's system, provided that such contractors may include, but need not be limited to, contractors that, in addition to providing construction services, also provide design and/or other construction-related services, and (b) manufacturers or vendors of major transmission-related equipment (e.g., high-voltage transformers, transmission line, circuit breakers) whose products the Transmission Owner considers acceptable for installation and use on its system.

Load Management:

"Load Management" shall mean a Demand Resource ("DR") as defined in the Reliability Assurance Agreement.

Load Management Event:

"Load Management Event" shall mean a) a single temporally contiguous dispatch of Demand Resources in a Compliance Aggregation Area during an Operating Day, or b) multiple dispatches of Demand Resources in a Compliance Aggregation Area during an Operating Day that are temporally contiguous.

Load Ratio Share:

"Load Ratio Share" shall mean the ratio of a Transmission Customer's Network Load to the Transmission Provider's total load.

Load Reduction Event:

"Load Reduction Event" shall mean a reduction in demand by a Member or Special Member for the purpose of participating in the PJM Interchange Energy Market.

Load Serving Charging Energy:

"Load Serving Charging Energy" shall mean energy that is purchased from the PJM Interchange Energy Market and stored in an Energy Storage Resource for later resale to end-use load.

Load Serving Entity (LSE):

"Load Serving Entity" or "LSE" shall have the meaning specified in the Reliability Assurance Agreement.

Load Shedding:

"Load Shedding" shall mean the systematic reduction of system demand by temporarily decreasing load in response to transmission system or area capacity shortages, system instability, or voltage control considerations under Tariff, Part II or Tariff, Part III.

Local Upgrades:

"Local Upgrades" shall mean modifications or additions of facilities to abate any local thermal loading, voltage, short circuit, stability or similar engineering problem caused by the interconnection and delivery of generation to the Transmission System. Local Upgrades shall include:

(i) Direct Connection Local Upgrades which are Local Upgrades that only serve the Customer Interconnection Facility and have no impact or potential impact on the Transmission System until the final tie-in is complete; and

(ii) Non-Direct Connection Local Upgrades which are parallel flow Local Upgrades that are not Direct Connection Local Upgrades.

Location:

"Location" as used in the Economic Load Response rules shall mean an end-use customer site as defined by the relevant electric distribution company account number.

LOC Deviation:

"LOC Deviation," shall mean, for units other than wind units, the LOC Deviation shall equal the desired megawatt amount for the resource determined according to the point on the Final Offer curve corresponding to the Real-time Settlement Interval real-time Locational Marginal Price at the resource's bus and adjusted for any Regulation or Tier 2 Synchronized Reserve assignments and limited to the lesser of the unit's Economic Maximum or the unit's Generation Resource Maximum Output, minus the actual output of the unit. For wind units, the LOC Deviation shall mean the deviation of the generating unit's output equal to the lesser of the PJM forecasted output for the unit or the desired megawatt amount for the resource determined according to the point on the Final Offer curve corresponding to the Real-time Settlement Interval integrated real-time Locational Marginal Price at the resource's bus, and shall be limited to the lesser of the unit's Economic Maximum or the unit's Generation Resource Maximum Output, minus the actual output of the unit.

Locational Deliverability Area (LDA):

"Locational Deliverability Area" or "LDA" shall mean a geographic area within the PJM Region that has limited transmission capability to import capacity to satisfy such area's reliability requirement, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, and as specified in Reliability Assurance Agreement, Schedule 10.1.

Locational Deliverability Area Reliability Requirement:

"Locational Deliverability Area Reliability Requirement" shall mean the projected internal capacity in the Locational Deliverability Area plus the Capacity Emergency Transfer Objective for the Delivery Year, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, less the minimum internal resources required for all FRR Entities in such Locational Deliverability Area.

Locational Price Adder:

"Locational Price Adder" shall mean an addition to the marginal value of Unforced Capacity within an LDA as necessary to reflect the price of Capacity Resources required to relieve applicable binding locational constraints.

Locational Reliability Charge:

"Locational Reliability Charge" shall have the meaning specified in the Reliability Assurance Agreement.

Locational UCAP:

"Locational UCAP" shall mean unforced capacity that a Member with available uncommitted capacity sells in a bilateral transaction to a Member that previously committed capacity through an RPM Auction but now requires replacement capacity to fulfill its RPM Auction commitment. The Locational UCAP Seller retains responsibility for performance of the resource providing such replacement capacity.

Locational UCAP Seller:

"Locational UCAP Seller" shall mean a Member that sells Locational UCAP.

Long-lead Project:

"Long-lead Project" shall have the same meaning provided in the Operating Agreement.

Long-Term Firm Point-To-Point Transmission Service:

"Long-Term Firm Point-To-Point Transmission Service" shall mean firm Point-To-Point Transmission Service under Tariff, Part II with a term of one year or more.

Loss Price:

"Loss Price" shall mean the loss component of the Locational Marginal Price, which is the effect on transmission loss costs (whether positive or negative) associated with increasing the output of a generation resource or decreasing the consumption by a Demand Resource based on the effect of increased generation from or consumption by the resource on transmission losses, calculated as specified in Operating Agreement, Schedule 1, section 2, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

M2M Flowgate:

"M2M Flowgate" shall have the meaning provided in the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C.

Maintenance Adder:

"Maintenance Adder" shall mean an adder that may be included to account for variable operation and maintenance expenses in a Market Seller's Fuel Cost Policy. The Maintenance Adder is calculated in accordance with the applicable provisions of PJM Manual 15, and may only include expenses incurred as a result of electric production.

Manual Load Dump Action:

"Manual Load Dump Action" shall mean an Operating Instruction, as defined by NERC, from PJM to shed firm load when the PJM Region cannot provide adequate capacity to meet the PJM

Region’s load and tie schedules, or to alleviate critically overloaded transmission lines or other equipment.

Manual Load Dump Warning:

“Manual Load Dump Warning” shall mean a notification from PJM to warn Members of an increasingly critical condition of present operations that may require manually shedding load.

Marginal Value:

“Marginal Value” shall mean the incremental change in system dispatch costs, measured as a $/MW value incurred by providing one additional MW of relief to the transmission constraint.

Market Monitor:

“Market Monitor**”** means the head of the Market Monitoring Unit.

Market Monitoring Unit or MMU:

“Market Monitoring Unit” or “MMU” means the independent Market Monitoring Unit defined in 18 CFR § 35.28(a)(7) and established under the PJM Market Monitoring Plan (Attachment M) to the PJM Tariff that is responsible for implementing the Market Monitoring Plan, including the Market Monitor. The Market Monitoring Unit may also be referred to as the IMM or Independent Market Monitor for PJM

Market Monitoring Unit Advisory Committee or MMU Advisory Committee:

“Market Monitoring Unit Advisory Committee” or “MMU Advisory Committee” shall mean the committee established under Tariff, Attachment M, section III.H.

Market Operations Center:

“Market Operations Center” shall mean the equipment, facilities and personnel used by or on behalf of a Market Participant to communicate and coordinate with the Office of the Interconnection in connection with transactions in the PJM Interchange Energy Market or the operation of the PJM Region.

Market Participant:

“Market Participant” shall mean a Market Buyer, a Market Seller, and/or an Economic Load Response Participant, except when that term is used in or pertaining to Tariff, Attachment M, Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4. “Market Participant,”~~or all three, except~~ when such term is used in Tariff, Attachment M, ~~in which case Market Participant~~ shall mean an entity that generates, transmits, distributes, purchases, or sells electricity, ancillary services, or any other product or service provided under the PJM Tariff or Operating Agreement within, into, out of, or through the PJM Region, but it shall not include an Authorized Government Agency that consumes energy for its own use but does not purchase or sell energy at wholesale. “Market Participant,” when such term is used in or pertaining to Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4, shall mean a Market Buyer, a Market Seller, an Economic Load Response Participant, an FTR Participant, a Capacity Market Buyer, or a Capacity Market Seller.

Market Participant Energy Injection:

“Market Participant Energy Injection” shall mean transactions in the Day-ahead Energy Market and Real-time Energy Market, including but not limited to Day-ahead generation schedules, real-time generation output, Increment Offers, internal bilateral transactions and import transactions, as further described in the PJM Manuals.

Market Participant Energy Withdrawal:

“Market Participant Energy Withdrawal” shall mean transactions in the Day-ahead Energy Market and Real-time Energy Market, including but not limited to Demand Bids, Decrement Bids, real-time load (net of Behind The Meter Generation expected to be operating, but not to be less than zero), internal bilateral transactions and Export Transactions, as further described in the PJM Manuals.

Market Seller Offer Cap:

“Market Seller Offer Cap” shall mean a maximum offer price applicable to certain Market Sellers under certain conditions, as determined in accordance with Tariff, Attachment DD. section 6 and Tariff, Attachment M-Appendix, section II.E.

Market Violation:

“Market Violation” shall mean a tariff violation, violation of a Commission-approved order, rule or regulation, market manipulation, or inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies, as defined in 18 C.F.R. § 35.28(b)(8).

Material Adverse Change:

“Material Adverse Change” shall mean (i) any material adverse change in the financial condition of the respective entity or (ii) any adverse change, event or occurrence which, individually or in the aggregate is likely to have a material adverse effect on the ability of the Participant to pay and perform its obligations to PJM or on the operations, business, assets, financial condition, results, or creditworthiness of the respective entity or its credit support provider, and may include, without limitation, the items listed in Tariff, Attachment Q.

Material Modification:

"Material Modification" shall mean any modification to an Interconnection Request that has a material adverse effect on the cost or timing of Interconnection Studies related to, or any Network Upgrades or Local Upgrades needed to accommodate, any Interconnection Request with a later Queue Position.

Maximum Daily Starts:

"Maximum Daily Starts" shall mean the maximum number of times that a generating unit can be started in an Operating Day under normal operating conditions.

Maximum Emergency:

"Maximum Emergency" shall mean the designation of all or part of the output of a generating unit for which the designated output levels may require extraordinary procedures and therefore are available to the Office of the Interconnection only when the Office of the Interconnection declares a Maximum Generation Emergency and requests generation designated as Maximum Emergency to run. The Office of the Interconnection shall post on the PJM website the aggregate amount of megawatts that are classified as Maximum Emergency.

Maximum Facility Output:

"Maximum Facility Output" shall mean the maximum (not nominal) net electrical power output in megawatts, specified in the Interconnection Service Agreement, after supply of any parasitic or host facility loads, that a Generation Interconnection Customer's Customer Facility is expected to produce, provided that the specified Maximum Facility Output shall not exceed the output of the proposed Customer Facility that Transmission Provider utilized in the System Impact Study.

Maximum Generation Emergency:

"Maximum Generation Emergency" shall mean an Emergency declared by the Office of the Interconnection to address either a generation or transmission emergency in which the Office of the Interconnection anticipates requesting one or more Generation Capacity Resources, or Non-Retail Behind The Meter Generation resources to operate at its maximum net or gross electrical power output, subject to the equipment stress limits for such Generation Capacity Resource or Non-Retail Behind The Meter resource in order to manage, alleviate, or end the Emergency.

Maximum Generation Emergency Alert:

"Maximum Generation Emergency Alert" shall mean an alert issued by the Office of the Interconnection to notify PJM Members, Transmission Owners, resource owners and operators, customers, and regulators that a Maximum Generation Emergency may be declared, for any Operating Day in either, as applicable, the Day-ahead Energy Market or the Real-time Energy Market, for all or any part of such Operating Day.

Maximum Run Time:

"Maximum Run Time" shall mean the maximum number of hours a generating unit can run over the course of an Operating Day, as measured by PJM's State Estimator.

Maximum Weekly Starts:

"Maximum Weekly Starts" shall mean the maximum number of times that a generating unit can be started in one week, defined as the 168 hour period starting Monday 0001 hour, under normal operating conditions.

Member:

"Member" shall have the meaning provided in the Operating Agreement.

Merchant A.C. Transmission Facilities:

"Merchant A.C. Transmission Facility" shall mean Merchant Transmission Facilities that are alternating current (A.C.) transmission facilities, other than those that are Controllable A.C. Merchant Transmission Facilities.

Merchant D.C. Transmission Facilities:

"Merchant D.C. Transmission Facilities" shall mean direct current (D.C.) transmission facilities that are interconnected with the Transmission System pursuant to Tariff, Part IV and Tariff, Part VI.

Merchant Network Upgrades:

"Merchant Network Upgrades" shall mean additions to, or modifications or replacements of, physical facilities of the Interconnected Transmission Owner that, on the date of the pertinent Transmission Interconnection Customer's Upgrade Request, are part of the Transmission System or are included in the Regional Transmission Expansion Plan.

Merchant Transmission Facilities:

"Merchant Transmission Facilities" shall mean A.C. or D.C. transmission facilities that are interconnected with or added to the Transmission System pursuant to Tariff, Part IV and Tariff, Part VI and that are so identified in Tariff, Attachment T, provided, however, that Merchant Transmission Facilities shall not include (i) any Customer Interconnection Facilities, (ii) any physical facilities of the Transmission System that were in existence on or before March 20, 2003 ; (iii) any expansions or enhancements of the Transmission System that are not identified as Merchant Transmission Facilities in the Regional Transmission Expansion Plan and Tariff, Attachment T~~ to the Tariff~~, or (iv) any transmission facilities that are included in the rate base of a public utility and on which a regulated return is earned.

Merchant Transmission Provider:

"Merchant Transmission Provider" shall mean an Interconnection Customer that (1) owns, controls, or controls the rights to use the transmission capability of, Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities that connect the Transmission System with another control area, (2) has elected to receive Transmission Injection Rights and Transmission Withdrawal Rights associated with such facility pursuant to Tariff, Part IV, section 36, and (3) makes (or will make) the transmission capability of such facilities available for use by third parties under terms and conditions approved by the Commission and stated in the Tariff, consistent with Tariff, Part IV, section 38.

Merger Without Assumption:

"Merger Without Assumption" shall mean when a Market Participant, or any Guarantor or other credit support provider of such Market Participant, merges with or transfers all or substantially all of its assets to, or consolidates, amalgamates, reorganizes, reincorporates or reconstitutes into or as, another entity and, at the time of such consolidation, amalgamation, merger, transfer, reorganization, reincorporation or reconstitution (a) the resulting, surviving or transferee entity does not assume all the obligations of such Market Participant, or any Guarantor or other credit support provider of such Market Participant under the Agreements or any Credit Support Document to which it or its predecessor was a party; or (b) the benefits of any Credit Support Document do not extend (without the consent of the other party) to the performance by such resulting, surviving or transferee entity of its obligations under the Agreements.

Metering Equipment:

"Metering Equipment" shall mean all metering equipment installed at the metering points designated in the appropriate appendix to an Interconnection Service Agreement.

Minimum Annual Resource Requirement:

"Minimum Annual Resource Requirement" shall mean, for Delivery Years through May 31, 2017, the minimum amount of capacity that PJM will seek to procure from Annual Resources for the PJM Region and for each Locational Deliverability Area for which the Office of the Interconnection is required under Tariff, Attachment DD, section 5.10(a) to establish a separate VRR Curve for such Delivery Year. For the PJM Region, the Minimum Annual Resource Requirement shall be equal to the RTO Reliability Requirement minus [the Sub-Annual Resource Reliability Target for the RTO in Unforced Capacity]. For an LDA, the Minimum Annual Resource Requirement shall be equal to the LDA Reliability Requirement minus [the LDA CETL] minus [the Sub-Annual Resource Reliability Target for such LDA in Unforced Capacity]. The LDA CETL may be adjusted pro rata for the amount of load served under the FRR Alternative.

Minimum Down Time:

For all generating units that are not combined cycle units, "Minimum Down Time" shall mean the minimum number of hours under normal operating conditions between unit shutdown and

unit startup, calculated as the shortest time difference between the unit's generator breaker opening and after the unit's generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero. For combined cycle units, "Minimum Down Time" shall mean the minimum number of hours between the last generator breaker opening and after first combustion turbine generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero.

Minimum Extended Summer Resource Requirement:

"Minimum Extended Summer Resource Requirement" shall mean, for Delivery Years through May 31, 2017, the minimum amount of capacity that PJM will seek to procure from Extended Summer Demand Resources and Annual Resources for the PJM Region and for each Locational Deliverability Area for which the Office of the Interconnection is required under Tariff, Attachment DD, section 5.10(a) to establish a separate VRR Curve for such Delivery Year. For the PJM Region, the Minimum Extended Summer Resource Requirement shall be equal to the RTO Reliability Requirement minus [the Limited Demand Resource Reliability Target for the PJM Region in Unforced Capacity]. For an LDA, the Minimum Extended Summer Resource Requirement shall be equal to the LDA Reliability Requirement minus [the LDA CETL] minus [the Limited Demand Resource Reliability Target for such LDA in Unforced Capacity]. The LDA CETL may be adjusted pro rata for the amount of load served under the FRR Alternative.

Minimum Generation Emergency:

"Minimum Generation Emergency" shall mean an Emergency declared by the Office of the Interconnection in which the Office of the Interconnection anticipates requesting one or more generating resources to operate at or below Normal Minimum Generation, in order to manage, alleviate, or end the Emergency.

Minimum Participation Requirements:

"Minimum Participation Requirements" shall mean a set of minimum training, risk management, communication, and capital or collateral requirements required for Participants in the PJM Markets, as set forth ~~here~~in Tariff, Attachment Q and in the Form of Annual Certification set forth as Tariff, Attachment Q, Appendix 1. FTR Participants ~~transacting in FTRs~~ in certain circumstances will be required to demonstrate additional capital and collateral requirements as set forth in Tariff, Attachment Q, and risk management procedures and controls as further set forth in the Annual Certification found in Tariff, Attachment Q, Appendix 1.

Minimum Run Time:

For all generating units that are not combined cycle units, "Minimum Run Time" shall mean the minimum number of hours a unit must run, in real-time operations, from the time after generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero, to the time of generator breaker opening, as measured by PJM's State Estimator. For combined cycle units, "Minimum Run Time" shall mean the time period after the first combustion turbine generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero, and the last generator breaker opening as measured by PJM's State Estimator.

MISO:

"MISO" shall mean the Midcontinent Independent System Operator, Inc. or any successor thereto.

Multi-Driver Project:

"Multi-Driver Project" shall have the same meaning provided in the Operating Agreement.

Municipalities and Cooperatives; Municipality and Cooperative; Municipality or Cooperative:

"Municipalities and Cooperatives," "Municipality and Cooperative," and "Municipality or Cooperative," as those terms are used in Tariff, Attachment Q or elsewhere regarding credit scoring, shall mean Participants that are not-for-profit municipal electric systems, municipalities, electric cooperatives, generation cooperatives, transmission cooperatives and/or joint municipal agencies, or agents duly authorized to represent one or more of such entities and whose credit quality is directly derived from the credit quality of the entity(ies) represented through the agency relationship.

Nationally Recognized Statistical Rating Organization:

"Nationally Recognized Statistical Rating Organization" or "NRSRO" shall have the meaning as set forth in Securities Exchange Act of 1934, section 3(a)(62), 15 U.S.C. §78(a)(62).

Native Load Customers:

"Native Load Customers" shall mean the wholesale and retail power customers of a Transmission Owner on whose behalf the Transmission Owner, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to construct and operate the Transmission Owner's system to meet the reliable electric needs of such customers.

NERC:

"NERC" shall mean the North American Electric Reliability Corporation or any successor thereto.

NERC Interchange Distribution Calculator:

"NERC Interchange Distribution Calculator" shall mean the NERC mechanism that is in effect and being used to calculate the distribution of energy, over specific transmission interfaces, from energy transactions.

Net Benefits Test:

"Net Benefits Test" shall mean a calculation to determine whether the benefits of a reduction in price resulting from the dispatch of Economic Load Response exceeds the cost to other loads resulting from the billing unit effects of the load reduction, as specified in Operating Agreement, Schedule 1, section 3.3A.4 and the parallel provisions of Tariff, Attachment K-Appendix, section 3.3A.4.

Net Cost of New Entry:

"Net Cost of New Entry" shall mean the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset.

Net Obligation:

"Net Obligation" shall mean the amount owed to PJMSettlement and PJM for purchases from the PJM Markets, Transmission Service, (under Tariff, Parts II and III , and other services pursuant to the Agreements, after applying a deduction for amounts owed to a Participant by PJMSettlement as it pertains to monthly market activity and services. Should other markets be formed such that Participants may incur future Obligations in those markets, then the aggregate amount of those Obligations will also be added to the Net Obligation.

Net Sell Position:

"Net Sell Position" shall mean the amount of Net Obligation when Net Obligation is negative.

Network Customer:

"Network Customer" shall mean an entity receiving transmission service pursuant to the terms of the Transmission Provider's Network Integration Transmission Service under Tariff, Part III.

Network External Designated Transmission Service:

"Network External Designated Transmission Service" shall have the meaning set forth in Reliability Assurance Agreement, Article I.

Network Integration Transmission Service:

"Network Integration Transmission Service" shall mean the transmission service provided under Tariff, Part III.

Network Load:

"Network Load" shall mean the load that a Network Customer designates for Network Integration Transmission Service under Tariff, Part III. The Network Customer's Network Load shall include all load (including losses, Non-Dispatched Charging Energy, and Load Serving

Charging Energy) served by the output of any Network Resources designated by the Network Customer. A Network Customer may elect to designate less than its total load as Network Load but may not designate only part of the load at a discrete Point of Delivery. Where an Eligible Customer has elected not to designate a particular load at discrete points of delivery as Network Load, the Eligible Customer is responsible for making separate arrangements under Tariff, Part II for any Point-To-Point Transmission Service that may be necessary for such non-designated load. Network Load shall not include Dispatched Charging Energy.

Network Operating Agreement:

"Network Operating Agreement" shall mean an executed agreement that contains the terms and conditions under which the Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of Network Integration Transmission Service under Tariff, Part III.

Network Operating Committee:

"Network Operating Committee" shall mean a group made up of representatives from the Network Customer(s) and the Transmission Provider established to coordinate operating criteria and other technical considerations required for implementation of Network Integration Transmission Service under Tariff, Part III.

Network Resource:

"Network Resource" shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis, except for purposes of fulfilling obligations under a reserve sharing program.

Network Service User:

"Network Service User" shall mean an entity using Network Transmission Service.

Network Transmission Service:

"Network Transmission Service" shall mean transmission service provided pursuant to the rates, terms and conditions set forth in Tariff, Part III, or transmission service comparable to such service that is provided to a Load Serving Entity that is also a Transmission Owner.

Network Upgrades:

"Network Upgrades" shall mean modifications or additions to transmission-related facilities that are integrated with and support the Transmission Provider's overall Transmission System for the general benefit of all users of such Transmission System. Network Upgrades shall include:

(i) **Direct Connection Network Upgrades** which are Network Upgrades that are not part of an Affected System; only serve the Customer Interconnection Facility; and have no impact or potential impact on the Transmission System until the final tie-in is complete. Both Transmission Provider and Interconnection Customer must agree as to what constitutes Direct Connection Network Upgrades and identify them in the Interconnection Construction Service Agreement, Schedule D. If the Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Direct Connection Network Upgrade, the Transmission Provider must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider does not consider the Network Upgrade to be a Direecct Connection Network Upgrade within 15 days of its determination.

(ii) **Non-Direct Connection Network Upgrades** which are parallel flow Network Upgrades that are not Direct Connection Network Upgrades.

Neutral Party:

"Neutral Party" shall have the meaning provided in Tariff, Part I, section 9.3(v).

New PJM Zone(s):

"New PJM Zone(s)" shall mean the Zone included in the Tariff, along with applicable Schedules and Attachments, for Commonwealth Edison Company, The Dayton Power and Light Company and the AEP East Operating Companies (Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company and Wheeling Power Company).

New Service Customers:

"New Service Customers" shall mean all customers that submit an Interconnection Request, a Completed Application, or an Upgrade Request that is pending in the New Services Queue.

New Service Request:

"New Service Request" shall mean an Interconnection Request, a Completed Application, or an Upgrade Request.

New Services Queue:

"New Service Queue" shall mean all Interconnection Requests, Completed Applications, and Upgrade Requests that are received within each six-month period ending on April 30 and October 31 of each year shall collectively comprise a New Services Queue.

New Services Queue Closing Date:

"New Services Queue Closing Date" shall mean each April 30 and October 31 shall be the Queue Closing Date for the New Services Queue comprised of Interconnection Requests, Completed Applications, and Upgrade Requests received during the six-month period ending on such date.

New York ISO or NYISO:

"New York ISO" or "NYISO" shall mean the New York Independent System Operator, Inc. or any successor thereto.

Nodal Reference Price:

The "Nodal Reference Price" at each location shall mean the 97th percentile price differential between day-ahead and real-time prices experienced over the corresponding two-month reference period in the prior calendar year. Reference periods will be Jan-Feb, Mar-Apr, May-Jun, Jul-Aug, Sept-Oct, Nov-Dec. For any given current-year month, the reference period months will be the set of two months in the prior calendar year that include the month corresponding to the current month. For example, July and August 2003 would each use July-August 2002 as their reference period.

No-load Cost:

"No-load Cost" shall mean the hourly cost required to create the starting point of a monotonically increasing incremental offer curve for a generating unit.

Nominal Rated Capability:

"Nominal Rated Capability" shall mean the nominal maximum rated capability in megawatts of a Transmission Interconnection Customer's Customer Facility or the nominal increase in transmission capability in megawatts of the Transmission System resulting from the interconnection or addition of a Transmission Interconnection Customer's Customer Facility, as determined in accordance with pertinent Applicable Standards and specified in the Interconnection Service Agreement.

Nominated Demand Resource Value:

"Nominated Demand Resource Value" shall mean the amount of load reduction that a Demand Resource commits to provide either through direct load control, firm service level or guaranteed load drop programs. For existing Demand Resources, the maximum Nominated Demand Resource Value is limited, in accordance with the PJM Manuals, to the value appropriate for the method by which the load reduction would be accomplished, at the time the Base Residual Auction or Incremental Auction is being conducted.

Nominated Energy Efficiency Value:

“Nominated Energy Efficiency Value” shall mean the amount of load reduction that an Energy Efficiency Resource commits to provide through installation of more efficient devices or equipment or implementation of more efficient processes or systems.

Non-Dispatched Charging Energy:

“Non-Dispatched Charging Energy” shall mean all Direct Charging Energy that an Energy Storage Resource Model Participant receives from the electric grid that is not otherwise Dispatched Charging Energy.

Non-Firm Point-To-Point Transmission Service:

“Non-Firm Point-To-Point Transmission Service” shall mean Point-To-Point Transmission Service under the Tariff that is reserved and scheduled on an as-available basis and is subject to Curtailment or Interruption as set forth in Tariff, Part II, section 14.7. Non-Firm Point-To-Point Transmission Service is available on a stand-alone basis for periods ranging from one hour to one month.

Non-Firm Sale:

“Non-Firm Sale” shall mean an energy sale for which receipt or delivery may be interrupted for any reason or no reason, without liability on the part of either the buyer or seller.

Non-Firm Transmission Withdrawal Rights:

“No-Firm Transmission Withdrawal Rights” shall mean the rights to schedule energy withdrawals from a specified point on the Transmission System. Non-Firm Transmission Withdrawal Rights may be awarded only to a Merchant D.C. Transmission Facility that connects the Transmission System to another control area. Withdrawals scheduled using Non-Firm Transmission Withdrawal Rights have rights similar to those under Non-Firm Point-to-Point Transmission Service.

Non-Performance Charge:

“Non-Performance Charge” shall mean the charge applicable to Capacity Performance Resources as defined in Tariff, Attachment DD, section 10A(e).

Nonincumbent Developer:

“Nonincumbent Developer” shall have the same meaning provided in the Operating Agreement.

Non-Regulatory Opportunity Cost:

“Non-Regulatory Opportunity Cost” shall mean the difference between (a) the forecasted cost to operate a specific generating unit when the unit only has a limited number of starts or available run hours resulting from (i) the physical equipment limitations of the unit, for up to one year, due to original equipment manufacturer recommendations or insurance carrier restrictions, (ii) a fuel supply limitation, for up to one year, resulting from an event of Catastrophic Force Majeure; and, (b) the forecasted future Locational Marginal Price at which the generating unit could run while not violating such limitations. Non-Regulatory Opportunity Cost therefore is the value associated with a specific generating unit's lost opportunity to produce energy during a higher valued period of time occurring within the same period of time in which the unit is bound by the referenced restrictions, and is reflected in the rules set forth in PJM Manual 15. Non-Regulatory Opportunity Costs shall be limited to those resources which are specifically delineated in Operating Agreement, Schedule 2.

Non-Retail Behind The Meter Generation:

"Non-Retail Behind The Meter Generation" shall mean Behind the Meter Generation that is used by municipal electric systems, electric cooperatives, or electric distribution companies to serve load.

Non-Synchronized Reserve:

"Non-Synchronized Reserve" shall mean the reserve capability of non-emergency generation resources that can be converted fully into energy within ten minutes of a request from the Office of the Interconnection dispatcher, and is provided by equipment that is not electrically synchronized to the Transmission System.

Non-Synchronized Reserve Event:

"Non-Synchronized Reserve Event" shall mean a request from the Office of the Interconnection to generation resources able and assigned to provide Non-Synchronized Reserve in one or more specified Reserve Zones or Reserve Sub-zones, within ten minutes to increase the energy output by the amount of assigned Non-Synchronized Reserve capability.

Non-Variable Loads:

"Non-Variable Loads" shall have the meaning specified in Operating Agreement, Schedule 1, section 1.5A.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.5A.6.

Non-Zone Network Load:

"Non-Zone Network Load shall mean Network Load that is located outside of the PJM Region.

Normal Maximum Generation:

"Normal Maximum Generation" shall mean the highest output level of a generating resource under normal operating conditions.

Normal Minimum Generation:

"Normal Minimum Generation" shall mean the lowest output level of a generating resource under normal operating conditions.

Definitions – O – P - Q

Obligation:

"Obligation" shall mean all amounts owed to PJMSettlement for purchases from the PJM Markets, Transmission Service, (under both Tariff, Part II and Tariff, Part III), and other services or obligations pursuant to the Agreements. In addition, aggregate amounts that will be owed to PJMSettlement in the future for capacity purchases within the PJM capacity markets will be added to this figure. Should other markets be formed such that Participants may incur future Obligations in those markets, then the aggregate amount of those Obligations will also be added to the Net Obligation.

Offer Data:

"Offer Data" shall mean the scheduling, operations planning, dispatch, new resource, and other data and information necessary to schedule and dispatch generation resources and Demand Resource(s) for the provision of energy and other services and the maintenance of the reliability and security of the Transmission System in the PJM Region, and specified for submission to the PJM Interchange Energy Market for such purposes by the Office of the Interconnection.

Office of the Interconnection:

"Office of the Interconnection" shall mean the employees and agents of PJM Interconnection, L.L.C. subject to the supervision and oversight of the PJM Board, acting pursuant to the Operating Agreement.

Office of the Interconnection Control Center:

"Office of the Interconnection Control Center" shall mean the equipment, facilities and personnel used by the Office of the Interconnection to coordinate and direct the operation of the PJM Region and to administer the PJM Interchange Energy Market, including facilities and equipment used to communicate and coordinate with the Market Participants in connection with transactions in the PJM Interchange Energy Market or the operation of the PJM Region.

On-Site Generators:

"On-Site Generators" shall mean generation facilities (including Behind The Meter Generation) that (i) are not Capacity Resources, (ii) are not injecting into the grid, (iii) are either synchronized or non-synchronized to the Transmission System, and (iv) can be used to reduce demand for the purpose of participating in the PJM Interchange Energy Market.

Open Access Same-Time Information System (OASIS) or PJM Open Access Same-Time Information System:

"Open Access Same-Time Information System," "PJM Open Access Same-Time Information System" or "OASIS" shall mean the electronic communication and information system and standards of conduct contained in Part 37 and Part 38 of the Commission's regulations and all additional requirements implemented by subsequent Commission orders dealing with OASIS for the collection and dissemination of information about transmission services in the PJM Region, established and operated by the Office of the Interconnection in accordance with FERC standards and requirements.

Operating Agreement of the PJM Interconnection, L.L.C., Operating Agreement or PJM Operating Agreement:

"Operating Agreement of the PJM Interconnection, L.L.C.," "Operating Agreement" or "PJM Operating Agreement" shall mean the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. dated as of April 1, 1997 and as amended and restated as of June 2, 1997, including all Schedules, Exhibits, Appendices, addenda or supplements hereto, as amended from time to time thereafter, among the Members of the PJM Interconnection, L.L.C., on file with the Commission.

Operating Day:

"Operating Day" shall mean the daily 24 hour period beginning at midnight for which transactions on the PJM Interchange Energy Market are scheduled.

Operating Margin:

"Operating Margin" shall mean the incremental adjustments, measured in megawatts, required in PJM Region operations in order to accommodate, on a first contingency basis, an operating contingency in the PJM Region resulting from operations in an interconnected Control Area. Such adjustments may result in constraints causing Transmission Congestion Charges, or may result in Ancillary Services charges pursuant to the PJM Tariff.

Operating Margin Customer:

"Operating Margin Customer" shall mean a Control Area purchasing Operating Margin pursuant to an agreement between such other Control Area and the LLC.

Operationally Deliverable:

"Operationally Deliverable" shall mean, as determined by the Office of the Interconnection, that there are no operational conditions, arrangements or limitations experienced or required that threaten, impair or degrade effectuation or maintenance of deliverability of capacity or energy from the external Generation Capacity Resource to loads in the PJM Region in a manner comparable to the deliverability of capacity or energy to such loads from Generation Capacity Resources located inside the metered boundaries of the PJM Region, including, without limitation, an identified need by an external Balancing Authority Area for a remedial action scheme or manual generation trip protocol, transmission facility switching arrangements that would have the effect of radializing load, or excessive or unacceptable frequency of regional reliability limit violations or (outside an interregional agreed congestion management process) of local reliability dispatch instructions and commitments.

Opportunity Cost:

"Opportunity Cost" shall mean a component of the Market Seller Offer Cap calculated in accordance with Tariff, Attachment DD, section 6.

OPSI Advisory Committee:

"OPSI Advisory Committee" shall mean the committee established under Tariff, Attachment M, section III.G.

Option to Build:

"Option to Build" shall mean the option of the New Service Customer to build certain Customer-Funded Upgrades, as set forth in, and subject to the terms of, the Construction Service Agreement.

Optional Interconnection Study:

"Optional Interconnection Study" shall mean a sensitivity analysis of an Interconnection Request based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

Optional Interconnection Study Agreement:

"Optional Interconnection Study Agreement" shall mean the form of agreement for preparation of an Optional Interconnection Study, as set forth in Tariff, Attachment N-3.

Part I:

"Part I" shall mean the Tariff Definitions and Common Service Provisions contained in Tariff, Part I, sections 1 through 12A.

Part II:

"Part II" shall mean Tariff, Part II, sections 13 through 27A pertaining to Point-To-Point Transmission Service in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Part III:

"Part III" shall mean Tariff, Part III, sections 28 through 35 pertaining to Network Integration Transmission Service in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Part IV:

"Part IV" shall mean Tariff, Part IV, sections 36 through 112C pertaining to generation or merchant transmission interconnection to the Transmission System in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Part V:

"Part V" shall mean Tariff, Part V, sections 113 through 122 pertaining to the deactivation of generating units in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Part VI:

"Part VI" shall mean Tariff, Part VI, sections 200 through 237 pertaining to the queuing, study, and agreements relating to New Service Requests, and the rights associated with Customer-Funded Upgrades in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Participant:

"Participant" shall mean a Market Participant and/or Transmission Customer and/or Applicant requesting to be an active Market Participant and/or Transmission Customer**.**

Parties:

"Parties" shall mean the Transmission Provider, as administrator of the Tariff, and the Transmission Customer receiving service under the Tariff. PJMSettlement shall be the Counterparty to Transmission Customers.

Peak-Hour Dispatch:

"Peak-Hour Dispatch" shall mean, for purposes of calculating the Energy and Ancillary Services Revenue Offset under Tariff, Attachment DD, section 5, an assumption, as more fully set forth in the PJM Manuals, that the Reference Resource is committed in the Day-a~~A~~head Energy Market in four distinct blocks of four hours of continuous output for each block from the peak-hour period beginning with the hour ending 0800 EPT through to the hour ending 2300 EPT for any day when the average day-ahead LMP for the area for which the Net Cost of New Entry is being determined is greater than, or equal to, the cost to generate (including the cost for a complete start and shutdown cycle), plus 10% of such costs, for at least two hours during each four-hour block, where such blocks shall be assumed to be committed independently; provided that, if there are not at least two economic hours in any given four-hour block, then the Reference Resource shall be assumed not to be committed for such block; and to the extent not committed in any such block in the Day-a~~A~~head Energy Market under the above conditions based on Day-Ahead LMPs, is dispatched in the Real-t~~T~~ime Energy Market for such block if the Real-Time

LMP is greater than or equal to the cost to generate, plus 10% of such costs, under the same conditions as described above for the Day-a~~A~~head Energy Market.

Peak Market Activity:
"Peak Market Activity" shall mean a measure of exposure for which credit is required, involving peak exposures in rolling three-week periods over a year timeframe, with two semi-annual reset points, pursuant to provisions of Tariff, Attachment Q, section VII.A. Peak Market Activity shall exclude FTR Net Activity, Virtual Transactions Net Activity, and Export Transactions Net Activity.

Peak Season:

"Peak Season" shall mean the weeks containing the 24th through 36th Wednesdays of the calendar year. Each such week shall begin on a Monday and end on the following Sunday, except for the week containing the 36th Wednesday, which shall end on the following Friday.

Percentage Internal Resources Required:

"Percentage Internal Resources Required" shall have the meaning specified in the Reliability Assurance Agreement.

Performance Assessment Interval:

"Performance Assessment Interval" shall mean each Real-time Settlement Interval for which an Emergency Action has been declared by the Office of the Interconnection, provided, however, that Performance Assessment Intervals for a Base Capacity Resource shall not include any intervals outside the calendar months of June through September.

Permissible Technological Advancement:

"Permissible Technological Advancement" shall mean a proposed technological change to turbines, inverters, or plant supervisory controls or other similar advancements to the technology proposed in the Interconnection Request that is submitted to the Transmission Provider with an executed System Impact Study Agreement provided such change does not (i) increase the capability of the Generating Facility as specified in the original Interconnection Request; or (ii) represent a different fuel type from the original Interconnection Request. Any proposed technological change submitted after an executed System Impact Study Agreement is submitted to the Transmission Provider shall be considered a Permissible Technological Advancement if it is not deemed to be a Material Modification pursuant to Tariff, Part IV, Subpart A, section 36.2A.3.

PJM:

"PJM" shall mean PJM Interconnection, L.L.C., including the Office of the Interconnection as referenced in the PJM Operating Agreement. When such term is being used in the RAA it shall also include the PJM Board.

PJM Administrative Service:

"PJM Administrative Service" shall mean the services provided by PJM pursuant to Tariff, Schedule 9.

PJM Board:

"PJM Board" shall mean the Board of Managers of the LLC, acting pursuant to the Operating Agreement except when such term is being used in Tariff, Attachment M, in which case PJM Board shall mean the Board of Managers of PJM or its designated representative, exclusive of any members of PJM Management.

PJM Control Area:

"PJM Control Area" shall mean the Control Area recognized by NERC as the PJM Control Area.

PJM Entities:

"PJM Entities" shall mean PJM, including the Market Monitoring Unit, the PJM Board, and PJM's officers, employees, representatives, advisors, contractors, and consultants.

PJM Interchange:

"PJM Interchange" shall mean the following, as determined in accordance with the Operating Agreement and Tariff: (a) for a Market Participant that is a Network Service User, the amount by which its interval Equivalent Load exceeds, or is exceeded by, the sum of the interval outputs of its operating generating resources; or (b) for a Market Participant that is not a Network Service User, the amount of its Spot Market Backup; or (c) the interval scheduled deliveries of Spot Market Energy by a Market Seller from an External Resource; or (d) the interval net metered output of any other Market Seller; or (e) the interval scheduled deliveries of Spot Market Energy to an External Market Buyer; or (f) the inteval scheduled deliveries to an Internal Market Buyer that is not a Network Service User.

PJM Interchange Energy Market:

"PJM Interchange Energy Market" shall mean the regional competitive market administered by the Office of the Interconnection for the purchase and sale of spot electric energy at wholesale in interstate commerce and related servicesestablished pursuant to Operating Agreement, Schedule 1, and the parallel provisions of Tariff, Attachment K – Appendix.

PJM Interchange Export:

"PJM Interchange Export" shall mean the following, as determined in accordance with the Operating Agreement and Tariff: (a) for a Market Participant that is a Network Service User, the amount by which its interval Equivalent Load is exceeded by the sum of the inteval outputs of its operating generating resources; or (b) for a Market Participant that is not a Network Service User, the amount of its Spot Market Backup sales; or (c) the interval scheduled deliveries of Spot Market Energy by a Market Seller from an External Resource; or (d) the interval net metered output of any other Market Seller.

PJM Interchange Import:

"PJM Interchange Import" shall mean the following, as determined in accordance with the Operating Agreement and Tariff: (a) for a Market Participant that is a Network Service User, the amount by which its interval Equivalent Load exceeds the sum of the interval outputs of its operating generating resources; or (b) for a Market Participant that is not a Network Service User, the amount of its Spot Market Backup purchases; or (c) the interval scheduled deliveries of Spot Market Energy to an External Market Buyer; or (d) the interval scheduled deliveries to an Internal Market Buyer that is not a Network Service User.

PJM Liaison:

"PJM Liaison" shall mean the liaison established under Tariff, Attachment M, section III.I.

PJM Management:

"PJM Management" shall mean the officers, executives, supervisors and employee managers of PJM.

PJM Manuals:

"PJM Manuals" shall mean the instructions, rules, procedures and guidelines established by the Office of the Interconnection for the operation, planning, and accounting requirements of the PJM Region and the PJM Interchange Energy Market.

PJM Markets:

"PJM Markets" shall mean the PJM Interchange Energy Market,~~and~~ capacity markets, including the RPM auctions, and any other market operated by PJM, together with all bilateral or other wholesale electric power and energy transactions, capacity transactions, ancillary services transactions (including black start service), transmission transactions, Financial Transmission Rights transactions, or transactions ~~and~~in any other market operated under the ~~PJM Tariff or Operating~~ Agreements within the PJM Region, wherein Market Participants may incur Obligations to PJM and/or PJMSettlement.

PJM Market Rules:

"PJM Market Rules" shall mean the rules, standards, procedures, and practices of the PJM Markets set forth in the PJM Tariff, the PJM Operating Agreement, the PJM Reliability Assurance Agreement, the PJM Consolidated Transmission Owners Agreement, the PJM

Manuals, the PJM Regional Practices Document, the PJM-Midwest Independent Transmission System Operator Joint Operating Agreement or any other document setting forth market rules.

PJM Net Assets:

“PJM Net Assets**”** shall mean the total assets per PJM’s consolidated quarterly or year-end financial statements most recently issued as of the date of the receipt of written notice of a claim less amounts for which PJM is acting as a temporary custodian on behalf of its Members, transmission developers/Designated Entities, and generation developers, including, but not limited to, cash deposits related to credit requirement compliance, study and/or interconnection receivables, member prepayments, invoiced amounts collected from Net Buyers but have not yet been paid to Net Sellers, and excess congestion (as described in Operating Agreement, Schedule 1, section 5.2.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.6).

PJM Region:

“PJM Region” shall have the meaning specified in the Operating Agreement.

PJM Regional Practices Document:
“PJM Regional Practices Document” shall mean the document of that title that compiles and describes the practices in the PJM Markets and that is made available in hard copy and on the Internet.

PJM Region Installed Reserve Margin:

“PJM Region Installed Reserve Margin” shall mean the percent installed reserve margin for the PJM Region required pursuant to RAA, Schedule 4.1, as approved by the PJM Board.

PJM Region Peak Load Forecast:

“PJM Region Peak Load Forecast” shall mean the peak load forecast used by the Office of the Interconnection in determining the PJM Region Reliability Requirement, and shall be determined on both a preliminary and final basis as set forth in Tariff, Attachment DD, section 5.

PJM Region Reliability Requirement:

“PJM Region Reliability Requirement” shall mean, for purposes of the Base Residual Auction, the Forecast Pool Requirement multiplied by the Preliminary PJM Region Peak Load Forecast, less the sum of all Preliminary Unforced Capacity Obligations of FRR Entities in the PJM Region; and, for purposes of the Incremental Auctions, the Forecast Pool Requirement multiplied by the updated PJM Region Peak Load Forecast, less the sum of all updated Unforced Capacity Obligations of FRR Entities in the PJM Region.

PJMSettlement:

"PJM Settlement" or "PJM Settlement, Inc." shall mean PJM Settlement, Inc. (or its successor), established by PJM as set forth in Operaitng Agreement, section 3.3.

PJM Tariff, Tariff, O.A.T.T., OATT or PJM Open Access Transmission Tariff:

"PJM Tariff," "Tariff," "O.A.T.T.," "OATT," or "PJM Open Access Transmission Tariff" shall mean that certain PJM Open Access Transmission Tariff, including any schedules, appendices or exhibits attached thereto, on file with FERC and as amended from time to time thereafter.

Plan:

"Plan" shall mean the PJM market monitoring plan set forth in Tariff, Attachment M.

Planned Demand Resource:

"Planned Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Planned External Financed Generation Capacity Resource:

"Planned External Financed Generation Capacity Resource" shall mean a Planned External Generation Capacity Resource that, prior to August 7, 2015, has an effective agreement that is the equivalent of an Interconnection Service Agreement, has submitted to the Office of the Interconnection the appropriate certification attesting achievement of Financial Close, and has secured at least 50 percent of the MWs of firm transmission service required to qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.

Planned External Generation Capacity Resource:

"Planned External Generation Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Planned Financed Generation Capacity Resource:

"Planned Financed Generation Capacity Resource" shall mean a Planned Generation Capacity Resource that, prior to August 7, 2015, has an effective Interconnection Service Agreement and has submitted to the Office of the Interconnection the appropriate certification attesting achievement of Financial Close.

Planned Generation Capacity Resource:

"Planned Generation Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Planning Period:

“Planning Period” shall mean the 12 moths beginning June 1 and extending through May 31 of the following year, or such other period approved by the Members Committee.

Planning Period Balance:

“Planning Period Balance” shall mean the entire period of time remaining in the Planning Period following the month that a monthly auction is conducted.

Planning Period Quarter:

“Planning Period Quarter” shall mean any of the following three month periods in the Planning Period: June, July and August; September, October and November; December, January and February; or March, April and May.

Point(s) of Delivery:

“Point(s) of Delivery” shall mean the point(s) on the Transmission Provider’s Transmission System where capacity and energy transmitted by the Transmission Provider will be made available to the Receiving Party under Tariff, Part II. The Point(s) of Delivery shall be specified in the Service Agreement for Long-Term Firm Point-To-Point Transmission Service.

Point of Interconnection:

“Point of Interconnection” shall mean the point or points where the Customer Interconnection Facilities interconnect with the Transmission Owner Interconnection Facilities or the Transmission System.

Point(s) of Receipt:

“Point(s) of Receipt” shall mean point(s) of interconnection on the Transmission Provider’s Transmission System where capacity and energy will be made available to the Transmission Provider by the Delivering Party under Tariff, Part II. The Point(s) of Receipt shall be specified in the Service Agreement for Long-Term Firm Point-To-Point Transmission Service.

Point-To-Point Transmission Service:

“Point-To-Point Transmission Service shall mean the reservation and transmission of capacity and energy on either a firm or non-firm basis from the Point(s) of Receipt to the Point(s) of Delivery under Tariff, Part II.

Power Purchaser:

“Power Purchaser” shall mean the entity that is purchasing the capacity and energy to be transmitted under the Tariff.

PRD Curve:

"PRD Curve" shall have the meaning provided in the Reliability Assurance Agreement.

PRD Provider:

"PRD Provider" shall have the meaning provided in the Reliability Assurance Agreement.

PRD Reservation Price:

"PRD Reservation" Price shall have the meaning provided in the Reliability Assurance Agreement.

PRD Substation:

"PRD Substation" shall have the meaning provided in the Reliability Assurance Agreement.

Pre-Confirmed Application:

"Pre-Confirmed Application" shall be an Application that commits the Eligible Customer to execute a Service Agreement upon receipt of notification that the Transmission Provider can provide the requested Transmission Service.

Pre-Emergency Load Response Program:

"Pre-Emergency Load Response Program" shall be the program by which Curtailment Service Providers may be compensated by PJM for Demand Resources that will reduce load when dispatched by PJM during pre-emergency conditions, and is described in Operating Agreement, Schedule 1, section 8 and the parallel provisions of Tariff, Attachment K-Appendix, section 8.

Pre-Expansion PJM Zones:

"Pre-Expansion PJM Zones" shall be zones included in the Tariff, along with applicable Schedules and Attachments, for certain Transmission Owners – Atlantic City Electric Company, Baltimore Gas and Electric Company, Delmarva Power and Light Company, Jersey Central Power and Light Company, Mid-Atlantic Interstate Transmission, LLC ("MAIT") (MAIT owns and operates the transmission facilities in the Metropolitan Edison Company Zone and the Pennsylvania Electric Company Zone), PECO Energy Company, Pennsylvania Power & Light Group, Potomac Electric Power Company, Public Service Electric and Gas Company, Allegheny Power, and Rockland Electric Company.

Price Responsive Demand:

"Price Responsive Demand" shall have the meaning provided in the Reliability Assurance Agreement.

Primary Reserve:

"Primary Reserve" shall mean the total reserve capability of generation resources that can be converted fully into energy or Demand Resources whose demand can be reduced within ten minutes of a request from the Office of the Interconnection dispatcher, and is comprised of both Synchronized Reserve and Non-Synchronized Reserve.

Primary Reserve Alert

"Primary Reserve Alert" shall mean a notification from PJM to alert Members of an anticipated shortage of Operating Reserve capacity for a future critical period.

Primary Reserve Requirement:

"Primary Reserve Requirement" shall mean the megawatts required to be maintained in a Reserve Zone or Reserve Sub-zone as Primary Reserve, absent any increase to account for additional reserves scheduled to address operational uncertainty. The Primary Reserve Requirement is calculated in accordance with the PJM Manuals.

Principal:

"Principal" shall mean (i) the chief executive officer or senior manager that controls or directs strategy for the Participant, (ii) the chief legal officer or general counsel, (iii) the chief financial officer or senior manager that controls or directs the financial affairs and investments of the Participant, (iv) the chief risk officer or senior manager responsible for managing commodity and derivatives market risks, and (v) the officer or senior manager responsible for or to be responsible for transactions in the applicable PJM Markets. If, due to the Participant's business enterprise, structure or otherwise, the functions attributed to any of such Principals are performed by an individual or entity separate from the Participant (such as a risk management department in an affiliate, or a director or manager at an entity that controls or invests in the Participant), then for that Participant the term Principal shall mean that individual, or the senior officer or manager of that entity, that performs such function.

Prior CIL Exception External Resource:

"Prior CIL Exception External Resource" shall mean an external Generation Capacity Resource for which (1) a Capacity Market Seller had, prior to May 9, 2017, cleared a Sell Offer in an RPM Auction under the exception provided to the definition of Capacity Import Limit as set forth in RAA, Article I or (2) an FRR Entity committed, prior to May 9, 2017, in an FRR Capacity Plan under the exception provided in the definition of Capacity Import Limit. In the event only a portion (in MW) of an external Generation Capacity Resource has a Pseudo-Tie into the PJM Region, that portion of the external Generation Capacity Resource , which can include up to the maximum megawatt amount cleared in any prior RPM auction or committed in an FRR Capacity Plan (and no other portion thereof) is eligible for treatment as a Prior CIL Exception External Resource if such portion satisfies the requirements of the first sentence of this definition.

Project Financing:

"Project Financing" shall mean: (a) one or more loans, leases, equity and/or debt financings, together with all modifications, renewals, supplements, substitutions and replacements thereof, the proceeds of which are used to finance or refinance the costs of the Customer Facility, any alteration, expansion or improvement to the Customer Facility, the purchase and sale of the Customer Facility or the operation of the Customer Facility; (b) a power purchase agreement pursuant to which Interconnection Customer's obligations are secured by a mortgage or other lien on the Customer Facility; or (c) loans and/or debt issues secured by the Customer Facility.

Project Finance Entity:

"Project Finance Entity" shall mean: (a) a holder, trustee or agent for holders, of any component of Project Financing; or (b) any purchaser of capacity and/or energy produced by the Customer Facility to which Interconnection Customer has granted a mortgage or other lien as security for some or all of Interconnection Customer's obligations under the corresponding power purchase agreement.

Projected PJM Market Revenues:

"Projected PJM Market Revenues" shall mean a component of the Market Seller Offer Cap calculated in accordance with Tariff, Attachment DD, section 6.

Proportional Multi-Driver Project:

"Proportional Multi-Driver Project" shall have the same meaning provided in the Operating Agreement.

Provisional Interconnection Service:

"Provisional Interconnection Service" shall mean interconnection service provided by Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Interconnection Service Agreement and, if applicable, the Tariff.

Pseudo-Tie:

"Pseudo-Tie" shall have the same meaning provided in the Operating Agreement.

Public Policy Objectives:

"Public Policy Objectives" shall have the same meaning provided in the Operating Agreement.

Public Policy Requirements:

“Public Policy Requirements” shall have the same meaning provided in the Operating Agreement.

Qualifying Transmission Upgrade:

“Qualifying Transmission Upgrade” shall mean a proposed enhancement or addition to the Transmission System that: (a) will increase the Capacity Emergency Transfer Limit into an LDA by a megawatt quantity certified by the Office of the Interconnection; (b) the Office of the Interconnection has determined will be in service on or before the commencement of the first Delivery Year for which such upgrade is the subject of a Sell Offer in the Base Residual Auction; (c) is the subject of a Facilities Study Agreement executed before the conduct of the Base Residual Auction for such Delivery Year and (d) a New Service Customer is obligated to fund through a rate or charge specific to such facility or upgrade.

Queue Position:

“Queue Position” shall mean the priority assigned to an Interconnection Request, a Completed Application, or an Upgrade Request pursuant to applicable provisions of Tariff, Part VI.

Definitions – R - S

Ramping Capability:

"Ramping Capability" shall mean the sustained rate of change of generator output, in megawatts per minute.

Rating Agency:

"Rating Agency" shall mean a Nationally Recognized Statistical Rating Organization that assesses the financial condition, strength and stability of companies and governmental entities and their ability to timely make principal and interest payments on their debts and the likelihood of default, and assigns a rating that reflects its assessment of the ability of the company or governmental entity to make the debt payments

Real-time Congestion Price:

"Real-time Congestion Price" shall mean the Congestion Price resulting from the Office of the Interconnection's dispatch of the PJM Interchange Energy Market in the Operating Day.

Real-time Loss Price:

"Real-time Loss Price" shall mean the Loss Price resulting from the Office of the Interconnection's dispatch of the PJM Interchange Energy Market in the Operating Day.

Real-time Energy Market:

"Real-time Energy Market" shall mean the purchase or sale of energy and payment of Transmission Congestion Charges for quantity deviations from the Day-ahead Energy Market in the Operating Day.

Real-time Offer:

"Real-time Offer" shall mean a new offer or an update to a Market Seller's existing cost-based or market-based offer for a clock hour, submitted for use after the close of the Day-ahead Energy Market.

Real-time Prices:

"Real-time Prices" shall mean the Locational Marginal Prices resulting from the Office of the Interconnection's dispatch of the PJM Interchange Energy Market in the Operating Day.

Real-time Settlement Interval:

"Real-time Settlement Interval" shall mean the interval used by settlements, which shall be every five minutes.

Real-time System Energy Price:

"Real-time System Energy Price" shall mean the System Energy Price resulting from the Office of the Interconnection's dispatch of the PJM Interchange Energy Market in the Operating Day.

Reasonable Efforts:

"Reasonable Efforts" shall mean, with respect to any action required to be made, attempted, or taken by an Interconnection Party or by a Construction Party under Tariff, Part IV or Tariff, Part VI, an Interconnection Service Agreement, or a Construction Service Agreement, such efforts as are timely and consistent with Good Utility Practice and with efforts that such party would undertake for the protection of its own interests.

Receiving Party:

"Receiving Party" shall mean the entity receiving the capacity and energy transmitted by the Transmission Provider to Point(s) of Delivery.

Referral:

"Referral" shall mean a formal report of the Market Monitoring Unit to the Commission for investigation of behavior of a Market Participant, of behavior of PJM, or of a market design flaw, pursuant to Tariff, Attachment M, section IV.I.

Reference Resource:

"Reference Resource" shall mean a combustion turbine generating station, configured with a single General Electric Frame 7HA turbine with evaporative cooling, Selective Catalytic Reduction technology all CONE Areas, dual fuel capability, and a heat rate of 9.134 Mmbtu/MWh.

Regional Entity:

"Regional Entity" shall have the same meaning specified in the Operating Agreement.

Regional Transmission Expansion Plan:

"Regional Transmission Expansion Plan" shall mean the plan prepared by the Office of the Interconnection pursuant to Operating Agreement, Schedule 6 for the enhancement and expansion of the Transmission System in order to meet the demands for firm transmission service in the PJM Region.

Regional Transmission Group (RTG):

"Regional Transmission Group" or "RTG" shall mean a voluntary organization of transmission owners, transmission users and other entities approved by the Commission to efficiently coordinate transmission planning (and expansion), operation and use on a regional (and interregional) basis.

Regulation:

"Regulation" shall mean the capability of a specific generation resource or Demand Resource with appropriate telecommunications, control and response capability to separately increase and decrease its output or adjust load in response to a regulating control signal, in accordance with the specifications in the PJM Manuals.

Regulation Zone:

"Regulation Zone" shall mean any of those one or more geographic areas, each consisting of a combination of one or more Control Zone(s) as designated by the Office of the Interconnection in the PJM Manuals, relevant to provision of, and requirements for, regulation service.

Relevant Electric Retail Regulatory Authority:

"Relevant Electric Retail Regulatory Authority" shall mean an entity that has jurisdiction over and establishes prices and policies for competition for providers of retail electric service to end-customers, such as the city council for a municipal utility, the governing board of a cooperative utility, the state public utility commission or any other such entity.

Reliability Assurance Agreement or PJM Reliability Assurance Agreement:

"Reliability Assurance Agreement" or "PJM Reliability Assurance Agreement" shall mean that certain Reliability Assurance Agreement Among Load Serving Entities in the PJM Region, on file with FERC as PJM Interconnection L.L.C. Rate Schedule FERC No. 44, and as amended from time to time thereafter.

Reliability Pricing Model Auction:

"Reliability Pricing Model Auction" or "RPM Auction" shall mean the Base Residual Auction or any Incremental Auction, or, for the 2016/2017 and 2017/2018 Delivery Years, any Capacity Performance Transition Incremental Auction.

Required Transmission Enhancements:

"Regional Transmission Enhancements" shall mean enhancements and expansions of the Transmission System that (1) a Regional Transmission Expansion Plan developed pursuant to Operating Agreement, Schedule 6 or (2) any joint planning or coordination agreement between PJM and another region or transmission planning authority set forth in Tariff, Schedule 12-Appendix B ("Appendix B Agreement") designates one or more of the Transmission Owner(s) to construct and own or finance. Required Transmission Enhancements shall also include enhancements and expansions of facilities in another region or planning authority that meet the definition of transmission facilities pursuant to FERC's Uniform System of Accounts or have been classified as transmission facilities in a ruling by FERC addressing such facilities constructed pursuant to an Appendix B Agreement cost responsibility for which has been assigned at least in part to PJM pursuant to such Appendix B Agreement.

Reserved Capacity:

"Reserved Capacity" shall mean the maximum amount of capacity and energy that the Transmission Provider agrees to transmit for the Transmission Customer over the Transmission Provider's Transmission System between the Point(s) of Receipt and the Point(s) of Delivery under Tariff, Part II. Reserved Capacity shall be expressed in terms of whole megawatts on a sixty (60) minute interval (commencing on the clock hour) basis.

Reserve Penalty Factor:

"Reserve Penalty Factor" shall mean the cost, in $/MWh, associated with being unable to meet a specific reserve requirement in a Reserve Zone or Reserve Sub-zone. A Reserve Penalty Factor will be defined for each reserve requirement in a Reserve Zone or Reserve Sub-zone.

Reserve Sub-zone:

"Reserve Sub-zone" shall mean any of those geographic areas wholly contained within a Reserve Zone, consisting of a combination of a portion of one or more Control Zone(s) as designated by the Office of the Interconnection in the PJM Manuals, relevant to provision of, and requirements for, reserve service.

Reserve Zone:

"Reserve Zone" shall mean any of those geographic areas consisting of a combination of one or more Control Zone(s), as designated by the Office of the Interconnection in the PJM Manuals, relevant to provision of, and requirements for, reserve service.

Residual Auction Revenue Rights:

"Residual Auction Revenue Rights" shall mean incremental stage 1 Auction Revenue Rights created within a Planning Period by an increase in transmission system capability, including the return to service of existing transmission capability, that was not modeled pursuant to Operating Agreement, Schedule 1, section 7.5 and the parallel provisions of Tariff, Attachment K-Appendix, section 7.5 in compliance with Operating Agreement, Schedule 1, section 7.4.2 (h) and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.2(h), and, if modeled, would have increased the amount of stage 1 Auction Revenue Rights allocated pursuant to Operating Agreement, Schedule 1, section 7.4.2 and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.2; provided that, the foregoing notwithstanding, Residual Auction Revenue Rights shall exclude: 1) Incremental Auction Revenue Rights allocated pursuant to Tariff, Part VI; and 2) Auction Revenue Rights allocated to entities that are assigned cost responsibility pursuant to Operating Agreement, Schedule 6 for transmission upgrades that create such rights.

Residual Metered Load:

"Residual Metered Load" shall mean all load remaining in an electric distribution company's fully metered franchise area(s) or service territory(ies) after all nodally priced load of entities serving load in such area(s) or territory(ies) has been carved out.

Resource Substitution Charge:

"Resource Substitution Charge" shall mean a charge assessed on Capacity Market Buyers in an Incremental Auction to recover the cost of replacement Capacity Resources.

Restricted Collateral:

"Restricted Collateral" shall mean Collateral, held by PJM or PJMSettlement, which cannot be used, netted, credited or spent by the Participant to satisfy any other obligations.

Revenue Data for Settlements:

"Revenue Data for Settlements" shall mean energy quantities used in accounting and billing as determined pursuant to Tariff, Attachment K-Appendix and the corresponding provisions of Operating Agreement, Schedule 1.

RPM Seller Credit:

"RPM Seller Credit" shall mean an additional form of Unsecured Credit defined in Tariff, Attachment Q, section ~~I~~VI.

Scheduled Incremental Auctions:

"Scheduled Incremental Auctions" shall refer to the First, Second, or Third Incremental Auction.

Schedule of Work:

"Schedule of Work" shall mean that schedule attached to the Interconnection Construction Service Agreement setting forth the timing of work to be performed by the Constructing Entity pursuant to the Interconnection Construction Service Agreement, based upon the Facilities Study 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 attached as a schedule to the Interconnection Construction Service Agreement and to be performed by the Constructing Entity(ies) pursuant to the Interconnection Construction Service Agreement, 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.

Seasonal Capacity Performance Resource:

"Seasonal Capacity Performance Resource" shall have the same meaning specified in Tariff, Attachment DD, section 5.5A.

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.

Second Incremental Auction:

"Second Incremental Auction" shall mean an Incremental Auction conducted ten months before the Delivery Year to which it relates**.**

Security:

"Security" shall mean the security provided by the New Service Customer pursuant to Tariff, section 212.4 or Tariff, Part VI, section 213.4 to secure the New Service Customer's responsibility for Costs under the Interconnection Service Agreement or Upgrade Construction Service Agreement and Tariff, Part VI, section 217.

Segment:

"Segment" shall have the same meaning as described in Operating Agreement, Schedule 1, section 3.2.3(e), and the parallel provisions of Tariff, Attachment K-Appendix, section 3.2.3(e).

Self-Supply:

"Self-Supply" shall mean Capacity Resources secured by a Load-Serving Entity, by ownership or contract, outside a Reliability Pricing Model Auction, and used to meet obligations under this Attachment or the Reliability Assurance Agreement through submission in a Base Residual Auction or an Incremental Auction of a Sell Offer indicating such Market Seller's intent that such Capacity Resource be Self-Supply. Self-Supply may be either committed regardless of clearing price or submitted as a Sell Offer with a price bid. A Load Serving Entity's Sell Offer with a price bid for an owned or contracted Capacity Resource shall not be deemed "Self-Supply," unless it is designated as Self-Supply and used by the LSE to meet obligations under this Attachment or the Reliability Assurance Agreement.

Sell Offer:

"Sell Offer" shall mean an offer to sell Capacity Resources in a Base Residual Auction, Incremental Auction, or Reliability Backstop Auction.

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.

Service Commencement Date:

"Service Commencement Date" shall mean the date the Transmission Provider begins to provide service pursuant to the terms of an executed Service Agreement, or the date the Transmission Provider begins to provide service in accordance with Tariff, Part II, section 15.3 or Tariff, Part III, section 29.1.

Short-Term Firm Point-To-Point Transmission Service:

"Short-Term Firm Point-To-Point Transmission Service" shall mean Firm Point-To-Point Transmission Service under Tariff, Part II with a term of less than one year.

Short-term Project:

"Short-term Project" shall have the same meaning provided in the Operating Agreement.

Short-Term Resource Procurement Target:

"Short-Term Resource Procurement Target" shall mean, for Delivery Years through May 31, 2018, as to the PJM Region, for purposes of the Base Residual Auction, 2.5% of the PJM Region Reliability Requirement determined for such Base Residual Auction, for purposes of the First Incremental Auction, 2% of the of the PJM Region Reliability Requirement as calculated at the time of the Base Residual Auction; and, for purposes of the Second Incremental Auction, 1.5% of the of the PJM Region Reliability Requirement as calculated at the time of the Base Residual Auction; and, as to any Zone, an allocation of the PJM Region Short-Term Resource Procurement Target based on the Preliminary Zonal Forecast Peak Load, reduced by the amount of load served under the FRR Alternative. For any LDA, the LDA Short-Term Resource Procurement Target shall be the sum of the Short-Term Resource Procurement Targets of all Zones in the LDA.

Short-Term Resource Procurement Target Applicable Share:

"Short-Term Resource Procurement Target Applicable Share" shall mean, for Delivery Years through May 31, 2018: (i) for the PJM Region, as to the First and Second Incremental Auctions, 0.2 times the Short-Term Resource Procurement Target used in the Base Residual Auction and, as to the Third Incremental Auction for the PJM Region, 0.6 times such target; and (ii) for an LDA, as to the First and Second Incremental Auctions, 0.2 times the Short-Term Resource

Procurement Target used in the Base Residual Auction for such LDA and, as to the Third Incremental Auction, 0.6 times such target.

Site:

"Site" shall mean all of the real property, including but not limited to any leased real property and easements, on which the Customer Facility is situated and/or on which the Customer Interconnection Facilities are to be located.

Small Commercial Customer:

"Small Commercial Customer," as used in RAA, Schedule 6 and Tariff, Attachment DD-1, shall mean a commercial retail electric end-use customer of an electric distribution company that participates in a mass market demand response program under the jurisdiction of a RERRA and satisfies the definition of a "small commercial customer" under the terms of the applicable RERRA's program, provided that the customer has an annual peak demand no greater than 100kW.

Small Generation Resource:

"Small Generation Resource" shall mean an Interconnection Customer's device of 20 MW or less for the production and/or storage for later injection of electricity identified in an Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities. This term shall include Energy Storage Resources and/or other devices for storage for later injection of energy.

Small Inverter Facility:

"Small Inverter Facility" shall mean an Energy Resource that is a certified small inverter-based facility no larger than 10 kW.

Small Inverter ISA:

"Small Inverter ISA" shall mean an agreement among Transmission Provider, Interconnection Customer, and Interconnected Transmission Owner regarding interconnection of a Small Inverter Facility under Tariff, Part IV, section 112B.

Special Member:

"Special Member" shall mean an entity that satisfies the requirements of Operating Agreement, Schedule 1, section 1.5A.02, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.5A.02, or the special membership provisions established under the Emergency Load Response and Pre-Emergency Load Response Programs.

Spot Market Backup:

"Spot Market Backup" shall mean the purchase of energy from, or the delivery of energy to, the PJM Interchange Energy Market in quantities sufficient to complete the delivery or receipt obligations of a bilateral contract that has been curtailed or interrupted for any reason.

Spot Market Energy:

"Spot Market Energy" shall mean energy bought or sold by Market Participants through the PJM Interchange Energy Market at System Energy Prices determined as specified in Operating Agreement, Schedule 1, section 2, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

Start Additional Labor Costs:

"Start Additional Labor Costs" shall mean additional labor costs for startup required above normal station manning levels.

Start-Up Costs:

"Start-Up Costs" shall mean the unit costs to bring the boiler, turbine and generator from shutdown conditions to the point after breaker closure which is typically indicated by telemetered or aggregated state estimator megawatts greater than zero and is determined based on the cost of start fuel, total fuel-related cost, performance factor, electrical costs (station service), start maintenance adder, and additional labor cost if required above normal station manning. Start-Up Costs can vary with the unit offline time being categorized in three unit temperature conditions: hot, intermediate and cold.

State:

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

State Commission:

"State Commission**"** shall mean any state regulatory agency having jurisdiction over retail electricity sales in any State in the PJM Region.

State Estimator:

"State Estimator" shall mean the computer model of power flows specified in Operating Agreement, Schedule 1, section 2.3 and the parallel provisions of Tariff, Attachment K-Appendix, section 2.3.

State of Charge:

"State of Charge" shall mean the quantity of physical energy stored in an Energy Storage Resource Model Participant in proportion to its maximum State of Charge capability. State of Charge is quantified as defined in the PJM Manuals.

State of Charge Management:

"State of Charge Management" shall mean the control of State of Charge of an Energy Storage Resource Market Participant using minimum and maximum charge and discharge limits, changes in operating mode, charging and discharging offer curves, and self-scheduling of non-dispatchable purchases and sales of energy in the PJM markets. State of Charge Management shall not interfere with an Energy Storage Resource Model Participant's obligation to follow PJM dispatch, consistent with all other resources.

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.

Sub-Annual Resource Constraint:

"Sub-Annual Resource Constraint" shall mean, for the 2017/2018 Delivery Year and for FRR Capacity Plans the 2017/2018 and 2018/2019 Delivery Years, for the PJM Region or for each LDA for which the Office of the Interconnection is required under Tariff, Attachment DD, section 5.10(a) to establish a separate VRR Curve for a Delivery Year, a limit on the total amount of Unforced Capacity that can be committed as Limited Demand Resources and Extended Summer Demand Resources for the 2017/2018 Delivery Year in the PJM Region or in such LDA, calculated as the Sub-Annual Resource Reliability Target for the PJM Region or for such LDA, respectively, minus the Short-Term Resource Procurement Target for the PJM Region or for such LDA, respectively.

Sub-Annual Resource Price Decrement:

"Sub-Annual Resource Price Decrement" shall mean, for the 2017/2018 Delivery Year, a difference between the clearing price for Extended Summer Demand Resources and the clearing price for Annual Resources, representing the cost to procure additional Annual Resources out of merit order when the Sub-Annual Resource Constraint is binding.

Sub-Annual Resource Reliability Target:

"Sub-Annual Reliability Target" for the PJM Region or an LDA, shall mean the maximum amount of the combination of Extended Summer Demand Resources and Limited Demand Resources in Unforced Capacity determined by PJM to be consistent with the maintenance of reliability, stated in Unforced Capacity, that shall be used to calculate the Minimum Annual Resource Requirement for Delivery Years through May 31, 2017 and the Sub-Annual Resource Constraint for the 2017/2018 and 2018/2019 Delivery Years. As more fully set forth in the PJM Manuals, PJM calculates the Sub-Annual Resource Reliability Target, by first determining a reference annual loss of load expectation ("LOLE") assuming no Demand Resources. The calculation for the unconstrained portion of the PJM Region uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast and iteratively shifting the load distributions to result in the Installed Reserve Margin established for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). The calculation for each relevant LDA uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Capacity Emergency Transfer Objective study for the Delivery Year in question). For the relevant LDA calculation, the weekly capacity distributions are adjusted to reflect the Capacity Emergency Transfer Limit for the Delivery Year in question.

For both the PJM Region and LDA analyses, PJM then models the commitment of varying amounts of DR (displacing otherwise committed generation) as interruptible from May 1 through October 31 and unavailable from November 1 through April 30 and calculates the LOLE at each DR level. The Extended Summer DR Reliability Target is the DR amount, stated as a percentage of the unrestricted peak load, that produces no more than a ten percent increase in the LOLE, compared to the reference value. The Sub-Annual Resource Reliability Target shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the DR Factor] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

Sub-meter:

"Sub-meter" shall mean a metering point for electricity consumption that does not include all electricity consumption for the end-use customer as defined by the electric distribution company account number. PJM shall only accept sub-meter load data from end-use customers for measurement and verification of Regulation service as set forth in the Economic Load Response rules and PJM Manuals.

Summer-Period Capacity Performance Resource:

"Summer-Period Capacity Performance Resource" shall have the same meaning specified in Tariff, Attachment DD, section 5.5A.

Surplus Interconnection Customer:

"Surplus Interconnection Customer" shall mean either an Interconnection Customer whose Generating Facility is already interconnected 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. A Surplus Interconnection Customer is not a New Service Customer.

Surplus Interconnection Request:

"Surplus Interconnection Request" shall mean a request submitted by a Surplus Interconnection Customer, pursuant to Tariff, Attachment RR, 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, such that if Surplus Interconnection Service is utilized, the total amount of Interconnection Service at the Point of Interconnection would remain the same.

Switching and Tagging Rules:

"Switching and Tagging Rules" shall mean the switching and tagging procedures of Interconnected Transmission Owners and Interconnection Customer as they may be amended from time to time.

Synchronized Reserve:

"Synchronized Reserve" shall mean the reserve capability of generation resources that can be converted fully into energy or Demand Resources whose demand can be reduced within ten minutes from the request of the Office of the Interconnection dispatcher, and is provided by equipment that is electrically synchronized to the Transmission System.

Synchronized Reserve Event:

"Synchronized Reserve Event" shall mean a request from the Office of the Interconnection to generation resources and/or Demand Resources able, assigned or self-scheduled to provide Synchronized Reserve in one or more specified Reserve Zones or Reserve Sub-zones, within ten minutes, to increase the energy output or reduce load by the amount of assigned or self-scheduled Synchronized Reserve capability.

Synchronized Reserve Requirement:

"Synchronized Reserve Requirement" shall mean the megawatts required to be maintained in a Reserve Zone or Reserve Sub-zone as Synchronized Reserve, absent any increase to account for additional reserves scheduled to address operational uncertainty. The Synchronized Reserve Requirement is calculated in accordance with the PJM Manuals.

System Condition:

"System Condition" shall mean a specified condition on the Transmission Provider's system or on a neighboring system, such as a constrained transmission element or flowgate, that may trigger Curtailment of Long-Term Firm Point-to-Point Transmission Service using the curtailment priority pursuant to Tariff, Part II, section 13.6. Such conditions must be identified in the Transmission Customer's Service Agreement.

System Energy Price:

"System Energy Price" shall mean the energy component of the Locational Marginal Price, which is the price at which the Market Seller has offered to supply an additional increment of energy from a resource, calculated as specified in Operating Agreement, Schedule 1, section 2 and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

System Impact Study:

"System Impact Study" shall mean an assessment by the Transmission Provider of (i) the adequacy of the Transmission System to accommodate a Completed Application, an Interconnection Request or an Upgrade Request, (ii) whether any additional costs may be incurred in order to provide such transmission service or to accommodate an Interconnection Request, and (iii) with respect to an Interconnection Request, an estimated date that an Interconnection Customer's Customer Facility can be interconnected with the Transmission System and an estimate of the Interconnection Customer's cost responsibility for the interconnection; 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 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 Customer Facility, and (ii) the Customer 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 Customer Facility.

Definitions – T – U - V

Tangible Net Worth:

“Tangible Net Worth” shall mean total~~all~~ assets less goodwill and other ~~(not including any~~ intangible assets, minus total ~~such as goodwill) less all~~ liabilities. ~~Any such calculation may be reduced by PJMSettlement upon review of the available financial information.~~

Target Allocation:

“Target Allocation” shall mean the allocation of Transmission Congestion Credits as set forth in Operating Agreement, Schedule 1, section 5.2.3, and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.3, or the allocation of Auction Revenue Rights Credits as set forth in Operating Agreement, Schedule 1, section 7.4.3, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.3.

Third Incremental Auction:

“Third Incremental Auction” shall mean an Incremental Auction conducted three months before the Delivery Year to which it relates.

Third-Party Sale:

“Third-Party Sale” shall mean any sale for resale in interstate commerce to a Power Purchaser that is not designated as part of Network Load under the Network Integration Transmission Service but not including a sale of energy through the PJM Interchange Energy Market established under the PJM Operating Agreement.

Tie Line:

“Tie Line” shall mean a circuit connecting two balancing authority areas, Control Areas or fully metered electric system regions. Tie Lines may be classified as external or internal as set forth in the PJM Manuals.

Total Lost Opportunity Cost Offer:

“Total Lost Opportunity Cost Offer” shall mean the applicable offer used to calculate lost opportunity cost credits. For pool-scheduled resources specified in PJM Operating Agreement, Schedule 1, section 3.2.3(f-1), and the parallel provisions of Tariff, Attachment K-Appendix, section 3.2.3(f-1), the Total Lost Opportunity Cost Offer shall equal the Real-time Settlement Interval offer integrated under the applicable offer curve for the LOC Deviation, as determined by the greater of the Committed Offer or last Real-Time Offer submitted for the offer on which the resource was committed in the Day-ahead Energy Market for each hour in an Operating Day. For all other pool-scheduled resources, the Total Lost Opportunity Cost Offer shall equal the Real-time Settlement Interval offer integrated under the applicable offer curve for the LOC Deviation, as determined by the offer curve associated with the greater of the Committed Offer or Final Offer for each hour in an Operating Day. For self-scheduled generation resources, the Total Lost Opportunity Cost Offer shall equal the Real-time Settlement Interval offer integrated under the applicable offer curve for the LOC Deviation, where for self-scheduled generation resources (a) operating pursuant to a cost-based offer, the applicable offer curve shall be the greater of the originally submitted cost-based offer or the cost-based offer that the resource was dispatched on in real-time; or (b) operating pursuant to a market-based offer, the applicable offer curve shall be determined in accordance with the following process: (1) select the greater of the cost-based day-ahead offer and updated cost-based Real-time Offer; (2) for resources with multiple cost-based offers, first, for each cost-based offer select the greater of the day-ahead offer and updated Real-time Offer, and then select the lesser of the resulting cost-based offers; and (3) compare the offer selected in (1), or for resources with multiple cost-based offers the offer selected in (2), with the market-based day-ahead offer and the market-based Real-time Offer and select the highest offer.

Total Net Obligation:

"Total Net Obligation" shall mean all unpaid billed Net Obligations plus any unbilled Net Obligation incurred to date, as determined by PJMSettlement on a daily basis, plus any other Obligations owed to PJMSettlement at the time.

Total Net Sell Position:

"Total Net Sell Position" shall mean all unpaid billed Net Sell Positions plus any unbilled Net Sell Positions accrued to date, as determined by PJMSettlement on a daily basis.

Total Operating Reserve Offer:

"Total Operating Reserve Offer" shall mean the applicable offer used to calculate Operating Reserve credits. The Total Operating Reserve Offer shall equal the sum of all individual Real-time Settlement Interval energy offers, inclusive of Start-Up Costs (shut-down costs for Demand Resources) and No-load Costs, for every Real-time Settlement Interval in a Segment, integrated under the applicable offer curve up to the applicable megawatt output as further described in the PJM Manuals. The applicable offer used to calculate day-ahead Operating Reserve credits shall be the Committed Offer, and the applicable offer used to calculate balancing Operating Reserve credits shall be lesser of the Committed Offer or Final Offer for each hour in an Operating Day.

Trade Reference:

"Trade Reference" shall mean a reference from a contact or firm that had or has a material business relationship with a Participant.

Transmission Congestion Charge:

"Transmission Congestion Charge" shall mean a charge attributable to the increased cost of energy delivered at a given load bus when the transmission system serving that load bus is operating under constrained conditions, or as necessary to provide energy for third-party transmission losses which shall be calculated and allocated as specified in Operating Agreement, Schedule 1, section 5.1 and the parallel provisions of Tariff, Attachment K-Appendix, section 5.1.

Transmission Congestion Credit:

"Transmission Congestion Credit" shall mean the allocated share of total Transmission Congestion Charges credited to each FTR Holder, calculated and allocated as specified in Operating Agreement, Schedule 1, section 5.2, and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.

Transmission Constraint Penalty Factor:

"Transmission Constraint Penalty Factor" shall mean the maximum cost of the re-dispatch incurred to control the flows across a transmission constraint and establishes the maximum limit on the Marginal Value.

Transmission Customer:

"Transmission Customer" shall mean any Eligible Customer (or its Designated Agent) that (i) executes a Service Agreement, or (ii) requests in writing that the Transmission Provider file with the Commission a proposed unexecuted Service Agreement, to receive transmission service under Tariff, Part II. This term is used in Tariff, Part I and Tariff, Part VI to include customers receiving transmission service under Tariff, Part II and Tariff, Part III.

Where used in Tariff, Attachment K-Appendix and the parallel provisions of Operating Agreement, Schedule 1, Transmission Customer shall mean an entity using Point-to-Point Transmission Service.

Transmission Facilities:

"Transmission Facilities" shall have the meaning set forth in the Operating Agreement.

Transmission Forced Outage:

"Transmission Forced Outage" shall mean an immediate removal from service of a transmission facility by reason of an Emergency or threatened Emergency, unanticipated failure, or other cause beyond the control of the owner or operator of the transmission facility, as specified in the relevant portions of the PJM Manuals. A removal from service of a transmission facility at the request of the Office of the Interconnection to improve transmission capability shall not constitute a Forced Transmission Outage.

Transmission Injection Rights:

"Transmission Injection Rights" shall mean Capacity Transmission Injection Rights and Energy Transmission Injection Rights.

Transmission Interconnection Customer:

"Transmission Interconnection Customer" shall mean an entity that submits an Interconnection Request to interconnect or add Merchant Transmission Facilities to the Transmission System or to increase the capacity of Merchant Transmission Facilities interconnected with the Transmission System in the PJM Region or an entity that submits an Upgrade Request for Merchant Network Upgrades (including accelerating the construction of any transmission enhancement or expansion, other than Merchant Transmission Facilities, that is included in the Regional Transmission Expansion Plan prepared pursuant to Operating Agreement, Schedule 6).

Transmission Interconnection Facilities Study:

"Transmission Interconnection Facilities Study" shall mean a Facilities Study related to a Transmission Interconnection Request.

Transmission Interconnection Feasibility Study:

"Transmission Interconnection Feasibility Study" shall mean a study conducted by the Transmission Provider in accordance with Tariff, Part IV, section 36.2.

Transmission Interconnection Request:

"Transmission Interconnection Request" shall mean a request by a Transmission Interconnection Customer pursuant to Tariff, Part IV to interconnect or add Merchant Transmission Facilities to the Transmission System or to increase the capacity of existing Merchant Transmission Facilities interconnected with the Transmission System in the PJM Region.

Transmission Loading Relief:

"Transmission Loading Relief" shall mean NERC's procedures for preventing operating security limit violations, as implemented by PJM as the security coordinator responsible for maintaining transmission security for the PJM Region.

Transmission Loading Relief Customer:

"Transmission Loading Relief Customer" shall mean an entity that, in accordance with Operating Agreement, Schedule 1, section 1.10.6A and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.6A, has elected to pay Transmission Congestion Charges during Transmission Loading Relief in order to continue energy schedules over contract paths outside the PJM Region that are increasing the cost of energy in the PJM Region.

Transmission Loss Charge:

"Transmission Loss Charge" shall mean the charges to each Market Participant, Network Customer, or Transmission Customer for the cost of energy lost in the transmission of electricity from a generation resource to load as specified in Operating Agreement, Schedule 1, section 5, and the parallel provisions of Tariff, Attachment K-Appendix, section 5.

Transmission Owner:

"Transmission Owner" shall mean a Member that owns or leases with rights equivalent to ownership Transmission Facilities and is a signatory to the PJM Transmission Owners Agreement. Taking transmission service shall not be sufficient to qualify a Member as a Transmission Owner.

Transmission Owner Attachment Facilities:

"Transmission Owner Attachment Facilities" shall mean that portion of the Transmission Owner Interconnection Facilities comprised of all Attachment Facilities on the Interconnected Transmission Owner's side of the Point of Interconnection.

Transmission Owner Interconnection Facilities:

"Transmission Owner Interconnection Facilities" shall mean all Interconnection Facilities that are not Customer Interconnection Facilities and that, after the transfer under Tariff, Attachment P, Appendix 2, section 5.5 to the Interconnected Transmission Owner of title to any Transmission Owner Interconnection Facilities that the Interconnection Customer constructed, are owned, controlled, operated and maintained by the Interconnected Transmission Owner on the Interconnected Transmission Owner's side of the Point of Interconnection identified in appendices to the Interconnection Service Agreement and to the Interconnection Construction Service Agreement, including any modifications, additions or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Customer Facility with the Transmission System or interconnected distribution facilities.

Transmission Owner Upgrade:

"Transmission Owner Upgrade" shall have the same meaning provided in the Operating Agreement.

Transmission Planned Outage:

"Transmission Planned Outage" shall mean any transmission outage scheduled in advance for a pre-determined duration and which meets the notification requirements for such outages specified in Operating Agreement, Schedule 1, and the parallel provisions of Tariff, Attachment K-Appendix or the PJM Manuals.

Transmission Provider:

The "Transmission Provider" shall be the Office of the Interconnection for all purposes, provided that the Transmission Owners will have the responsibility for the following specified activities:

(a) The Office of the Interconnection shall direct the operation and coordinate the maintenance of the Transmission System, except that the Transmission Owners will continue to direct the operation and maintenance of those transmission facilities that are not listed in the PJM Designated Facilities List contained in the PJM Manual on Transmission Operations;

(b) Each Transmission Owner shall physically operate and maintain all of the facilities that it owns; and

(c) When studies conducted by the Office of the Interconnection indicate that enhancements or modifications to the Transmission System are necessary, the Transmission Owners shall have the responsibility, in accordance with the applicable terms of the Tariff, Operating Agreement and/or the Consolidated Transmission Owners Agreement to construct, own, and finance the needed facilities or enhancements or modifications to facilities.

Transmission Provider's Monthly Transmission System Peak:

"Transmission Provider's Monthly Transmission System Peak" shall mean the maximum firm usage of the Transmission Provider's Transmission System in a calendar month.

Transmission Service:

"Transmission Service" shall mean Point-To-Point Transmission Service provided under Tariff, Part II on a firm and non-firm basis.

Transmission Service Request:

"Transmission Service Request" shall mean a request for Firm Point-To-Point Transmission Service or a request for Network Integration Transmission Service.

Transmission System:

"Transmission System" shall mean the facilities controlled or operated by the Transmission Provider within the PJM Region that are used to provide transmission service under Tariff, Part II and Part III.

Transmission Withdrawal Rights:

"Transmission Withdrawal Rights" shall mean Firm Transmission Withdrawal Rights and Non-Firm Transmission Withdrawal Rights.

Turn Down Ratio:

"Turn Down Ratio" shall mean the ratio of a generating unit's economic maximum megawatts to its economic minimum megawatts.

Unconstrained LDA Group:

"Unconstrained LDA Group" shall mean a combined group of LDAs that form an electrically contiguous area and for which a separate Variable Resource Requirement Curve has not been established under Tariff, Attachment DD, section 5.10. Any LDA for which a separate Variable Resource Requirement Curve has not been established under Tariff, Attachment DD, section 5.10 shall be combined with all other such LDAs that form an electrically contiguous area.

Unforced Capacity:

"Unforced Capacity" shall have the meaning specified in the Reliability Assurance Agreement.

Unsecured Credit:

"Unsecured Credit" shall mean any credit granted by PJMSettlement to a Participant that is not secured by Collateral.

Unsecured Credit Allowance:

"Unsecured Credit Allowance" shall mean Unsecured Credit extended by PJMSettlement in an amount determined by PJMSettlement's evaluation of the creditworthiness of a Participant. This is also defined as the amount of credit that a Participant qualifies for based on the strength of its own financial condition without having to provide Collateral. See also: "Working Credit Limit."

Updated VRR Curve:

"Updated VRR Curve" shall mean the Variable Resource Requirement Curve for use in the Base Residual Auction of the relevant Delivery Year, updated to reflect any change in the Reliability Requirement from the Base Residual Auction to such Incremental Auction, and for Delivery Years through May 31, 2018, the Short-term Resource Procurement Target applicable to the relevant Incremental Auction.

Updated VRR Curve Decrement:

"Updated VRR Curve Decrement" shall mean the portion of the Updated VRR Curve to the left of a vertical line at the level of Unforced Capacity on the x-axis of such curve equal to the net Unforced Capacity committed to the PJM Region as a result of all prior auctions conducted for such Delivery Year and adjusted, if applicable, by a change in Unforced Capacity commitments associated with the transition provision of Tariff, Attachment DD, section 5.14C, Tariff, Attachment DD, section 5.14D (as related to the 2016/2017 Delivery Year), Tariff, Attachment DD, section 5.14E, and Tariff, Attachment DD, section 5.5A(c)(i)(B), and RAA, Schedule 6, section L.9.

Updated VRR Curve Increment:

"Updated VRR Curve Increment" shall mean the portion of the Updated VRR Curve to the right of a vertical line at the level of Unforced Capacity on the x-axis of such curve equal to the net

Unforced Capacity committed to the PJM Region as a result of all prior auctions conducted for such Delivery Year and adjusted, if applicable, by a change in Unforced Capacity commitments associated with the transition provision of Tariff, Attachment DD, section 5.14C, Tariff, Attachment DD, section 5.14D (as related to the 2016/2017 Delivery Year), Tariff, Attachment DD, section 5.14E and Tariff, Attachment DD, section 5.5A(c)(i)(B), and RAA, Schedule 6, section L.9.

Upgrade Construction Service Agreement:

"Upgrade Construction Service Agreement" shall mean that agreement entered into by an Eligible Customer, Upgrade Customer or Interconnection Customer proposing Merchant Network Upgrades, a Transmission Owner, and the Transmission Provider, pursuant to Tariff, Part VI, Subpart B, and in the form set forth in Tariff, Attachment GG.

Upgrade Customer:

"Upgrade Customer" shall mean a customer that submits an Upgrade Request pursuant to Operating Agreement, Schedule 1, section 7.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.8.

Upgrade Feasibility Study:

"Upgrade Feasibility Study" shall mean a study conducted by the Transmission Provider in accordance with Tariff, Part IV, section 36.3.

Upgrade-Related Rights:

"Upgrade-Related Rights" shall mean Incremental Auction Revenue Rights, Incremental Available Transfer Capability Revenue Rights, Incremental Deliverability Rights, and Incremental Capacity Transfer Rights.

Upgrade Request:

"Upgrade Request" shall mean a request submitted in the form prescribed in Tariff, Attachment EE, for evaluation by the Transmission Provider of the feasibility and estimated costs of (a) a Merchant Network Upgrade or (b) the Customer-Funded Upgrades that would be needed to provide Incremental Auction Revenue Rights specified in a request pursuant to Operating Agreement, Schedule 1, section 7.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.8.

Up-to Congestion Counterflow Transaction:

"Up-to Congestion Counterflow Transaction" shall mean an Up-to Congestion Transaction will be deemed an Up-to Congestion Counterflow Transaction if the following value is negative: (a) when bidding, the lower of the bid price and the prior Up-to Congestion Historical Month's average real-time value for the transaction; or (b) for cleared Virtual Transactions, the cleared day-ahead price of the Virtual Transactions.

Up-to Congestion Historical Month:

"Up-to Congestion Historical Month" shall mean a consistently-defined historical period nominally one month long that is as close to a calendar month as PJM determines is practical.

Up-to Congestion Prevailing Flow Transaction:

An Up-to Congestion Transaction shall mean an "Up-to Congestion Prevailing Flow Transaction" if it is not an Up-to Congestion Counterflow Transaction.

Up-to Congestion Reference Price:

"Up-to Congestion Reference Price" for an Up-to Congestion Transaction, shall be the specified percentile price differential between source and sink (defined as sink price minus source price) for real-time prices experienced over the prior Up-to Congestion Historical Month, averaged with the same percentile value calculated for the second prior Up-to Congestion Historical Month. Up-to Congestion Reference Prices shall be calculated using the following historical percentiles:

For Up-to Congestion Prevailing Flow Transactions: 30^{th} percentile
For Up-to Congestion Counterflow Transactions when bid: 20^{th} percentile
For Up-to Congestion Counterflow Transactions when cleared: 5^{th} percentile

Up-to Congestion Transaction:

"Up-to Congestion Transaction" shall have the meaning specified in Operating Agreement, Schedule 1, section 1.10.1A, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1A.

Variable Loads:

"Variable Loads" shall have the meaning specified in Operating Agreement, Schedule 1, section 1.5A.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.5A.6.

Variable Resource Requirement Curve:

"Variable Resource Requirement Curve" shall mean a series of maximum prices that can be cleared in a Base Residual Auction for Unforced Capacity, corresponding to a series of varying resource requirements based on varying installed reserve margins, as determined by the Office of the Interconnection for the PJM Region and for certain Locational Deliverability Areas in accordance with the methodology provided in Tariff, Attachment DD, section 5.

Virtual Credit Exposure:

"Virtual Credit Exposure" shall mean the amount of potential credit exposure created by a market participant's bid submitted into the Day-ahead market, as defined in Tariff, Attachment Q.

Virtual Transaction:

"Virtual Transaction" shall mean a Decrement Bid, Increment Offer and/or Up-to Congestion Transaction.

Virtual Transaction Screening:

"Virtual Transaction Screening" shall be the process of reviewing the Virtual Credit Exposure of submitted Virtual Transactions against the Credit Available for Virtual Transactions. If the credit required is greater than credit available, then the Virtual Transactions will not be accepted.

Virtual Transactions Net Activity:

"Virtual Transactions Net Activity" shall mean the aggregate net total, resulting from Virtual Transactions, of (i) Spot Market Energy charges, (ii) Transmission Congestion Charges, and (iii) Transmission Loss Charges, calculated as set forth in Tariff, Attachment K-Appendix, and the parallel provisions of Operating Agreement, Schedule 1. Virtual Transactions Net Activity may be positive or negative.

Voltage Reduction Action:

"Voltage Reduction Action" shall mean a notification during capacity deficient conditions in which PJM notifies Members to reduce voltage on the distribution system in order to reduce demand and therefore provide a sufficient amount of reserves, maintain tie flow schedules and preserve limited energy sources.

Voltage Reduction Alert:

"Voltage Reduction Alert" shall mean a notification from PJM to alert Members that a voltage reduction may be required during a future critical period.

Voltage Reduction Warning:

"Voltage Reduction Warning" shall mean a notification from PJM to warn Members that PJM's available Synchronized Reserve is less than the Synchronized Reserve Requirement and that present operations have deteriorated such that a voltage reduction may be required.

Definitions – W – X – Y - Z

Wholesale Transaction:

As used in Tariff, Part IV, "Wholesale Transaction" shall mean any transaction involving the transmission or sale for resale of electricity in interstate commerce that utilizes any portion of the Transmission System.

Winter-Period Capacity Performance Resource:

"Winter-Period Capacity Performance Resource" shall have the same meaning specified in Tariff, Attachment DD, section 5.5A.

Working Credit Limit:

"Working Credit Limit" shall mean an amount that is 75% of the Participant's Unsecured Credit Allowance and/or 75% of the Collateral provided by the Participant to PJMSettlement. The Working Credit Limit establishes the maximum amount of Total Net Obligation that a Participant may have outstanding at any time. The calculation of Working Credit Limit shall take into account applicable reductions for Minimum Participation Requirements, FTR participation (for which there is no Unsecured Credit Allowance available), or other credit requirement determinants as defined in Tariff, Attachment Q.

Working Credit Limit for Virtual Transactions:

The "Working Credit Limit for Virtual Transactions" shall be calculated as 75% of the Market Participant's Unsecured Credit Allowance and/or 75% of the Collateral provided by the Market Participant to PJMSettlement when the Market Participant is at or below its Peak Market Activity credit requirements as specified in Tariff, Attachment Q, section VII.A. When the Market Participant ~~provides additional~~has available Unsecured Credit Allowance and/or has provided Collateral in excess of its Peak Market Activity credit requirements, such additional Unsecured Credit Allowance and/or Financial Security shall not be discounted by 25% when calculating the Working Credit Limit for Virtual Transactions. The Working Credit Limit for Virtual Transactions is a component in the calculation of Credit Available for Virtual Transactions. The calculation of Working Credit Limit for Virtual Transactions shall take into account applicable reductions for Minimum Participation Requirements, FTR, or other credit requirement determinants as defined in Tariff, Attachment Q.

Zonal Base Load:

"Zonal Base Load" shall mean the lowest daily zonal peak load from the twelve month period ending October 21 of the calendar year immediately preceding the calendar year in which an annual Auction Revenue Right allocation is conducted, increased by the projected load growth rate for the relevant Zone, when non-extraordinary conditions exist for the applicable twelve month period, as determined by PJM. If the lowest daily zonal peak load from the applicable twelve month period is abnormally low due to extraordinary conditions, as determined by PJM, Zonal Base Load shall mean the next lowest daily zonal peak load that was not affected by extraordinary conditions during the applicable twelve month period, increased by the projected load growth rate for the relevant Zone. For the purposes of this definition, extraordinary conditions shall mean a significant event, or combination of events, that affect the operation of the bulk power system in an atypical manner and results in an abnormal reduction in the consumption of energy within a Zone.

Zonal Capacity Price:

“Zonal Capacity Price” shall mean the clearing price required in each Zone to meet the demand for Unforced Capacity and satisfy Locational Deliverability Requirements for the LDA or LDAs associated with such Zone. If the Zone contains multiple LDAs with different Capacity Resource Clearing Prices, the Zonal Capacity Price shall be a weighted average of the Capacity Resource Clearing Prices for such LDAs, weighted by the Unforced Capacity of Capacity Resources cleared in each such LDA.

Zone or Zonal:

“Zone” or “Zonal” shall mean an area within the PJM Region, as set forth in Tariff, Attachment J and RAA, Schedule 15, or as such areas may be (i) combined as a result of mergers or acquisitions or (ii) added as a result of the expansion of the boundaries of the PJM Region. A Zone shall include any Non-Zone Network Load located outside the PJM Region that is served from such Zone under Tariff, Attachment H-A.

Zone Network Load:

“Zone Network Load” shall mean Network Load that is located inside of the area comprised of the PJM Region.

1.4 Market Participant~~Buyers~~.

1.4.1 Qualification.

(a) To become a Market Participant~~Buyer~~, an Applicant~~entity~~ shall submit an application to the Office of the Interconnection, in such form as shall be established by the Office of the Interconnection, and such further information detailed in Tariff, Attachment Q.

(b) An A~~a~~pplicant that is a Load Serving Entity or that will purchase on behalf of or for ultimate delivery to a Load Serving Entity shall establish to the satisfaction of the Office of the Interconnection that the end-users that will be served through energy and related services purchased in the PJM Interchange Energy Market, are located electrically within the PJM Region, or will be brought within the PJM Region prior to any purchases from the PJM Interchange Energy Market. Such A~~a~~pplicant shall further demonstrate that:

i) The Load Serving Entity for the end users is obligated to meet the requirements of the Reliability Assurance Agreement, as applicable; and

ii) The Load Serving Entity for the end users has arrangements in place for Network Transmission Service or Point-To-Point Transmission Service for all PJM Interchange Energy Market purchases.

(c) An A~~a~~pplicant that is not a Load Serving Entity or purchasing on behalf of or for ultimate delivery to a Load Serving Entity shall demonstrate that:

i) The A~~a~~pplicant has obtained or will obtain Network Transmission Service or Point-t~~T~~o-Point Transmission Service for all PJM Interchange Energy Market purchases; and

ii) The A~~a~~pplicant's PJM Interchange Energy Market purchases will ultimately be delivered to a load in another Control Area that is recognized by NERC and that complies with NERC's standards for operating and planning reliable bulk electric systems.

(d) An A~~a~~pplicant shall not be required to obtain transmission service for purchases from the PJM Interchange Energy Market to cover quantity deviations from its sales in the Day-ahead Energy Market.

(e) An~~ll~~ A~~a~~pplicant~~s~~ applying to become a Market Participant shall demonstrate that it:

i) ~~The applicant~~ is capable of complying with all applicable metering, data storage and transmission, and other reliability, operation, planning and accounting standards and requirements for the operation of the PJM Region and the PJM ~~Interchange Energy~~ Markets, as applicable;

ii) ~~The applicant~~ meets the creditworthiness standards established by the Office of the Interconnection and/or PJMSettlement, or has provided cash or a ~~letter of c~~Credit Support Document ~~or other form of security~~ acceptable to the Office of the Interconnection and/or PJMSettlement; and

iii) ~~The applicant~~ has paid all applicable fees and reimbursed the Office of the Interconnection and/or PJMSettlement for all unusual or extraordinary costs of processing and evaluating its application to become a Market ~~Buyer~~Participant, and has agreed in its application to subject any disputes arising from its application to the PJM Dispute Resolution Procedures.

(f) The A~~a~~pplicant shall become a Market ~~Buyer~~ Participant upon a final favorable determination on its application by the Office of the Interconnection as specified below, which determination shall be made by the Office of the Interconnection in conjunction with input from PJMSettlement, and execution by the A~~a~~pplicant of counterparts of this Agreement.

1.4.2 Submission of Information.

The A~~a~~pplicant shall furnish all information reasonably requested by the Office of the Interconnection and/or PJMSettlement in order to determine the A~~a~~pplicant's qualification to be a Market Participant and whether the entity should be allowed to remain a Market Participant~~Buyer~~. The Office of the Interconnection and/or PJMSettlement may waive the submission of information relating to any of the foregoing criteria, to the extent the information in the Office of the Interconnection's and/or PJMSettlement's possession is sufficient to evaluate the application against such criteria.

1.4.3 Fees and Costs.

The Office of the Interconnection shall require all A~~a~~pplicants seeking to become a Market ~~Buyer~~ Participant to pay a uniform application fee, initially in the amount of $~~1,500~~2,000, to defray the ordinary costs of processing such applications. The application fee shall be revised from time to time as the Office of the Interconnection shall determine to be necessary to recover its ordinary costs of processing applications. Any unusual or extraordinary costs incurred by the Office of the Interconnection in processing an application shall be reimbursed by the A~~a~~pplicant.

1.4.4 Office of the Interconnection Determination.

Upon submission of the information specified above, and such other information as shall reasonably be requested by the Office of the Interconnection and/or PJMSettlement, the Office of the Interconnection and/or PJMSettlement shall undertake an evaluation ~~and investigation~~ to determine whether the A~~a~~pplicant meets the criteria specified above, and in accordance with Tariff, Attachment Q.

As soon as practicable, but in any event not later than sixty (60) calendar days after submission of the foregoing information, or such later date as may be necessary to satisfy the requirements of the ~~Reliability Assurance~~ Agreements, the Office of the Interconnection shall notify the

A~~a~~pplicant and ~~the members of~~ the Members Committee of its determination, along with a written summary of the basis for the determination, and whether there are any actions the Applicant can take that might cause the Office of the Interconnection to change its determination, including but not limited to providing even further supplemental information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes. The Office of the Interconnection and/or PJMSettlement shall respond promptly to any reasonable and timely request by an Applicant or a Member for additional information regarding the basis for the Office of the Interconnection's determination, and shall take such action as it shall deem appropriate in response to any request for reconsideration or other action submitted to the Office of the Interconnection not later than thirty (30) calendar days from the initial notification to the Members Committee. Notifications to the Members Committee shall be in compliance with Operating Agreement, section 18.17.1.

1.4.5 Existing Participants.

A~~ny entity~~ Member that was previously qualified to participate as a Market Participant ~~Buyer in the PJM Interchange Energy Market under the Operating Agreement of PJM Interconnection L.L.C. in effect immediately prior to the Effective Date~~ shall not automatically continue to be qualified to participate as a Market Participant~~Buyer in the PJM Interchange Energy Market~~ under the~~is~~ Agreements. Rather, in order to retain its eligibility to continue to participate as a Market Participant in the PJM Markets, a Market Participant shall be subject to the requirements and ongoing risk evaluation in accordance with Tariff, Attachment Q.

1.4.6 Withdrawal.

(a) An Internal Market Buyer that is a Load Serving Entity may withdraw from this Agreement by giving written notice to the Office of the Interconnection specifying an effective date of withdrawal not earlier than the effective date of (i) its withdrawal from the Reliability Assurance Agreement, or (ii) the assumption of its obligations under the Reliability Assurance Agreement by an agent that is a Market Buyer.

(b) An External Market Buyer or an Internal Market Buyer that is not a Load Serving Entity may withdraw from this Agreement by giving written notice to the Office of the Interconnection specifying an effective date of withdrawal at least one day after the date of the notice.

(c) Withdrawal from this Agreement shall not relieve a Market Participant~~Buyer~~ of any obligation to pay for electric energy or related services purchased from the PJM ~~Interchange Energy~~ Markets prior to such withdrawal, to pay its share of any fees and charges incurred or assessed by the Office of the Interconnection and/or PJMSettlement prior to the date of such withdrawal, maintain and/or provide sufficient credit support until all of its transactions in the PJM Markets have been satisfied, or to fulfill any obligation to provide indemnification for the consequences of acts, omissions or events occurring prior to such withdrawal; and provided, further, that withdrawal from this Agreement shall not relieve any Market Participant~~Buyer~~ of any obligations it may have under, or constitute withdrawal from, any other Related PJM Agreement.

(d) A Market Participant~~Buyer~~ that has withdrawn from this Agreement may reapply to become a Market Participant~~Buyer~~ in accordance with the provisions of this s~~S~~ection 1.4, provided it is not in default of any obligation incurred under the~~is~~ Agreements.

1.4.7 Limitation, Suspension, and Termination.

The Office of the Interconnection requires that Market Participants certify and provide information required and requested by the Office of the Interconnection and/or PJMSettlement at least annually as indicated in section 1.4.1, 1.4.2 and 1.4.4 above and Tariff, Attachment Q. If the Office of the Interconnection determines that the entity no longer satisfies its requirements to be a Market Participant, the Office of the Interconnection may limit and/or suspend that entity's activity in the PJM Markets until such time as it can satisfy the requirements, and if the requirements are not satisfied the Office of the Interconnection may terminate that entity's approval to be a Market Participant. As soon as practicable, the Office of the Interconnection shall notify the entity and the Members Committee of its determination, along with a written summary of the basis for the determination, and whether there are any actions the entity can take that might cause the Office of the Interconnection to change its determination, including but not limited to providing even further additional information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes. The Office of the Interconnection shall respond promptly to any reasonable and timely request by a Member for additional information regarding the basis for the Office of the Interconnection's determination, and shall take such action as it shall deem appropriate in response to any request for reconsideration or other action submitted to the Office of the Interconnection not later than thirty (30) calendar days from the initial notification to the Members Committee. Notifications to the Members Committee shall be in compliance with Operating Agreement, section 18.17.1.

1.4.8. Re-entry of Defaulting Market Participant.

An Applicant who previously defaulted on any obligations owed to PJM and/or PJMSettlement that resulted in a loss to any PJM Market which was never cured, or who is not eligible for reinstatement to PJM membership pursuant to Operating Agreement, section 15.1, shall not be allowed to re-enter the PJM Markets. In addition, PJM will evaluate relevant factors to determine if an Applicant seeking to participate in the PJM Markets under a different name, affiliation, or organization should be treated as the same Market Participant that experienced a previous default that resulted in a loss to the PJM Markets under this provision. Such factors may include, but are not limited to, the interconnectedness of the business relationships, overlap in relevant personnel, similarity of business activities, overlap of customer base, and the business engaged in prior to the attempted re-entry.

ATTACHMENT Q

~~PJM~~ CREDIT RISK MANAGEMENT POLICY

I. INTRODUCTION~~:~~

It is the policy of PJM that prior to an entity participating in ~~the~~ any PJM Markets~~,~~ or in order to take Transmission Service, the entity must demonstrate its ability to meet the requirements in this Attachment Q. This Attachment Q also sets forth PJM's authority to deny, reject, or terminate a Participant's right to participate in any PJM Markets in order to protect the PJM Markets and PJM Members from unreasonable credit risk from any Participant's activities. Given the interconnectedness and overlapping of their responsibilities, PJM Interconnection, L.L.C. and PJM Settlement, Inc. are referred to both individually and collectively herein as "PJM."~~meet PJMSettlement's credit requirements.~~

PURPOSE

PJMSettlement is the counterparty to transactions in the PJM Markets. As a consequence, if a Participant defaults on its obligations under this Attachment Q, or PJM determines a Participant represents unreasonable credit risk to the PJM Markets, and the Participant does not post Collateral, additional Collateral or Restricted Collateral in response to a Collateral Call, the result is that the Participant represents unsecured credit risk to the PJM Markets. For this reason, PJM must have the authority to monitor and manage credit risk on an ongoing basis, and to act promptly to mitigate or reduce any unsecured credit risk, in order to protect the PJM Markets and PJM Members from losses.

This Attachment Q describes requirements for: (1) eligibility to be a Market Participant, (2) establishment and maintenance of credit by Market Participants, and (3) collateral requirements and forms of credit support that will be deemed as acceptable to mitigate risk to any PJM Markets.

This Attachment Q also sets forth (1) PJM's authority to monitor and manage credit risk that a Participant may represent to the PJM Markets and/or PJM membership in general, (2) the basis for establishing limits that will be imposed on a Market Participant in order to minimize risk, and (3) various obligations and requirements the violation of which will result in an Event of Default pursuant to this Attachment Q and the Agreements.

Attachment Q describes the types of data and information PJM will review in order to determine whether an Applicant or Market Participant presents an unreasonable risk to any PJM Markets and/or PJM membership in general, and the steps PJM may take in order to address that risk.

~~Prior to becoming a Market Participant and/or Transmission Customer of PJM, PJMSettlement must accept and approve a credit application (including credit agreement) from such entity. PJMSettlement shall approve or deny submitted credit application on the basis of a complete credit evaluation including, but not be limited to, a review of financial statements, rating agency reports, and other pertinent indicators of credit strength that are applicable to the Applicant's~~

~~requested activity in PJM. Applicants must satisfy all applicable credit requirements set forth in this Attachment Q prior to transacting in the PJM Markets. All references in this Attachment Q to "section" shall refer to sections within Attachment Q unless otherwise indicated.~~

APPLICABILITY

This Attachment Q applies to all Applicants and Market Participants who take Transmission Service under this Tariff, or participate in any PJM Markets or market activities under the Agreements. Notwithstanding anything to the contrary in this Attachment Q, simply taking transmission service or procuring Ancillary Services via market-based rates does not imply market participation for purposes of applicability of this Attachment Q.

II. RISK EVALUATION PROCESS

PJM will conduct a risk evaluation to determine eligibility to become and/or remain a Market Participant or Guarantor that: (1) assesses the entity's financial strength, risk profile, creditworthiness, and other relevant factors; (2) determines an Unsecured Credit Allowance, if appropriate; (3) determines appropriate levels of Collateral; and (4) evaluates any Credit Support, including Guaranties or Letters of Credit.

A. Initial Risk Evaluation

PJM will perform an initial risk evaluation of each Applicant and/or its Guarantor. As part of the initial risk evaluation, PJM will consider certain Minimum Participation Requirements, assign an Internal Risk Score, establish an Unsecured Credit Allowance if appropriate, and make a determination regarding required levels of Collateral, creditworthiness, credit support, Restricted Collateral and other assurances for participation in certain PJM Markets.

Each Applicant and/or its Guarantor must provide the information set forth below at the time of its initial application pursuant to this Attachment Q and on an ongoing basis in order to remain eligible to participate in any PJM Markets. The same quantitative and qualitative factors will be used to evaluate Participants whether or not they have rated debt.

1. Rating Agency Reports

PJM will review Rating Agency reports from Standard & Poor's, Moody's Investors Service, Fitch Ratings, or other Nationally Recognized Statistical Rating Organization for each Applicant and/or Guarantor. The review will focus on the Applicant's or its Guarantor's senior unsecured debt ratings. If senior unsecured debt ratings are not available, PJM may consider other ratings, including issuer ratings, corporate ratings and/or an implied rating based on an internally derived Internal Credit Score pursuant to section II.A.3 below.

2. Financial Statements and Related Information

Each Applicant and/or its Guarantor must submit, or cause to be submitted, audited financial statements, except as otherwise indicated below, prepared in accordance with United States

Generally Accepted Accounting Principles ("US GAAP") or any other format acceptable to PJM for the three (3) fiscal years most recently ended, or the period of existence of the Applicant and/or its Guarantor, if shorter. Applicants and/or their Guarantors must submit, or cause to be submitted, financial statements, which may be unaudited, for each completed fiscal quarter of the current fiscal year. All audited financial statements provided by the Applicant and/or its Guarantor must be audited by an Independent Auditor.

The information should include, but not be limited to, the following:

(a) If the Applicant and/or its Guarantor has publicly traded securities:

(i) Annual reports on Form 10-K, together with any amendments thereto;

(ii) Quarterly reports on Form 10-Q, together with any amendments thereto;

(iii) Form 8-K reports, if any, that have been filed since the most recent Form 10-K;

(iv) A summary provided by the Principal responsible, or to be responsible, for PJM Market activity of: (1) the Participant's primary purpose(s) of activity or anticipated activity in the PJM Markets (investment, trading or "hedging or mitigating commercial risks," as such phrase has meaning in the CFTC's regulations regarding the end-user exception to clearing); (2) the experience of the Participant (and its Principals) in managing risks in similar markets, including other organized RTO/ISO markets or on regulated commodity exchanges; and (3) a high level overview of the Participant's intended participation in the PJM Markets.

(v) All audited financial statements provided by an Applicant with publicly traded securities and/or its Guarantor with publicly traded securities must be audited by an Independent Auditor that satisfies the requirements set forth in the Sarbanes-Oxley Act of 2002.

(b) If the Applicant and/or its Guarantor does not have publicly-traded securities:

(i) Annual Audited Financial Statements or equivalent independently audited financials, and quarterly financial statements, generally found on:
- Balance Sheets
- Income Statements
- Statements of Cash Flows
- Statements of Stockholder's or Member's Equity or Net Worth;

(ii) Notes to Annual Audited Financial Statements, and notes to quarterly financial statements if any, including disclosures of any material changes from the last report;

(iii) Disclosure equivalent to a Management's Discussion & Analysis, including an executive overview of operating results and outlook, and compliance with debt covenants and indentures, and off balance sheet arrangements, if any;

(iv) Auditor's Report with an unqualified opinion or written letter from auditor containing the opinion whether the annual audited financial statements comply with the US GAAP or any other format acceptable to PJM; and

(v) A summary provided by the Principal responsible or to be responsible for PJM Market activity of: (1) the Participant's primary purpose(s) of activity or anticipated activity in the PJM Markets (investment, trading or "hedging or mitigating commercial risks," as such phrase has meaning in the CFTC's regulations regarding the end-user exception to clearing); (2) the experience of the Participant (and its Principals) in managing risks in similar markets, including other organized RTO/ISO markets or on regulated commodity exchanges; and (3) a high level overview of the Participant's intended participation in the PJM Markets.

(c) If Applicant and/or Guarantor is newly formed, does not yet have three (3) years of audited financials, or does not routinely prepare audited financial statements, PJM may specify other information to allow it to assess the entity's creditworthiness, including but not limited to:

(i) Equivalent financial information traditionally found in:
- Balance Sheets
- Income Statements
- Statements of Cash Flows

(ii) Disclosure equivalent to a Management's Discussion & Analysis, including an executive overview of operating results and outlook, and compliance with debt covenants and indentures, and off balance sheet arrangements, if any; and

(iii) A summary provided by the Principal responsible or to be responsible for PJM Market activity of: (1) the Participant's primary purpose(s) of activity or anticipated activity in the PJM Markets (investment, trading or "hedging or mitigating commercial risks," as such phrase has meaning in the CFTC's regulations regarding the end-user exception to clearing); (2) the experience of the Participant (and its Principals) in managing risks in similar markets, including other organized RTO/ISO markets or on regulated commodity exchanges; and (3) a high level overview of the Participant's intended participation in the PJM Markets.

(d) During a two year transition period from June 1, 2020 to May 31, 2022, the Applicant or Guarantor may provide a combination of audited financial statements and/or equivalent financial information.

If any of the above information in this section II.A.2 is available on the internet, the Applicant and/or its Guarantor may provide a letter stating where such statements can be located and retrieved by PJM. If an Applicant and/or its Guarantor files Form 10-K, Form 10-Q, or Form 8-K with the SEC, then the Applicant and/or its Guarantor will be deemed to have satisfied the requirement by indicating to PJM where the information in this section II.A.2 can be located on the internet.

If the Applicant and/or its Guarantor fails, for any reason, to provide the information required above in this section II.A.2, PJM has the right to (1) request Collateral and/or Restricted Collateral to cover the amount of risk reasonably associated with the Applicant and/or its Guarantor's expected activity in any PJM Markets, and/or (2) restrict the Applicant from participating in certain PJM Markets, including but not limited to restricting the positions the Applicant (once it becomes a Market Participant) takes in the market.

For certain Applicants and/or their Guarantors, some of the above submittals may not be applicable and alternate requirements for compliant submittals may be specified by PJM. In the credit evaluation of Municipalities and Cooperatives, PJM may also request additional information as part of the initial and ongoing review process and will consider other qualitative factors in determining financial strength and creditworthiness.

3. Credit Rating and Internal Credit Score

PJM will use credit risk scoring methodologies as a tool in determining an Unsecured Credit Allowance for each Applicant and/or its Guarantor. As its source for calculating the Unsecured Credit Allowance, PJM will rely on the ratings from a Rating Agency, if any, on the Applicant's or Guarantor's senior unsecured debt or their issuer ratings or corporate ratings if senior unsecured debt ratings are not available. If there is a split rating between the Rating Agencies, the lower of the ratings shall apply. If no external credit rating is available PJM will utilize its Internal Credit Score in order to calculate the Unsecured Credit Allowance.

The model used to develop the Internal Credit Score will be quantitative, based on financial data found in the income statement, balance sheet, and cash flow statement, and it will be qualitative based on relevant factors that may be internal or external to a particular Applicant and/or its Guarantor.

PJM will employ a framework, as outlined in Tables 1-5 below, based on metrics internal to the Applicant and/or its Guarantor, including capital and leverage, cash flow coverage of fixed obligations, liquidity, profitability, and other qualitative factors. The particular metrics and scoring rules differ according to the Applicant's or Guarantor's line of business and the PJM Markets in which it anticipates participating, in order to account for varying sources and degrees of risk to the PJM Markets and PJM members.

The formulation of each metric will be consistently applied to all Applicants and Guarantors across industries with slight variations based on identifiable differences in entity type, anticipated market activity, and risks to the PJM Markets and PJM members. In instances where the external credit rating is used to calculate the unsecured credit allowance, PJM may also use the Internal Credit Score as an input into determining the overall risk profile of an Applicant and/or its Guarantor.

Table 1. ***Quantitative Metrics by Line of Business: Leverage and Capital Structure***	**Investor-Owned**	**Municipal Utilities**	**Co-Operative Utilities**	**Power Transmission**	**Merchant Power**	**Project Developers**	**Exploration & Production**	**Financial Institutions**	**Commodity Trading**	**Private Equity**
Debt / Total Capitalization (%)	primary metric	primary metric	primary metric	primary metric	secondary metric	secondary metric	primary metric		primary metric	primary metric
FFO / Debt (%)	secondary metric	secondary metric	primary metric	secondary metric	primary metric	primary metric	secondary metric		primary metric	
Debt / EBITDA (x)	secondary metric	secondary metric	secondary metric	secondary metric	primary metric	primary metric	secondary metric		primary metric	
Debt / Property, Plant & Equipment (%)	secondary metric	secondary metric	secondary metric	secondary metric						
Retained Earnings / Total Assets (%)	primary metric	primary metric		primary metric			primary metric			
Debt / Avg Daily Production or KwH ($)	secondary metric	secondary metric	secondary metric	secondary metric			primary metric			
Tangible Net Worth ($)						secondary metric		primary metric	secondary metric	secondary metric
Core Capital / Total Assets (%)								primary metric		
Risk-Based Capital / RWA (%)								primary metric		
Tier 1 Capital / RWA (%)								primary metric		
Equity / Investments (%)										primary metric
Debt / Investments (%)										primary metric

primary metric *secondary metric* *FFO = Funds From Operations* *RWA = Risk-Weighted Asserts*

Table 2. ***Quantitative Metrics by Line of Business: Fixed Charge Coverage and Funding***	**Investor-Owned Utilities**	**Municipal Utilities**	**Co-Operative Utilities**	**Power Transmission**	**Merchant Power**	**Project Developers**	**Exploration &**	**Financial Institutions**	**Commodity Trading**	**Private Equity**
EBIT / Interest Expense (x)	primary metric	primary metric	primary metric	primary metric	primary metric	primary metric	primary metric		primary metric	primary metric
EBITDA / Interest Expense (x)	primary metric	primary metric	secondary metric	primary metric	primary metric	primary metric	primary metric			
EBITDA / [Interest Exp + CPLTD] (x)	secondary metric	secondary metric	primary metric	secondary metric	secondary metric	secondary metric	secondary metric			
[FFO + Interest Exp] / Interest Exp (x)	secondary metric	secondary metric	primary metric	secondary metric	secondary metric	secondary metric	secondary metric			
Loans / Total Deposits (%)								primary metric		
NPL / Gross Loans (%)								primary metric		
NPL / [Net Worth + LLR] (%)								primary metric		

Market Funding/Tangible Bank Assets (%)										

primary metric secondary metric CPLTD = Current Portion of Long-Term Debt EBIT = Earnings Before Interest and Taxes EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization LLR = Loan Loss Reserves NPL = Non-Performing Loans

Table 3. ***Quantitative Metrics by Line of Business: Liquidity***	**Investor-Owned**	**Municipal Utilities**	**Co-Operativ**	**Power T**	**Merchant Power**	**Project Developers**	**Exploration & Production**	**Financial Institutions**	**Commodity Trading**	**Private**
CFFO / Total Debt (x)										
Current Assets / Current Liabilities (x)										
Liquid Assets / Tangible Bank Assets (%)										
Sources / Uses of Funds (x)										
Weighted Avg Maturity of Debt (yrs)										
Floating Rate Debt / Total Debt (%)										

primary metric secondary metric CFFO = Cash Flow From Operations

Table 4. ***Quantitative Metrics by Line of Business: Profitability***	**Investor-Owned Utilities**	**Municipal Utilities**	**Co-Operative Utilities**	**Power Transmission**	**Merchant Power**	**Project Developers**	**Exploration &**	**Financial Institutions**	**Commodity Trading**	**Private**
Return on Assets (%)										
Return on Equity (%)										
Profit Volatility (%)										
Return on Revenue (%)										
Net Income / Tangible Assets (%)										
Net Profit ($)										
Net Income / Dividends (x)										

primary metric secondary metric

Table 5. Qualitative Factors: Industry Level	**Sample Reference Metrics**	**Investor-Owned Utilities**	**Municipal Utilities**	**Co-Operative Utilities**	**Power Transmission**	**Merchant Power**	**Project Developers**	**Exploration & Production**	**Financial Institutions**	**Commodity Trading**	**Private Equity**
Need for PJM Markets to Achieve Business Goals	Rating Agency criteria or other industry analysis	High	High	High	High	Med	Low	Med	Low	Low	N/A
Ability to Grow/Enter Markets other than PJM	Rating Agency criteria or other industry analysis	Very Low	Very Low	Very Low	Very Low	High	High	Med	Med	High	N/A
Other Participants' Ability to Serve Customers	Rating Agency criteria or other industry analysis	Low	Low	Low	Low	Low	Med	Low	Low	High	N/A
Regulation of Participant's Business	RRA regulatory climate scores, S&P BICRA	PUCS	Govt	N/A	FERC PUCs	N/A	N/A	N/A	N/A	N/A	N/A
Primary Purpose of PJM Activity	**Investment ("Inv.")/ Trading ("Trade")/ Hedging or Mitigating Commercial Risk of**	CRH	CRH	CRH	CRH/Trade	CRH/Trade	CRH/Trade	CRH/Trade	Inv./Trade	Inv./Trade	Inv./Trade

	Operations ("CRH")										

RRA = Regulatory Research Associates, a division of S&P Global, Inc. *BICRA = Bank Industry Country Risk Assessment*

The scores developed will range from 1-6, with the following mappings:

1 = Very Low Risk (S&P/Fitch: AAA to AA-; Moody's: Aaa to Aa3)
2 = Low Risk (S&P/Fitch: A+ to BBB+; Moody's: A1 to Baa1)
3 = Low to Medium Risk (S&P/Fitch: BBB; Moody's: Baa2)
4 = Medium Risk (S&P/Fitch: BBB-; Moody's: Baa3)
5 = Medium to High Risk (S&P/Fitch: BB+ to BB; Moody's Ba1 to Ba2)
6 = High Risk (S&P/Fitch: BB- and below; Moody's: Ba3 and below)

4. Trade References

If deemed necessary by PJM, whether because the Applicant is newly or recently formed or for any other reason, each Applicant and/or its Guarantor shall provide at least one (1) bank reference and three (3) Trade References to provide PJM with evidence of Applicant's understanding of the markets in which the Applicant is seeking to participate and the Applicant's experience and ability to manage risk. PJM may contact the bank references and Trade References provided by the Applicant to verify their business experience with the Applicant.

5. Litigation and Contingencies

Unless prohibited by law, each Applicant and Guarantor is also required to disclose and provide information as to the occurrence of, within the five (5) years prior to the submission of the information to PJM (i) any litigation, arbitration, investigation (formal inquiry initiated by a governmental or regulatory entity), or proceeding, pending or, to the knowledge of the involving, Applicant or its Guarantor or any of their Principals that would likely have a material adverse impact on its financial condition and/or would likely materially affect the risk of non-payment by the Applicant or Guarantor, or (ii) any finding of material defalcation, market manipulation or fraud by or involving the Applicant, Guarantor, or any of their Principals, predecessors, subsidiaries, or Credit Affiliates that participate in any United States power markets based upon a final adjudication of regulatory and/or legal proceedings, (iii) any bankruptcy declarations or petitions by or against an Applicant and/or Guarantor, or (iv) any violation by any of the foregoing of any federal or state regulations or laws regarding energy commodities, U.S. Commodity Futures Trading Commission ("CFTC") or FERC requirements, the rules of any exchange monitored by the National Futures Association, any self-regulatory organization or any other governing, regulatory, or standards body responsible for regulating activity in North American markets for electricity, natural gas or electricity-related commodity products. Each Applicant and Guarantor shall take reasonable measures to obtain permission to disclose information related to a non-public investigation. These disclosures shall be made by

Applicant and Guarantor upon application, and within ten (10) Business Days of any material change with respect to any of the above matters.

6. History of Defaults in Energy Projects

Each Applicant and Guarantor shall disclose their current default status and default history for any energy related generation or transmission project (e.g. generation, solar, development), and within any wholesale or retail energy market, including but not limited to within PJM, any Independent System Operator or Regional Transmission Organization, and exchange that has not been cured within the past five (5) years. Defaults of a non-recourse project financed entity may not be included in the default history.

7. Other Disclosures and Additional Information

Each Applicant and Guarantor is required to disclose any Credit Affiliates that are currently Members of PJM, applying for membership with PJM, Transmission Customers, Participants, applying to become Market Participants, or that participate directly or indirectly in any PJM Markets or any other North American markets for electricity, natural gas or electricity-related commodity products. Each Applicant and Guarantor shall also provide a copy of its limited liability company agreement or equivalent agreement, certification of formation, articles of incorporation or other similar organization document, offering memo or equivalent, the names of its five (5) most senior Principals, and information pertaining to any non-compliance with debt covenants and indentures.

Applicants shall provide PJM the credit application referenced in section III.A and any other information or documentation reasonably required for PJM to perform the initial risk evaluation of Applicant's or Guarantor's creditworthiness and ability to comply with the requirements contained in the Agreements related to settlements, billing, credit requirements, and other financial matters.

B. Supplemental Risk Evaluation Process

As described in section VI below, PJM will conduct a supplemental risk evaluation process for Applicants, Participants, and Guarantors applying to conduct virtual and export transactions or participate in any PJM Markets.

C. Unsecured Credit Allowance

A Market Participant may request that PJM consider it for an Unsecured Credit Allowance pursuant to the provisions herein. Notwithstanding the foregoing, an FTR Participant shall not be considered for an Unsecured Credit Allowance for participation in the FTR markets.

1. Unsecured Credit Allowance Evaluation

PJM will perform a credit evaluation on each Participant that has requested an Unsecured Credit Allowance, both initially and at least annually thereafter. PJM shall determine the amount of

Unsecured Credit Allowance, if any, that can be provided to the Market Participant in accordance with the creditworthiness and other requirements set forth in this Attachment Q. In completing the credit evaluation, PJM will consider:

(a) Rating Agency Reports

PJM will review Rating Agency reports as for each Market Participant on the same basis as described in section II.A.1 above and section II.E.1 below.

(b) Financial Statements and Related Information

All financial statements and related information considered for an Unsecured Credit Allowance must satisfy all of the same requirements described in section II.A.2 above and section II.E.2 below.

2. Material Adverse Changes

Each Market Participant is responsible for informing PJM, in writing, of any Material Adverse Change in its financial condition (or the financial condition of its Guarantor) since the date of the Market Participant or Guarantor's most recent annual financial statements provided to PJM, pursuant to the requirements reflected in section II.A.2 above and section II.E.3 below.

In the event that PJM determines that a Material Adverse Change in the financial condition of a Market Participant warrants a requirement to provide Collateral, additional Collateral or Restricted Collateral, PJM shall comply with the process and requirements described in section II.A above and section II.E below.

3. Other Disclosures

Each Market Participant desiring an Unsecured Credit Allowance is required to make the disclosures and upon the same requirements reflected in section II.A.7 above and section II.E.7 below.

D. Determination of Unreasonable Credit Risk

Unreasonable credit risk shall be determined by the likelihood that an Applicant will default on a financial obligation arising from its participation in any PJM Markets. Indicators of potentially unreasonable credit risk include, but are not limited to, a history of market manipulation based upon a final adjudication of regulatory and/or legal proceedings, a history of financial defaults, a history of bankruptcy or insolvency within the past five (5) years, or a combination of current market and financial risk factors such as low capitalization, a reasonably likely future material financial liability, a low Internal Credit Score (derived pursuant to section II.A.3 above) and/or a low externally derived credit score. PJM's determination will be based on, but not limited to, information and material provided to PJM during its initial risk evaluation process, information and material provided to PJM in the Officer's Certification, and/or information gleaned by PJM from public and non-public sources.

If PJM determines that an Applicant poses an unreasonable credit risk to the PJM Markets, PJM may require Collateral, additional Collateral, or Restricted Collateral commensurate with the Applicant's risk of financial default, reject an application, and/or limit or deny Applicant's participation in the PJM Markets, to the extent and for the time period it determines is necessary to mitigate the unreasonable credit risk to the PJM Markets. PJM will reject an application if it determines that Collateral, additional Collateral, or Restricted Collateral cannot address the risk.

PJM will communicate its concerns regarding whether the Applicant presents an unreasonable credit risk, if any, in writing to the Applicant and attempt to better understand the circumstances surrounding that Applicant's financial and credit position before making its determination. In the event PJM determines that an Applicant presents an unreasonable credit risk that warrants a requirement to provide Collateral of any type, or some action to mitigate risk, PJM shall provide the Applicant with a written explanation of why such determination was made.

E. Ongoing Risk Evaluation

In addition to the initial risk evaluation set forth in sections II.A through II.D above and the annual certification requirements set forth in section III.A below, each Market Participant and/or its Guarantor has an ongoing obligation to provide PJM with the information required in section IV.A described in more detail below. PJM may also review public information regarding a Market Participant and/or its Guarantor as part of its ongoing risk evaluation. If appropriate, PJM will revise the Market Participant's Unsecured Credit Allowance and/or change its determination of creditworthiness, credit support, Restricted Collateral, required Collateral or other assurances pursuant to PJM's ongoing risk evaluation process.

Each Market Participant and/or its Guarantor must provide the information set forth below on an ongoing basis in order to remain eligible to participate in any PJM Markets. The same quantitative and qualitative factors will be used to evaluate Market Participants whether or not they have rated debt.

1. Rating Agency Reports

PJM will review Rating Agency reports for each Market Participant and/or Guarantor on the same basis as described in section II.A.1 above.

2. Financial Statements and Related Information

On an ongoing basis, Market Participants and/or their Guarantors shall provide the information they are required to provide as described in section II.A.2 above, pursuant to the schedule reflected below, with one exception. With regard to the summary that is required to be provided by the Principal responsible for PJM Market activity, with respect to experience of the Participant or its Principals in managing risks in similar markets, the Principal only needs to provide that information for a new Principal that was not serving in the position when the prior summary was provided. PJM will review financial statements and related information for each Market Participant and/or Guarantor on the same basis as described in section II.A.2 above.

Each Market Participant and/or its Guarantor must submit, or cause to be submitted, annual audited financial statements, except as otherwise indicated below, prepared in accordance with US GAAP or any other format acceptable to PJM for the fiscal year most recently ended within ten (10) calendar days of the financial statements becoming available and no later than one hundred twenty (120) calendar days after its fiscal year end. Market Participants and/or their Guarantors must submit, or cause to be submitted, financial statements, which may be unaudited, for each completed fiscal quarter of the current fiscal year, promptly upon their issuance, but no later than sixty (60) calendar days after the end of each fiscal quarter. All audited financial statements provided by the Market Participant and/or its Guarantor must be audited by an Independent Auditor.

Notwithstanding the foregoing, PJM may upon request, grant a Market Participant or Guarantor an extension of time, if the financials are not available within the time frame stated above.

3. Material Adverse Changes

Each Market Participant and each Guarantor is responsible for informing PJM, in writing, of any Material Adverse Change in its or its Guarantor's financial condition within five (5) Business Days of any Principal becoming aware of the occurrence of a Material Adverse Change since the date of the Market Participant or Guarantor's most recent annual financial statements provided to PJM. However, PJM may also independently establish from available information that a Participant and/or its Guarantor has experienced a Material Adverse Change in its financial condition without regard to whether such Market Participant or Guarantor has informed PJM of the same.

For the purposes of this Attachment Q, a Material Adverse Change in financial condition may include, but is not be limited to, any of the following:

(a) a bankruptcy filing;
(b) insolvency;
(c) a significant decrease in market capitalization;
(d) restatement of prior financial statements unless required due to regulatory changes;
(e) the resignation or removal of a Principal unless there is a new Principal appointed or expected to be appointed, a transition plan in place pending the appointment of a new Principal, or a planned restructuring of such roles;
(f) the filing of a lawsuit or initiation of an arbitration, investigation, or other proceeding that would likely have a material adverse effect on any current or future financial results or financial condition or increase the likelihood of non-payment;
(g) a material financial default in any other organized energy, ancillary service, financial transmission rights and/or capacity markets including but not limited to those of another Regional Transmission Organization or Independent System Operator, or on any commodity exchange, futures exchange or clearing house,

that has not been cured or remedied after any required notice has been given and any cure period has elapsed;

(h) a revocation of a license or other authority by any Federal or State regulatory agency; where such license or authority is necessary or important to the Participant's continued business, for example, FERC market-based rate authority, or State license to serve retail load;

(i) a significant change in credit default swap spreads, market capitalization, or other market-based risk measurement criteria, such as a recent increase in Moody's KMV Expected Default Frequency (EDF[tm]) that is materially greater than the increase in its peers' EDF[tm] rates, or a collateral default swap (CDS) premium normally associated with an entity rated lower than investment grade;

(j) a confirmed, undisputed material financial default in a bilateral arrangement with another Participant or counterparty that has not been cured or remedied after any required notice has been given and any cure period has elapsed;

(k) the sale by a Participant of all or substantially all of its bilateral position(s) in the PJM Markets;

(l) any adverse changes in financial condition which, individually, or in the aggregate, are material; and,

(m) any adverse changes, events or occurrences which, individually or in the aggregate, could affect the ability of the entity to pay its debts as they become due or could reasonably be expected to have a material adverse effect on any current or future financial results or financial condition.

Upon identification of a Material Adverse Change, PJM shall evaluate the financial strength and risk profile of the Market Participant and/or its Guarantor at that time and may do so on a more frequent basis going forward. If the result of such evaluation identifies unreasonable credit risk to any PJM Market as further described in section II.E.8 below, PJM will take steps to mitigate the financial exposure to the PJM Markets. These steps include, but are not limited to requiring the Market Participant and/or each Guarantor to provide Collateral, additional Collateral or additional Restricted Collateral that is commensurate with the amount of risk in which the Market Participant wants to engage, and/or limiting the Market Participant's ability to participate in any PJM Market to the extent, and for the time-period necessary to mitigate the unreasonable credit risk. In the event PJM determines that a Material Adverse Change in the financial condition or risk profile of a Market Participant and/or Guarantor, warrants a requirement to provide Collateral of any type, or some action to mitigate risk, PJM shall provide the Market Participant and/or Guarantor, a written explanation of why such determination was made. Conversely, in the event PJM determines there has been an improvement in the financial condition or risk profile of a Market Participant and/or Guarantor such that the amount of Collateral needed for that Market Participant and/or Guarantor can be reduced, PJM shall provide a written explanation why such determination was made, including the amount of the Collateral reduction and indicating when and how the reduction will be made.

4. Litigation and Contingencies

Each Market Participant and/or Guarantor is required to disclose and provide information regarding litigation and contingencies as outlined in section II.A.5 above.

5. History of Defaults in Energy Projects

Each Market Participant and/or Guarantor is required to disclose current default status and default history as outlined in section II.A.6 above.

6. Internal Credit Score

As part of its ongoing risk evaluation, PJM will use credit risk scoring methodologies as a tool in determining an Internal Credit Score for each Market Participant and/or Guarantor, utilizing the same model and framework outlined in section II.A.3 above.

7. Other Disclosures and Additional Information

Each Market Participant and/or Guarantor is required to make other disclosures and provide additional information outlined in section II.A.7 above.

PJM will monitor each Market Participant's use of services and associated financial obligations on a regular basis to determine their total potential financial exposure and for credit monitoring purposes, and may require the Market Participant and/or Guarantor to provide additional information, pursuant to the terms and provisions described herein.

Market Participants shall provide PJM, upon request, any information or documentation reasonably required for PJM to monitor and evaluate a Market Participant's creditworthiness and compliance with the Agreements related to settlements, billing, credit requirements, and other financial matters.

8. Unreasonable Credit Risk

If PJM has reasonable grounds to believe that a Market Participant and/or its Guarantor poses an unreasonable credit risk to any PJM Markets, PJM may immediately notify the Market Participant of such unreasonable credit risk and (1) issue a Collateral Call to demand Collateral, additional Collateral, or Restricted Collateral or other assurances commensurate with the Market Participant's and/or its Guarantor's risk of financial default or other risk posed by the Market Participant's or Guarantor's financial condition or risk profile to the PJM Markets and PJM members, or (2) limit or suspend the Market Participant's participation in any PJM Markets, to the extent and for such time period PJM determines is necessary to mitigate the unreasonable credit risk to any PJM Markets. PJM will only limit or suspend a Market Participant's market participation if Collateral, additional Collateral or Restricted Collateral cannot address the unreasonable credit risk.

PJM's determination will be based on, but not limited to, information and material provided to PJM during its ongoing risk evaluation process or in the Officer's Certification, and/or information gleaned by PJM from public and non-public sources. PJM will communicate its concerns, if any, in writing to the Market Participant and attempt to better understand the circumstances surrounding the Market Participant's financial and credit position before making its determination. At PJM's request or upon its own initiative, the Market Participant or its Guarantor may provide supplemental information to PJM that would allow PJM to consider reducing the additional Collateral requested or reducing the severity of limitations or other restrictions designed to mitigate the Market Participant's credit risk. Such information shall include, but not be limited to: (i) the Market Participant's estimated exposure, (ii) explanations for any recent change in the Market Participant's market activity, (iii) any relevant new load or unit outage information; or (iv) any default or supply contract expiration, termination or suspension.

The Market Participant shall have five (5) Business Days to respond to PJM's request for supplemental information. If the requested information is provided in full to PJM's satisfaction during said period, the additional Collateral requirement shall reflect the Market Participant's anticipated exposure based on the information provided. Notwithstanding the foregoing, any additional Collateral requested by PJM in a Collateral Call must be provided by the Market Participant within the applicable cure period.

In the event PJM determines that an Market Participant and/or its Guarantor presents an unreasonable credit risk, as described above, that warrants a requirement to provide Collateral of any type, or some action to mitigate risk, PJM shall provide the Market Participant with a written explanation of why such final determination was made.

PJM has the right at any time to modify any Unsecured Credit Allowance and/or require additional Collateral as may be deemed reasonably necessary to support current or anticipated market activity as set forth in Tariff, Attachment Q, sections II.A.2 and II.C.1.b. Failure to remit the required amount of additional Collateral within the applicable cure period shall constitute an Event of Default.

F. Collateral and Credit Restrictions

~~These credit rules~~ PJM may establish certain restrictions on available credit by requiring that some amounts of credit, i.e. Restricted Collateral, may ~~be designated for specific purposes, such as for FTR or RPM activity, and thus~~ not be available to satisfy credit requirements ~~for other purposes~~. Such designations shall be construed to be applicable to the calculation of credit requirements only, and shall not restrict PJM~~Settlement~~'s ability to apply such designated credit to any obligation(s) in case of a default. Any such Restricted Collateral will be held by PJM, as applicable. Such Restricted Collateral will not be returned to the Participant until PJM has determined that the risk for which such Restricted Collateral is being held has subsided or been resolved.

PJM~~Settlement~~ may post on PJM's web site, and may reference on OASIS, a supplementary document which contains additional business practices (such as algorithms for credit scoring) that are not included in this ~~document~~Attachment Q. Changes to the supplementary document will be subject to stakeholder review and comment prior to implementation. PJM~~Settlement~~ may specify a required compliance date, not less than fifteen (15) calendar days from notification, by which time all Participants and their Guarantors must comply with provisions that have been revised in the supplementary document.

PJM~~Settlement~~ will regularly post each Participant's and/or its Guarantor's credit requirements and credit provisions on the PJM web site in a secure, password-protected location. Each Participant and/or its Guarantor is responsible for monitoring such information, and maintaining sufficient credit to satisfy the~~all of its PJM~~ credit requirements described herein. Failure to maintain credit sufficient to satisfy ~~its~~ the credit requirements of the Attachment Q shall ~~be~~constitute a Credit B~~b~~reach~~ of this Attachment Q~~, and the Participant will be subject to the remedies established herein and in any of the Agreements.

~~Each Participant is required to provide information as to any known material litigation, commitments or contingencies as well as any current or prior bankruptcy declarations or material defalcations by the Participant or its predecessors, subsidiaries or Affiliates, if any. These disclosures shall be made by the Participant upon the applicable initiation or change, or as requested by PJMSettlement.~~

~~Each Participant is required to disclose any Affiliates that are currently Members of PJM or are applying for membership with PJM. Each Participant is also required to disclose the existence of any ongoing investigations by the U.S. Securities and Exchange Commission ("SEC"), U.S. Commodity Futures Trading Commission ("CFTC"), FERC, or any other governing, regulatory, or standards body. These disclosures shall be made by the Participant upon the applicable initiation or change, or as requested by PJMSettlement.~~

G. Unsecured Credit Allowance Calculation

The external rating from a Rating Agency will be used as the source for calculating the Unsecured Credit Allowance, unless no external credit rating is available in which case PJM will utilize its Internal Credit Score for such purposes. If there is a split rating between the Rating Agencies, the lower of the ratings shall apply.

Where two or more entities, including Participants, are considered Credit Affiliates, Unsecured Credit Allowances will be established for each individual Participant, subject to an aggregate maximum amount for all Credit Affiliates as provided for in Attachment Q, section II.G.3.

In its credit evaluation of Municipalities and Cooperatives, PJM may request additional information as part of the ongoing risk evaluation process and will also consider qualitative factors in determining financial strength and creditworthiness.

1. Credit Rating and Internal Credit Score

As previously described in section II.A.3 above, PJM will determine the Internal Credit Score for an Applicant, Market Participant and/or its Guarantor using the credit risk scoring methodologies contained therein. Internal Credit Scores, ranging from 1-6, for each Applicant, Market Participant and/or its Guarantor, will be determined with the following mappings:

1 = Very Low Risk (S&P/Fitch: AAA to AA-; Moody's: Aaa to Aa3)
2 = Low Risk (S&P/Fitch: A+ to BBB+; Moody's: A1 to Baa1)
3 = Low to Medium Risk (S&P/Fitch: BBB; Moody's: Baa2)

4 = Medium Risk (S&P/Fitch: BBB-; Moody's: Baa3)
5 = Medium to High Risk (S&P/Fitch: BB+ to BB; Moody's Ba1 to Ba2)
6 = High Risk (S&P/Fitch: BB- and below; Moody's: Ba3 and below)

In instances where the external credit rating is used to calculate the unsecured credit allowance, PJM may also use the Internal Credit Score as an input into its determination of the overall risk profile of an Applicant and/or its Guarantor

2. Unsecured Credit Allowance

PJM will determine a Participant's Unsecured Credit Allowance based on its external rating or its Internal Credit Score, as applicable, and the parameters in the table below. The maximum Unsecured Credit Allowance is the lower of:

(a) A percentage of the Participant's Tangible Net Worth, as stated in the table below, with the percentage based on the Participant's external rating or Internal Credit Score, as applicable; and

(b) A dollar cap based on the external rating or Internal Credit Score, as applicable, as stated in the table below:

Internal Credit Score	**Risk Ranking**	**Tangible Net Worth Factor**	**Maximum Unsecured Credit Allowance ($ Million)**
1.00 – 1.99	1 – Very Low (AAA to AA-)	Up to 10.00%	$50
2.00 – 2.99	2 – Low (A+ to BBB+)	Up to 8.00%	$42
3.00 – 3.49	3 – Low to Medium (BBB)	Up to 6.00%	$33
3.50 – 4.49	4 – Medium (BBB-)	Up to 5.00%	$7
4.50 – 5.49	5 – Medium to High (BB+ to BB)	0%	$0
> 5.49	6 – High (BB- and below)	0%	$0

If a Corporate Guaranty is utilized to establish an Unsecured Credit Allowance for a Participant, the value of a Corporate Guaranty will be the lesser of:

(a) The limit imposed in the Corporate Guaranty;

(b) The Unsecured Credit Allowance calculated for the Guarantor; and

(c) A portion of the Unsecured Credit Allowance calculated for the Guarantor in the case of Credit Affiliates.

PJM has the right at any time to modify any Unsecured Credit Allowance and/or require additional Collateral as may be deemed reasonably necessary to support current market activity. Failure to remit the required amount of additional Collateral within the applicable cure period shall be deemed an Event of Default.

PJM will maintain a posting of each Participant's Unsecured Credit Allowance, along with certain other credit related parameters, on the PJM website in a secure, password-protected location. Each Participant will be responsible for monitoring such information and recognizing changes that may occur.

3. Unsecured Credit Limits For Credit Affiliates

If two or more Participants are Credit Affiliates and have requested an Unsecured Credit Allowance, PJM will consider the overall creditworthiness of the Credit Affiliates when determining the Unsecured Credit Allowances in order not to establish more Unsecured Credit for the Credit Affiliates collectively than the overall corporate family could support.

> **Example:** Participants A and B each have a $10.0 million Corporate Guaranty from their common parent, a holding company with an Unsecured Credit Allowance calculation of $12.0 million. PJM may limit the Unsecured Credit Allowance for each Participant to $6.0 million, so the total Unsecured Credit Allowance does not exceed the corporate family total of $12.0 million.

PJM will work with the Credit Affiliates to allocate the total Unsecured Credit Allowance among the Credit Affiliates while assuring that no individual Participant, nor common guarantor, exceeds the Unsecured Credit Allowance appropriate for its credit strength. The aggregate Unsecured Credit for a Participant, including Unsecured Credit Allowance granted based on its own creditworthiness and risk profile, and any Unsecured Credit Allowance conveyed through a Guaranty shall not exceed $50 million. The aggregate Unsecured Credit for a Credit Affiliate~~s~~ corporate family shall not exceed $50 million. A Credit Affiliate corporate family subject to this cap shall request PJM to allocate the maximum Unsecured Credit amongst the corporate family, assuring that no individual Participant or common guarantor, shall exceed the Unsecured Credit level appropriate for its credit strength and activity.

H. Contesting an Unsecured Credit Evaluation

PJM will provide to a Participant, upon request, a written explanation for any determination of or change in Unsecured Credit or credit requirement within ten (10) Business Days of receiving such request.

If a Participant believes that either its level of Unsecured Credit or its credit requirement has been incorrectly determined, according to this Attachment Q, then the Participant may send a request for reconsideration in writing to PJM. Such a request should include:

(1) A citation to the applicable section(s) of this Attachment Q along with an explanation of how the respective provisions of this Attachment Q were not carried out in the determination as made; and

(2) A calculation of what the Participant believes should be the appropriate Unsecured Credit or Collateral requirement, according to terms of this Attachment Q.

PJM will provide a written response as promptly as practical, but no more than ten (10) Business Days after receipt of the request. If the Participant still feels that the determination is incorrect, then the Participant may contest that determination. Such contest should be in written form, addressed to PJM, and should contain:

(1) A complete copy of the Participant's earlier request for reconsideration, including citations and calculations;

(2) A copy of PJM's written response to its request for reconsideration; and

(3) An explanation of why it believes that the determination still does not comply with this Attachment Q.

PJM will investigate and will respond to the Participant with a final determination on the matter as promptly as practical, but no more than twenty (20) Business Days after receipt of the request.

Neither requesting reconsideration nor contesting the determination following such request shall relieve or delay Participant's responsibility to comply with all provisions of this Attachment Q, including without limitation posting Collateral, additional Collateral or Restricted Collateral in response to a Collateral Call.

If a Corporate Guaranty is being utilized to establish credit for a Participant, the Guarantor will be evaluated and the Unsecured Credit Allowance granted, if any, based on the financial strength and creditworthiness, and risk profile of the Guarantor. Any utilization of a Corporate Guaranty will only be applicable to non-FTR credit requirements, and will not be applicable to cover FTR credit requirements.

PJM will identify any necessary Collateral requirements and establish a Working Credit Limit for each Participant. Any Unsecured Credit Allowance will only be applicable to non-FTR credit requirements, for positions in PJM Markets other than the FTR market, because all FTR credit requirements must be satisfied by posting Collateral.

IIII. MINIMUM PARTICIPATION REQUIREMENTS

A Participant seeking to participate in any PJM Markets shall submit to PJM any information or documentation reasonably required for PJM to evaluate its experience and resources. If PJM determines, based on its review of the relevant information and after consultation with the Participant, that the Participant's participation in any PJM Markets presents an unreasonable credit risk, PJM may reject the Participant's application to become a Market Participant, notwithstanding applicant's ability to meet other minimum participation criteria, registration requirements and creditworthiness requirements.

A. Annual Certification

Before they are eligible to transact in any PJM Market, all Applicants shall provide to PJM (i) an executed copy of a credit application and (ii) a copy of the annual certification set forth in Attachment Q, Appendix 1. As a condition to continued eligibility to transact in any PJM Market, Market Participants shall provide to PJM the annual certification set forth in Attachment Q, Appendix 1.

After the initial submission, the annual certification must be submitted each calendar year by all Market Participants between January 1 and April 30. PJM will accept such certifications as a matter of course and the Market Participants will not need further notice from PJM before commencing or maintaining their eligibility to participate in any PJM Markets.

A Market Participant that fails to provide its annual certification by April 30 shall be ineligible to transact in any PJM Markets and PJM will disable the Market Participant's access to any PJM Markets until such time as PJM receives the certification. In addition, failure to provide an executed annual certification in a form acceptable to PJM and by the specified deadlines may result in a default under the Tariff.

Market Participants acknowledge and understand that the annual certification constitutes a representation upon which PJM will rely. Such representation is additionally made under the Tariff, filed with and accepted by FERC, and any false, misleading or incomplete statement knowingly made by the Market Participant and that is material to the Market Participant's ability to perform may be considered a violation of the Tariff and subject the Market Participant to action by FERC. Failure to comply with any of the criteria or requirements listed herein or in the certification may result in suspension or limitation of a Market Participant's transaction rights in any PJM Markets.

Applicants and Market Participants shall submit to PJM, upon request, any information or documentation reasonably and/or legally required to confirm Applicant's or Market Participant's compliance with the Agreements and the annual certification.

B~~A~~. PJM Market Participation Eligibility Requirements

PJM may conduct periodic verification to confirm that Applicants and Market Participants can demonstrate that they meet the definition of "appropriate person" to further ensure minimum criteria are in place. Such demonstration will consist of the submission of evidence and an executed Annual Officer Certification form as set forth in Attachment Q, Appendix 1 in a form acceptable to PJM. If an Applicant or Market Participant does not provide sufficient evidence for verification to PJM within five (5) Business Days of written request, then such Applicant or Market Participant may result in a default under this Tariff. Demonstration of "appropriate person" status and support of other certifications on the annual certification is one part of the Minimum Participation Requirements for any PJM Markets and does not obviate the need to meet the other Minimum Participation Requirements such as those for minimum capitalization and risk profile as set forth in this Attachment Q.

To be eligible to transact in ~~the~~ any PJM Markets, an Applicant or ~~Market~~ Participant must demonstrate in accordance with the Risk Management and Verification processes set forth below that it qualifies in one of the following ways:

1. an "appropriate person," as that term is defined under Commodity Exchange Act, section 4(c)(3), or successor provision, ~~of the Commodity Exchange Act,~~ or;

2. an "eligible contract participant," as that term is defined in Commodity Exchange Act, section 1a(18), or successor provision, ~~of the Commodity Exchange Act,~~ or;

3. a business entity or person who is in the business of: (1) generating, transmitting, or distributing electric energy, or (2) providing electric energy services that are necessary to support the reliable operation of the transmission system, or;

4. an Applicant or Market Participant seeking eligibility as an "appropriate person" providing an unlimited Corporate Guaranty in a form acceptable to PJM~~Settlement~~ as described in section V~~II.C~~ below from ~~an issuer~~a Guarantor that has demonstrated it is an "appropriate person," and has at least $1 million of total net worth or $5 million of total assets per Applicant and Market Participant for which the Guarantor ~~issuer~~ has issued an unlimited Corporate Guaranty, or;

5. an Applicant or Market Participant providing a L~~l~~etter of C~~c~~redit of at least $5 million to PJM~~Settlement~~ in a form acceptable to PJM~~Settlement~~ as described in section V~~III.B~~ below, that the Applicant or Market Participant acknowledges is separate from, and cannot be applied to meet, its credit requirements to PJM~~Settlement~~.

If, at any time, a Market Participant cannot meet the eligibility requirements set forth above, it shall immediately notify PJM~~Settlement~~ and immediately cease conducting transactions in ~~the~~ any PJM Markets. PJM~~Settlement~~ ~~shall~~may terminate a Market Participant's transaction rights in ~~the~~ any PJM Markets if, at any time, it becomes aware that the Market Participant does not meet the minimum eligibility requirements set forth above.

In the event that a Market Participant is no longer able to demonstrate it meets the minimum eligibility requirements set forth above, and possesses, obtains or has rights to possess or obtain, any open or forward positions in ~~the~~ any PJM Markets, PJM~~Settlement~~ may take any such action it deems necessary with respect to such open or forward positions, including, but not limited to, liquidation, transfer, assignment or sale; provided, however, that the Market Participant will, notwithstanding its ineligibility to participate in ~~the~~ any PJM Markets, be entitled to any positive market value of those positions, net of any obligations due and owing to PJM~~ and/or PJMSettlement~~.

C~~B~~. Risk Management and Verification

~~All Participants shall provide to PJMSettlement an executed copy of a credit application and the annual certification set forth in Attachment Q, Appendix 1 before they are eligible to transact in the PJM Markets. Thereafter, the annual certification must be submitted each calendar year by all Participants during a period beginning on January 1 and ending April 30. Except for certain FTR Participants (discussed below) or in cases of manifest error, PJMSettlement will accept such certifications as a matter of course and Participants will not need further notice from PJMSettlement before commencing or maintaining their eligibility to participate in PJM Markets. A Participant that fails to provide its annual certification by April 30 shall be ineligible to transact in the PJM Markets and PJM will disable the Participant's access to the PJM Markets until such time as PJMSettlement receives the Participant's certification.~~

~~Participants acknowledge and understand that the annual certification constitutes a representation upon which PJMSettlement will rely. Such representation is additionally made under the Tariff, filed with and accepted by FERC, and any inaccurate or incomplete statement may subject the Participant to action by FERC. Failure to comply with any of the criteria or requirements listed herein or in the certification may result in suspension of a Participant's transaction rights in the PJM Markets.~~

~~Certain FTR Participants (those providing representations found in the annual certification form set forth in Attachment Q, Appendix 1, paragraph 3.b)~~ All Market Participants must maintain current written risk management policies, procedures, or controls to address how market and credit risk is managed, and are ~~additionally~~ required to submit to PJM~~Settlement~~ (at the time they make their annual certification) a copy of their current governing risk control policies, procedures and controls applicable to their ~~FTR trading~~market activities~~, except that if no substantive changes have been made to such applicable policies, procedures and/or controls since their last submission, they may instead submit to PJMSettlement a certification stating that no substantive changes have been made~~. PJM~~Settlement~~ will review such documentation to verify that it appears generally to conform to prudent risk management practices for entities participating in any PJM Markets~~trading in FTR-type markets~~.

All Market~~Those FTR~~ Participants subject to this provision shall make a one-time payment of $1,5~~0~~00.00 to PJM~~Settlement~~ to cover administrative costs. Thereafter, if such ~~FTR~~ Participant's risk policies, procedures and controls applicable to its ~~FTR trading~~market activities change substantively, it shall submit such modified documentation, ~~without~~ with applicable administrative charge determined by PJM, to PJM~~Settlement~~ for review and verification at the time it makes its annual certification. All Market~~Such FTR~~ Participant's continued eligibility to participate in ~~the~~ any PJM ~~FTR m~~Markets is conditioned on PJM~~Settlement~~ notifying~~ such FTR~~ a Participant that its annual certification, including the submission of its risk policies, procedures and controls, has been accepted by PJM~~Settlement~~. PJM~~Settlement~~ may retain outside expertise to perform the review and verification function described in this section~~paragraph~~, however, in all circumstances, PJM~~Settlement~~ and any third-party it may retain will treat as confidential the documentation provided by a~~n FTR~~ Participant under this ~~paragraph~~section, consistent with the applicable provisions of the Operating Agreement.

Participants must demonstrate that they have implemented prudent risk management policies and procedures in order to be eligible to participate in any PJM Markets. Participants must demonstrate on at least an annual basis that they have implemented and maintained prudent risk management policies and procedures in order to continue to participate in any PJM Markets. Upon written request, the Participant will have fourteen (14) calendar days to provide to PJM current governing risk management policies, procedures, or controls applicable to Participant's activities in any PJM Markets.
~~An FTR Participant that makes the representation in paragraph 3.a of the annual certification understands that PJMSettlement, given the visibility it has over an FTR Participant's overall market activity in performing billing and settlement functions, may at any time request that the FTR Participant provide additional information demonstrating that it is in fact eligible to make the representation in paragraph 3.a of the annual certification. If such additional information is not provided or does not, in PJMSettlement's judgment, demonstrate eligibility to make the representation in paragraph 3.a of the annual certification, PJMSettlement will require the FTR Participant to instead make the representations required in paragraph 3.b of the annual certification, including representing that it has submitted a copy of its current governing risk control policies, procedures and controls applicable to its FTR trading activities. If the FTR Participant cannot or does not make those representations as required in paragraph 3.b of the annual certification, then PJM will terminate the FTR Participant's rights to purchase FTRs in the FTR market and, in its sole discretion, may terminate the FTR Participant's rights to sell FTRs in the PJM FTR market.~~

~~PJMSettlement shall also conduct a periodic compliance verification process to review and verify, as applicable, Participants' risk management policies, practices, and procedures pertaining to the Participants' activities in the PJM Markets. Such review shall include verification that:~~

1. ~~The risk management framework is documented in a risk policy addressing market, credit and liquidity risks.~~
2. ~~The Participant maintains an organizational structure with clearly defined roles and responsibilities that clearly segregates trading and risk management functions.~~
3. ~~There is clarity of authority specifying the types of transactions into which traders are allowed to enter.~~
4. ~~The Participant has requirements that traders have adequate training relative to their authority in the systems and PJM Markets in which they transact.~~
5. ~~As appropriate, risk limits are in place to control risk exposures.~~
6. ~~Reporting is in place to ensure that risks and exceptions are adequately communicated throughout the organization.~~

7. ~~Processes are in place for qualified independent review of trading activities.~~

8. ~~As appropriate, there is periodic valuation or mark-to-market of risk positions.~~

~~If principles or best practices relating to risk management in wholesale electric markets are published, as may be modified from time to time, by a third-party industry association, PJMSettlement may, following stakeholder discussion and with no less than six months prior notice to stakeholders, apply such principles or best practices in determining the sufficiency of the Participant's risk controls.~~

~~PJMSettlement may select Participants for review on a random basis and/or based on identified risk factors such as, but not limited to, the PJM Markets in which the Participant is transacting, the magnitude of the Participant's transactions in the PJM Markets, or the volume of the Participant's open positions in the PJM Markets. Those Participants notified by PJMSettlement that they have been selected for review shall, upon fourteen calendar days' notice, provide a copy of their current governing risk control policies, procedures and controls applicable to their PJM Market activities and shall also provide such further information or documentation pertaining to the Participants' activities in the PJM Markets as PJMSettlement may reasonably request. Participants selected for risk management verification through a random process and satisfactorily verified by PJMSettlement shall be excluded from such verification process based on a random selection for the subsequent two years. PJMSettlement shall annually randomly select for review no more than 20% of the Participants in each member sector.~~

~~Each selected Participant's continued eligibility to participate in the PJM Markets is conditioned upon PJMSettlement notifying the Participant of successful completion of PJMSettlement's verification of the Participant's risk management policies, practices and procedures, as discussed herein. However, if PJMSettlement notifies the Participant in writing that it could not successfully complete the verification process, PJMSettlement shall allow such Participant fourteen calendar days to provide sufficient evidence for verification prior to declaring the Participant as ineligible to continue to participate in PJM's markets, which declaration shall be in writing with an explanation of why PJMSettlement could not complete the verification. If, prior to the expiration of such fourteen calendar days, the Participant demonstrates to PJMSettlement that it has filed with the Federal Energy Regulatory Commission an appeal of PJMSettlement's risk management verification determination, then the Participant shall retain its transaction rights, pending the Commission's determination on the Participant's appeal. PJMSettlement may retain outside expertise to perform the review and verification function described in this paragraph. PJMSettlement and any third party it may retain will treat as confidential the documentation provided by a Participant under this paragraph, consistent with the applicable provisions of the Operating Agreement. If PJMSettlement retains such outside expertise, a Participant may direct in writing that PJMSettlement perform the risk management review and verification for such Participant instead of utilizing a third party, provided however, that employees and contract employees of PJMSettlement and PJM shall not be considered to be such outside expertise or third parties.~~

~~Participants are solely responsible for the positions they take and the obligations they assume in PJM Markets. PJMSettlement hereby disclaims any and all responsibility to any Participant or PJM Member associated with Participant's submitting or failure to submit its annual certification or PJMSettlement's review and verification of an FTR Participant's risk policies, procedures and controls. Such review and verification is limited to demonstrating basic compliance by an FTR Participant with the representation it makes under paragraph 3.b of its annual certification showing the existence of written policies, procedures and controls to limit its risk in PJM's FTR markets and does not constitute an endorsement of the efficacy of such policies, procedures or controls.~~

D~~C~~. Capitalization

In advance of certification, Applicants shall meet the minimum capitalization requirements below. In addition to the annual certification requirements in Attachment Q, Appendix 1, a Market Participant shall satisfy the minimum capitalization requirements on an annual basis thereafter. A Participant must demonstrate that it meets the minimum financial requirements appropriate for the PJM Market~~(s)~~ in which it transacts by satisfying either the minimum capitalization or the provision of Collateral requirements listed below:

1. Minimum Capitalization

Minimum capitalization may be met by demonstrating minimum levels of Tangible Net Worth or tangible assets. FTR Participants must demonstrate a T~~t~~angible N~~n~~et W~~w~~orth in excess of $1 million or tangible assets in excess of $10 million. Other Market Participants must demonstrate a T~~t~~angible N~~n~~et W~~w~~orth in excess of $500,000 or tangible assets in excess of $5 million.

(a) ~~In either case, c~~Consideration of tangible assets and Tangible N~~n~~et W~~w~~orth shall exclude assets ~~(net of any matching liabilities, assuming the result is a positive value)~~ which PJM~~Settlement~~ reasonably believes to be restricted, highly risky, or potentially unavailable to settle a claim in the event of default. Examples include, but are not limited to, restricted ~~assets and Affiliate~~ assets, derivative assets, goodwill, and other intangible assets.

(b) Demonstration of "tangible" assets and Tangible N~~n~~et W~~w~~orth may be satisfied through presentation of an acceptable Corporate Guaranty, provided that both:

(i) the Guarantor is a~~n~~ Credit Affiliate company that satisfies the T~~t~~angible N~~n~~et W~~w~~orth or tangible assets requirements herein, and;

(ii) the Corporate Guaranty is either unlimited or at least $500,000.

If the Corporate Guaranty presented by the Participant to satisfy these capitalization requirements is limited in value, then the Participant's resulting Unsecured Credit Allowance shall be the lesser of:

(1) the applicable Unsecured Credit Allowance available to the Participant by the Corporate Guaranty pursuant to the creditworthiness provisions of this Attachment Q, or:

(2) the face value of the Corporate Guaranty, reduced by $500,000 and further reduced by 10%. (For example, a $10.5 million Corporate Guaranty would be reduced first by $500,000 to $10 million and then further reduced 10% more to $9 million. The resulting $9 million would be the Participant’s Unsecured Credit Allowance available through the Corporate Guaranty).

In the event that a Participant provides Collateral in addition to a limited Corporate Guaranty to increase its available credit, the value of such Collateral shall be reduced by 10%. This reduced value shall be considered the amount available to satisfy requirements of this Attachment Q.

(c) Demonstrations of minimum capitalization (minimum Tangible Net Worth or tangible assets) must be presented in the form of audited financial statements for the Participant’s most recent fiscal year during the initial risk evaluation process and ongoing risk evaluation process.

2. Provision of Collateral

If a Participant does not demonstrate compliance with its applicable minimum capitalization requirements above, it may still qualify to participate in any PJM~~’s~~ M~~m~~arkets by posting Collateral, additional Collateral, and/or Restricted Collateral, subject to the terms and conditions set forth herein.

Any Collateral provided by a Participant unable to satisfy the minimum capitalization requirements above will also be restricted in the following manner:

(a~~i~~) Collateral provided by ~~FTR~~ Market Participants that engage in FTR transactions shall be reduced by an~~$500,000 and then further reduced by 10%. This reduced~~ amount ~~shall be considered~~of the ~~amount~~ current risk plus any future risk to any PJM Markets and PJM membership in general, and may coincide with limitations on market participation. The amount of this Restricted Collateral shall not be available to cover any credit ~~satisfy~~ requirements from market activity. The remaining value shall be considered the amount available to satisfy requirements of this Attachment Q.

(b~~ii~~) Collateral provided by other Participants that engage in Virtual Transactions or Export Transactions shall be reduced by $200,000 and then further reduced by 10%. ~~This reduced~~The amount of this Restricted Collateral shall not be available to cover any credit requirements from market activity. The remaining value shall be considered the amount available to satisfy requirements of this Attachment Q.

(c~~iii~~) Collateral provided by other Participants that do not engage in Virtual Transactions or Export Transactions shall be reduced by 10%~~, and~~. The amount of this ~~reduced~~ Restricted Collateral shall not be available to cover any credit requirements from market activity. The remaining value shall be considered the amount available to satisfy requirements of this Attachment Q.

In the event a Participant that satisfies the m~~M~~inimum capital ~~Participation~~ requirement~~s~~ through provision of Collateral also provides a Corporate Guaranty to increase its available credit, then the Participant's resulting Unsecured Credit Allowance conveyed through such Corporate Guaranty shall be the lesser of:

(~~i~~a) ~~-~~the applicable Unsecured Credit Allowance available to the Participant by the Corporate Guaranty pursuant to the creditworthiness provisions of this Attachment Q;~~,~~ or~~,~~

(~~ii~~b) ~~-~~the face value of the Corporate Guaranty, reduced ~~by 10%~~ commensurate with the amount of the current risk plus any anticipated future risk to any PJM Markets and PJM membership in general, and may coincide with limitations on market participation.

~~**II. UNSECURED CREDIT ALLOWANCE**~~

~~A Participant may request that PJM consider it for an Unsecured Credit Allowance pursuant to the provisions herein.~~

~~**A. Unsecured Credit Allowance Evaluation**~~

~~PJMSettlement will perform a credit evaluation on each Participant that has requested an Unsecured Credit Allowance, both initially and at least annually thereafter. In completing the credit evaluation, PJMSettlement will consider:~~

~~**1. Rating Agency Reports**~~

~~In evaluating credit strength, PJMSettlement will review rating agency reports from Standard & Poor's, Moody's Investors Service, Fitch Ratings, or other nationally known rating agencies. The focus of the review will be on senior unsecured debt ratings; however, PJMSettlement will consider other ratings if senior unsecured debt ratings are not available.~~

~~**2. Financial Statements and Related Information**~~

~~Each Participant requesting an Unsecured Credit Allowance or seeking to satisfy the minimum capitalization requirements herein must submit audited annual financial statements as soon as they become available and no later than 120 days after its fiscal year end. All financial and related information considered for an Unsecured Credit Allowance must be audited by an outside entity, and must be accompanied by an unqualified audit letter acceptable to PJMSettlement. If~~

~~financial statements are not provided within the timeframe required, the Participant may not be granted an Unsecured Credit Allowance and may have its officer certification revoked.~~

~~The information should include, but not be limited to, the following:~~

~~(a) If publicly traded:~~
- ~~(i) Annual and quarterly reports on Form 10-K and Form 10-Q, respectively.~~
- ~~(ii) Form 8-K reports disclosing material changes, if any, immediately upon issuance.~~

~~(b) If privately held:~~
- ~~(i) Management's Discussion & Analysis~~
- ~~(ii) Report of Independent Accountants~~
- ~~(iii) Financial Statements, including:~~
  - ~~Balance Sheet~~
  - ~~Income Statement~~
  - ~~Statement of Cash Flows~~
  - ~~Statement of Stockholder's Equity~~
- ~~(iv) Notes to Financial Statements~~

~~If the above information is available on the internet, the Participant may provide a letter stating where such statements may be located and retrieved by PJMSettlement. For certain Participants, some of the above financial submittals may not be applicable, and alternate requirements may be specified by PJMSettlement.~~

~~In its credit evaluation of cooperatives and municipalities, PJMSettlement may request additional information as part of the overall financial review process and may also consider qualitative factors in determining financial strength and creditworthiness.~~

~~3. Material Changes~~

~~Each Participant is responsible for informing PJMSettlement immediately, in writing, of any material change in its financial condition. However, PJMSettlement may also independently establish from available information that a Participant has experienced a material change in its financial condition without regard to whether such Participant has informed PJMSettlement of the same.~~

~~For the purposes of this Attachment Q, a material change in financial condition may include, but is not be limited to, any of the following:~~

- ~~(a) a downgrade of any debt rating by any rating agency;~~
- ~~(b) being placed on a credit watch with negative implications by any rating agency;~~
- ~~(c) a bankruptcy filing;~~
- ~~(d) insolvency;~~
- ~~(e) a report of a quarterly or annual loss or a decline in earnings of ten percent or more compared to the prior period;~~
- ~~(f) restatement of prior financial statements;~~

~~(g) the resignation of key officer(s);~~

~~(h) the filing of a lawsuit that could adversely impact any current or future financial results by ten percent or more;~~

~~(i) financial default in another organized wholesale electric market, futures exchange or clearing house;~~

~~(j) revocation of a license or other authority by any Federal or State regulatory agency; where such license or authority is necessary or important to the Participants continued business for example, FERC market-based rate authority, or State license to serve retail load; or~~

~~(k) a significant change in credit default spreads, market capitalization, or other market-based risk measurement criteria, such as a recent increase in Moody's KMV Expected Default Frequency (EDF^tm) that is noticeably greater than the increase in its peers' EDF^tm rates, or a collateral default swap (CDS) premium normally associated with an entity rated lower than investment grade.~~

~~If PJMSettlement determines that a material change in the financial condition of the Participant has occurred, it may reduce or eliminate any Unsecured Credit afforded to the Participant. Such reduction or elimination may require the Participant to provide Collateral within two Business Days. If the Participant fails to provide the required Collateral, the Participant shall be in default under this Attachment Q.~~

~~In the event that PJMSettlement determines that a material change in the financial condition of a Participant warrants a requirement to provide Collateral, PJMSettlement shall provide the Participant with a written explanation of why such determination was made. However, under no circumstances shall the requirement that a Participant provide the requisite Collateral be deferred pending the issuance of such written explanation.~~

~~B. Contesting an Unsecured Credit Evaluation~~

~~PJMSettlement will provide to a Participant, upon request, a written explanation for any change in Unsecured Credit or credit requirement within ten Business Days of receiving such request.~~

~~If a Participant believes that either its level of Unsecured Credit or its credit requirement has been incorrectly determined, according to this Attachment Q, then the Participant may send a request for reconsideration in writing to PJMSettlement. Such a request should include:~~

~~(i) A citation to the applicable section(s) of this Attachment Q along with an explanation of how the respective provisions of this Attachment Q were not carried out in the determination as made.~~

~~(ii) A calculation of what the Participant believes should be the correct credit level or Collateral requirement, according to terms of this Attachment Q.~~

~~PJMSettlement will reconsider the determination and will provide a written response as promptly as practical, but no more than ten Business Days after receipt of the request. If the Participant~~

~~still feels that the determination is incorrect, then the Participant may contest that determination. Such contest should be in written form, addressed to PJMSettlement, and should contain:~~

~~(i) A complete copy of the Participant's earlier request for reconsideration, including citations and calculations.~~

~~(ii) A copy of PJMSettlement's written response to its request for reconsideration.~~

~~(iii) An explanation of why it believes that the determination still does not comply with this Attachment Q.~~

~~PJMSettlement will investigate and will respond to the Participant with a final determination on the matter as promptly as practical, but no more than twenty Business Days after receipt of the request.~~

~~Neither requesting reconsideration nor contesting the determination following such request shall relieve or delay Participant's responsibility to comply with all provisions of this Attachment Q.~~

IV. ONGOING COVENANTS

A. Ongoing Obligation to Provide Information to PJM

So long as a Participant is eligible to participate, or participates or holds positions, in any PJM Markets, it shall deliver to PJM, in form and detail satisfactory to PJM:

(1) All financial statements and other financial disclosures as required by section II.E.2 by the deadline set forth therein;

(2) Notice, within five (5) Business Days, of any Principal becoming aware that the Participant does not meet the Minimum Participation Requirements set forth in section III;

(3) Notice when any Principal becomes aware of any matter that has resulted or would reasonably be expected to result in a Material Adverse Change in the financial condition of the Participant or its Guarantor, if any, a description of such Material Adverse Change in detail reasonable to allow PJM to determine its potential effect on, or any change in, the Participant's risk profile as a participant in any PJM Markets, by the deadline set forth in section II.E.3 above;

(4) Notice, within the deadline set forth therein, of any Principal becoming aware of a litigation or contingency event described in section II.E.4, or of a Material Adverse Change in any such litigation or contingency event previously disclosed to PJM, information in detail reasonable to allow PJM to determine its potential effect on, or any change in, the Market Participant's risk profile as a participant in any PJM Markets by the deadline set forth therein;

(5) Notice, within two (2) Business Days after any Principal becomes aware of a Credit Breach, Financial Default, or Credit Support Default, that includes a description of such default or event and the Participant's proposals for addressing the default or event;

(6) As soon as available but not later than April 30th of any calendar year, the annual Certification described in section III.A in a form set forth in Attachment Q, Appendix 1;

(7) Concurrently with submission of the annual certification, demonstration that the Participant meets the minimum capitalization requirements set forth in section III.D;

(8) Concurrently with submission of the annual certification and within the applicable deadline of any substantive change, or within the applicable deadline of a request from PJM, a copy of the Participant's written risk management policies, procedures or controls addressing how the Participant manages market and credit risk in the PJM Markets in which it participates, as well as a high level summary by the chief risk officer or other Principal regarding any material violations, breaches, or compliance or disciplinary actions related to the risk management policies, by the Participant under the policies, procedures or controls within the prior 12 months, as set forth in section IV.B below;

(9) Within five (5) Business Days of request by PJM, evidence demonstrating the Participant meets the definition of "appropriate person" or "eligible contract participant," as those terms are defined in the Commodity Exchange Act and the CFTC regulations promulgated thereunder, or of any other certification in the annual Certification; or

(10) Within a reasonable time after PJM requests, any other information or documentation reasonably and/or legally required by PJM to confirm Participant's compliance with the Tariff and its eligibility to participate in any PJM Markets.

Participants acknowledge and understand that the deliveries constitute representations upon which PJM will rely in allowing the Participant to continue to participate in its markets, with the Internal Credit Score and Unsecured Credit Allowance, if any, previously determined by PJM.

B. Risk Management Review

PJM shall also conduct a periodic compliance verification process to review and verify, as applicable, Participants' risk management policies, practices, and procedures pertaining to the Participant's activities in any PJM Markets. PJM shall review such documentation to verify that it appears generally to conform to prudent risk management practices for entities trading in any PJM Markets. Participant shall also provide a high level summary by the chief risk officer or other Principal regarding any material violations, breaches, or compliance or disciplinary actions in connection with such risk management policies, practices and procedures within the prior twelve (12) months.

If a third-party industry association publishes or modifies principles or best practices relating to risk management in North American markets for electricity, natural gas or electricity-related commodity products, PJM may, following stakeholder discussion and with no less than six (6) months prior notice to stakeholders, consider such principles or best practices in evaluating the Participant's risk controls.

PJM will prioritize the verification of risk management policies based on a number of criteria, including but not limited to how long the entity has been in business, the Participant's and its Principals' history of participation in any PJM Markets, and any other information obtained in determining the risk profile of the Participant.

Each Participant's continued eligibility to participate in any PJM Markets is conditioned upon PJM notifying the Participant of successful completion of PJM's verification of the Participant's risk management policies, practices and procedures, as discussed herein. However, if PJM notifies the Participant in writing that it could not successfully complete the verification process, PJM shall allow such Participant fourteen (14) calendar days to provide sufficient evidence for verification prior to declaring the Participant as ineligible to continue to participate in any PJM Markets, which declaration shall be in writing with an explanation of why PJM could not complete the verification. If the Participant does not provide sufficient evidence for verification to PJM within the required cure period, such Participant will be considered in default under this Tariff. PJM may retain outside expertise to perform the review and verification function described in this paragraph. PJM and any third party it may retain will treat as confidential the documentation provided by a Participant under this paragraph, consistent with the applicable provisions of the Agreements. If PJM retains such outside expertise, a Participant may direct in writing that PJM perform the risk management review and verification for such Participant instead of utilizing a third party, provided however, that employees and contract employees of PJM and PJM shall not be considered to be such outside expertise or third parties.

Participants are solely responsible for the positions they take and the obligations they assume in any PJM Markets. PJM hereby disclaims any and all responsibility to any Participant or PJM Member associated with Participant's submitting or failure to submit its annual certification or PJM's review and verification of a Participant's risk policies, procedures and controls. Such review and verification is limited to demonstrating basic compliance by a Participant showing the existence of written policies, procedures and controls to limit its risk in any PJM Markets and does not constitute an endorsement of the efficacy of such policies, procedures or controls.

V. FORMS OF CREDIT SUPPORT

In order to satisfy their PJM credit requirements Participants may provide credit support in a PJM-approved form and amount pursuant to the guidelines herein, provided that, notwithstanding anything to the contrary in this section, a Market Participant in PJM's FTR markets shall meet its credit support requirements related to those FTR markets with either cash or Letters of Credit.

Unless otherwise restricted by PJM, credit support provided may be used by PJM to secure the payment of Participant's financial obligations under the Agreements.

Collateral which may no longer be required to be maintained under provisions of the Agreements, shall be returned at the request of a Participant, no later than two (2) Business Days following determination by PJM within a commercially reasonable period of time that such Collateral is not required.

Except when an Event of Default has occurred, a Participant may substitute an approved PJM form of Collateral for another PJM approved form of Collateral of equal value.

A. Cash Deposit

Cash provided by a Participant as Collateral will be held in a depository account by PJM. Interest shall accrue to the benefit of the Participant, provided that PJM may require Participants to provide appropriate tax and other information in order to accrue such interest credits.

PJM may establish an array of investment options among which a Participant may choose to invest its cash deposited as Collateral. The depository account shall be held in PJM's name in a banking or financial institution acceptable to PJM. Where practicable, PJM may establish a means for the Participant to communicate directly with the bank or financial institution to permit the Participant to direct certain activity in the PJM account in which its Collateral is held. PJM will establish and publish procedural rules, identifying the investment options and respective discounts in Collateral value that will be taken to reflect any liquidation, market and/or credit risk presented by such investments.

Cash Collateral may not be pledged or in any way encumbered or restricted from full and timely use by PJM in accordance with terms of the Agreements.

PJM has the right to liquidate all or a portion of the Collateral account balance at its discretion to satisfy a Participant's Total Net Obligation to PJM in the Event of Default under this Attachment Q or one or more of the Agreements.

B. Letter of Credit

An unconditional, irrevocable standby Letter of Credit can be utilized to meet the Collateral requirement. As stated below, the form, substance, and provider of the Letter of Credit must all be acceptable to PJM.

(1) The Letter of Credit will only be accepted from U.S.-based financial institutions or U.S. branches of foreign financial institutions ("financial institutions") that have a minimum corporate debt rating of "A" by Standard & Poor's or Fitch Ratings, or "A2" from Moody's Investors Service, or an equivalent short term rating from one of these agencies. PJM will consider the lowest applicable rating to be the rating of the financial institution. If the rating of a financial institution providing a Letter of Credit is lowered below A/A2 by any Rating Agency, then PJM may require the Participant to provide a Letter of Credit from another financial institution that is rated A/A2 or better, or to provide a cash deposit. If a Letter of Credit is provided from a U.S. branch of a foreign institution, the U.S. branch must itself comply with the terms of this Attachment Q, including having its own acceptable credit rating.

(2) The Letter of Credit shall state that it shall renew automatically for successive one-year periods, until terminated upon at least ninety (90) calendar days prior written notice from the issuing financial institution. If PJM or PJM receives notice from the issuing financial institution that the current Letter of Credit is being cancelled or expiring, the Participant will be required to provide evidence, acceptable to PJM, that such Letter of Credit will be replaced with appropriate Collateral, effective as of the cancellation date of the Letter of Credit, no later than thirty (30) calendar days before the cancellation date of the Letter of Credit, and no later than ninety (90) calendar days after the notice of cancellation.

Failure to do so will constitute a default under this Attachment Q and one or more of the Agreements.

(3) PJM will post on its web site an acceptable standard form of a Letter of Credit that should be utilized by a Participant choosing to submit a Letter of Credit to establish credit at PJM. If the Letter of Credit varies in any way from the standard format, it must first be reviewed and approved by PJM. All costs associated with obtaining and maintaining a Letter of Credit and meeting the Attachment Q provisions are the responsibility of the Participant.

(4) PJM may accept a Letter of Credit from a financial institution that does not meet the credit standards of this Attachment Q provided that the Letter of Credit has third-party support, in a form acceptable to PJM, from a financial institution that does meet the credit standards of this Attachment Q.

C. Corporate Guaranty

An irrevocable and unconditional Corporate Guaranty may be utilized to establish an Unsecured Credit Allowance for a Participant. Such credit will be considered a transfer of Unsecured Credit from the Guarantor to the Participant, and will not be considered a form of Collateral.

PJM~~Settlement~~ will post on its web site an acceptable form that should be utilized by a Participant choosing to establish its credit with a Corporate Guaranty. If the Corporate Guaranty varies in any way from the PJM~~Settlement~~ format, it must first be reviewed and approved by PJM~~Settlement~~ before it may be applied to satisfy the Participant's credit requirements. The Corporate Guaranty must be signed by an officer of the Guarantor, and must demonstrate that it is duly authorized in a manner acceptable to PJM~~Settlement~~. Such demonstration may include either a corporate seal on the Corporate Guaranty itself, or an accompanying executed and sealed secretary's certificate from the Guarantor's corporate secretary noting that the Guarantor was duly authorized to provide such Corporate Guaranty and that the person signing the Corporate Guaranty is duly authorized, or other manner acceptable to PJM~~Settlement~~.

PJM will evaluate the creditworthiness of a Guarantor and will establish any Unsecured Credit granted through a Corporate Guaranty using the methodology and requirements established for Participants requesting an Unsecured Credit Allowance as described herein. Foreign Guaranties and Canadian Guaranties shall be subject to additional requirements as established herein. If PJM~~Settlement~~ determines at any time that a M~~m~~aterial Adverse C~~c~~hange in the financial condition of the Guarantor has occurred, or if the Corporate Guaranty comes within thirty (30) calendar days of expiring without renewal, PJM~~Settlement~~ may reduce or eliminate any Unsecured Credit afforded to the Participant through the guaranty. Such reduction or elimination may require the Participant to provide Collateral within the applicable cure period~~two Business Days~~. If the Participant fails to provide the required Collateral, the Participant shall be in default under this Attachment Q.

All costs associated with obtaining and maintaining a Corporate Guaranty and meeting the Attachment Q provisions are the responsibility of the Participant.

1. Foreign Guaranties

A Foreign Guaranty is a Corporate Guaranty that is provided by a~~n~~ Credit Affiliate entity that is domiciled in a country other than the United States or Canada. The entity providing a Foreign Guaranty on behalf of a Participant is a Foreign Guarantor. A Participant may provide a Foreign Guaranty in satisfaction of part of its credit obligations or voluntary credit provision at PJM~~Settlement~~ provided that all of the following conditions are met:

PJM~~Settlement~~ reserves the right to deny, reject, or terminate acceptance of any Foreign Guaranty at any time, including for material adverse circumstances or occurrences.

(a) A Foreign Guaranty:
  (i) Must contain provisions equivalent to those contained in PJM~~Settlement~~'s standard form of Foreign Guaranty with any modifications subject to review and approval by PJM~~Settlement~~ counsel.
  (ii) Must be denominated in US currency.
  (iii) Must be written and executed solely in English, including any duplicate originals.
  (iv) Will not be accepted towards a Participant's Unsecured Credit Allowance for more than the following limits, depending on the Foreign Guarantor's credit rating:

Rating of Foreign Guarantor	Maximum Accepted Guaranty if Country Rating is AAA	Maximum Accepted Guaranty if Country Rating is AA+
A- and above	USD50,000,000	USD30,000,000
BBB+	USD30,000,000	USD20,000,000
BBB	USD10,000,000	USD10,000,000
BBB- or below	USD 0	USD 0

  (v) May not exceed 50% of the Participant's total credit, if the Foreign Grantor is rated less than BBB+.

(b) A Foreign Guarantor:
  (i) Must satisfy all provisions of this Attachment Q applicable to domestic Guarantors.
  (ii) Must be a~~n~~ Credit Affiliate of the Participant.
  (iii) Must maintain an agent for acceptance of service of process in the United States; such agent shall be situated in the Commonwealth of Pennsylvania, absent legal constraint.
  (iv) Must be rated by at least one Rating Agency acceptable to PJM~~Settlement~~; the credit strength of a Foreign Guarantor may not be determined based on an evaluation of its audited financial~~s~~ statements without an actual credit rating as well.

(v) Must have a senior unsecured (or equivalent, in PJM~~Settlement'~~'s sole discretion) rating of BBB (one notch above BBB-) or greater by any and all agencies that provide rating coverage of the entity.

(vi) Must provide ~~financials in Generally Acceptable Accounting Principles (~~audited financial statements, in US GAAP~~)~~ format or any other format acceptable to PJM~~Settlement~~, with clear representation of net worth, intangible assets, and any other information PJM~~Settlement~~ may require in order to determine the entity's Unsecured Credit Allowance.

(vii) Must provide a Secretary's Certificate from the Participant's corporate secretary certifying the adoption of Corporate Resolutions:

1. Authorizing and approving the Guaranty; and
2. Authorizing the Officers to execute and deliver the Guaranty on behalf of the Guarantor.

(viii) Must be domiciled in a country with a minimum long-term sovereign (or equivalent) rating of AA+/Aa1, with the following conditions:

1. Sovereign ratings must be available from at least two rating agencies acceptable to PJM~~Settlement~~ (e.g. S&P, Moody's, Fitch, DBRS).
2. Each agency's sovereign rating for the domicile will be considered to be the lowest of: country ceiling, senior unsecured government debt, long-term foreign currency sovereign rating, long-term local currency sovereign rating, or other equivalent measures, at PJM~~Settlement~~'s sole discretion.
3. Whether ratings are available from two or three agencies, the lowest of the two or three will be used.

(ix) Must be domiciled in a country that recognizes and enforces judgments of US courts.

(x) Must demonstrate financial commitment to activity in the United States as evidenced by one of the following:

1. American Depository Receipts (ADR) are traded on the New York Stock Exchange, American Stock Exchange, or NASDAQ.
2. Equity ownership worth over USD 100,000,000 in the wholly-owned or majority owned subsidiaries in the United States.

(xi) Must satisfy all other applicable provisions of the PJM Tariff and/or Operating Agreement, including this Attachment Q.

(xii) Must pay for all expenses incurred by PJM~~Settlement~~ related to reviewing and accepting a foreign guaranty beyond nominal in-house credit and legal review.

(xiii) Must, at its own cost, provide PJM~~Settlement~~ with independent legal opinion from an attorney/solicitor of PJM~~Settlement~~'s choosing and licensed to practice law in the United States and/or Guarantor's domicile, in form and substance acceptable to PJM~~Settlement~~ in its sole discretion, confirming the enforceability of the Foreign Guaranty, the Guarantor's legal authorization to grant the Guaranty, the conformance of the Guaranty, Guarantor, and Guarantor's domicile to all of these requirements, and such other matters as PJM~~Settlement~~ may require in its sole discretion.

2. Canadian Guaranties

The entity providing a Canadian Guaranty on behalf of a Participant is a Canadian Guarantor. A Participant may provide a Canadian Guaranty in satisfaction of part of its credit obligations or voluntary credit provision at PJM~~Settlement~~ provided that all of the following conditions are met.

PJM~~Settlement~~ reserves the right to deny, reject, or terminate acceptance of any Canadian Guaranty at any time for reasonable cause, including ~~adverse~~ material adverse circumstances or occurrences.

(a) A Canadian Guaranty:

- (i) Must contain provisions equivalent to those contained in PJM~~Settlement~~'s standard form of Foreign Guaranty with any modifications subject to review and approval by PJM~~Settlement~~ counsel.
- (ii) Must be denominated in US currency.
- (iii) Must be written and executed solely in English, including any duplicate originals.

(b) A Canadian Guarantor:

- (i) Must be a Credit Affiliate of the Participant.
- (ii) Must satisfy all provisions of this Attachment Q applicable to domestic Guarantors.
- ~~(ii) Must be an Affiliate of the Participant.~~
- (iii) Must maintain an agent for acceptance of service of process in the United States; such agent shall be situated in the Commonwealth of Pennsylvania, absent legal constraint.
- (iv) Must be rated by at least one Rating Agency acceptable to PJM~~Settlement~~; the credit strength of a Canadian Guarantor may not be determined based on an evaluation of its audited financial~~s~~ statements without an actual credit rating as well.
- (v) Must provide ~~financials in Generally Acceptable Accounting Principles (~~audited financial statements, in US GAAP~~)~~ format or any other format acceptable to PJM~~Settlement~~ with clear representation of net worth, intangible assets, and any other information PJM~~Settlement~~ may require in order to determine the entity's Unsecured Credit Allowance.
- (vi) Must satisfy all other applicable provisions of the PJM Tariff and/or Operating Agreement, including this Attachment Q.

~~D. Unsecured Credit Allowance Calculation~~

~~PJMSettlement's Unsecured Credit Allowance evaluation process will include calculating a Credit Score for each Participant. The Credit Score will be utilized to determine a Participant's Unsecured Credit Allowance.~~

~~Where two or more entities, including Participants, are considered Affiliates, Unsecured Credit Allowances will be established for each individual Participant, subject to an aggregate maximum amount for all Affiliates as provided for in section II.D.3 of this Attachment Q.~~

~~In its credit evaluation of cooperatives and municipalities, PJMSettlement may request additional information as part of the overall financial review process and may also consider qualitative factors in determining financial strength and creditworthiness.~~

~~1. Credit Score~~

~~For Participants with credit ratings, a Credit Score will be assigned based on their senior unsecured credit rating and credit watch status as shown in the table below. If an explicit senior unsecured rating is not available, PJMSettlement may impute an equivalent rating from other ratings that are available. For Participants without a credit rating, but who wish to be considered for an Unsecured Credit Allowance, a Credit Score will be generated from PJMSettlement's review and analysis of various factors that are predictors of financial strength and creditworthiness. PJMSettlement will consistently apply the measures it uses in determining Credit Scores. The credit scoring methodology details are included in a supplementary document available on OASIS.~~

~~Rated Entities Credit Scores~~

~~Rating~~	~~Score~~	~~Score Modifier~~	
		~~Credit Watch Negative~~	~~Credit Watch Positive~~
~~AAA~~	~~100~~	~~-1.0~~	~~0.0~~
~~AA+~~	~~99~~	~~-1.0~~	~~0.0~~
~~AA~~	~~99~~	~~-1.0~~	~~0.0~~
~~AA-~~	~~98~~	~~-1.0~~	~~0.0~~
~~A+~~	~~97~~	~~-1.0~~	~~0.0~~
~~A~~	~~96~~	~~-2.0~~	~~0.0~~
~~A-~~	~~93~~	~~-3.0~~	~~1.0~~
~~BBB+~~	~~88~~	~~-4.0~~	~~2.0~~
~~BBB~~	~~78~~	~~-4.0~~	~~2.0~~
~~BBB-~~	~~65~~	~~-4.0~~	~~2.0~~
~~BB+ and below~~	~~0~~	~~0.0~~	~~0.0~~

~~2. Unsecured Credit Allowance~~

~~PJMSettlement will determine a Participant's Unsecured Credit Allowance based on its Credit Score and the parameters in the table below. The maximum Unsecured Credit Allowance is the lower of:~~

~~(a) A percentage of the Participant's Tangible Net Worth, as stated in the table below, with the percentage based on the Participant's credit score; and~~

~~(b) A dollar cap based on the credit score, as stated in the table below:~~

~~**Credit Score**~~	~~**Tangible Net Worth Factor**~~	~~**Maximum Unsecured Credit Allowance**~~ ~~**($ Million)**~~
~~91-100~~	~~2.125 – 2.50%~~	~~$50~~
~~81-90~~	~~1.708 – 2.083%~~	~~$42~~
~~71-80~~	~~1.292 – 1.667%~~	~~$33~~
~~61-70~~	~~0.875 – 1.25%~~	~~$7~~
~~51-60~~	~~0.458 – 0.833%~~	~~$0-$2~~
~~50 and Under~~	~~0%~~	~~$0~~

~~If a Corporate Guaranty is utilized to establish an Unsecured Credit Allowance for a Participant, the value of a Corporate Guaranty will be the lesser of:~~

~~(i) The limit imposed in the Corporate Guaranty;~~
~~(ii) The Unsecured Credit Allowance calculated for the Guarantor; and~~
~~(iii) A portion of the Unsecured Credit Allowance calculated for the Guarantor in the case of Affiliated Participants.~~

~~PJMSettlement has the right at any time to modify any Unsecured Credit Allowance and/or require additional Collateral as may be deemed reasonably necessary to support current market activity. Failure to remit the required amount of additional Collateral within two Business Days shall be deemed an event of default.~~

~~PJMSettlement will maintain a posting of each Participant's Unsecured Credit Allowance, along with certain other credit related parameters, on the PJM website in a secure, password-protected location. Each Participant will be responsible for monitoring such information and recognizing changes that may occur.~~

~~3. Unsecured Credit Limits For Affiliates~~

~~If two or more Participants are Affiliates and each is being granted an Unsecured Credit Allowance, PJMSettlement will consider the overall creditworthiness of the Affiliates when determining the Unsecured Credit Allowances in order not to grant more Unsecured Credit than the overall corporation could support.~~

> ~~**Example:** Participants A and B each have a $10.0 million Corporate Guaranty from their common parent, a holding company with an Unsecured Credit Allowance calculation of $12.0 million. PJMSettlement may limit the Unsecured Credit Allowance for each Participant to $6.0 million, so the total Unsecured Credit Allowance does not exceed the corporate total of $12.0 million.~~

~~PJMSettlement will work with the Affiliates to allocate the total Unsecured Credit Allowance among the Affiliates while assuring that no individual Participant, nor common guarantor,~~

~~exceeds the Unsecured Credit Allowance appropriate for its credit strength. The aggregate Unsecured Credit for a Participant, including Unsecured Credit Allowance granted based on its own creditworthiness and any Unsecured Credit Allowance conveyed through a Guaranty shall not exceed $50 million. The aggregate Unsecured Credit for a group of Affiliates shall not exceed $50 million. A group of Affiliates subject to this cap shall request PJMSettlement to allocate the maximum Unsecured Credit amongst the group, assuring that no individual Participant or common guarantor, shall exceed the Unsecured Credit level appropriate for its credit strength and activity.~~

~~III. FORMS OF COLLATERAL~~

~~In order to satisfy their PJM credit requirements Participants may provide Collateral in a PJMSettlement-approved form and amount pursuant to the guidelines herein.~~

~~Collateral which is no longer required to be maintained under provisions of the Agreements shall be returned at the request of a Participant no later than two Business Days following determination by PJMSettlement within a commercially reasonable period of time that such Collateral is not required.~~

~~Except when an event of default has occurred, a Participant may substitute an approved PJMSettlement form of Collateral for another PJMSettlement approved form of Collateral of equal value.~~

~~A. Cash Deposit~~

~~Cash provided by a Participant as Collateral will be held in a depository account by PJMSettlement. Interest shall accrue to the benefit of the Participant, provided that PJMSettlement may require Participants to provide appropriate tax and other information in order to accrue such interest credits.~~

~~PJMSettlement may establish an array of investment options among which a Participant may choose to invest its cash deposited as Collateral. The depository account shall be held in PJMSettlement's name in a banking or financial institution acceptable to PJMSettlement. Where practicable, PJMSettlement may establish a means for the Participant to communicate directly with the bank or financial institution to permit the Participant to direct certain activity in the PJMSettlement account in which its Collateral is held. PJMSettlement will establish and publish procedural rules, identifying the investment options and respective discounts in Collateral value that will be taken to reflect any liquidation, market and/or credit risk presented by such investments.~~

~~Cash Collateral may not be pledged or in any way encumbered or restricted from full and timely use by PJM in accordance with terms of the Agreements.~~

~~PJMSettlement has the right to liquidate all or a portion of the Collateral account balance at its discretion to satisfy a Participant's Total Net Obligation to PJMSettlement in the event of default under this Attachment Q or one or more of the Agreements.~~

~~B. Letter Of Credit~~

~~An unconditional, irrevocable standby letter of credit can be utilized to meet the Collateral requirement. As stated below, the form, substance, and provider of the letter of credit must all be acceptable to PJMSettlement.~~

~~(i) The letter of credit will only be accepted from U.S.-based financial institutions or U.S. branches of foreign financial institutions (“financial institutions”) that have a minimum corporate debt rating of “A” by Standard & Poor’s or Fitch Ratings, or “A2” from Moody’s Investors Service, or an equivalent short term rating from one of these agencies. PJMSettlement will consider the lowest applicable rating to be the rating of the financial institution. If the rating of a financial institution providing a letter of credit is lowered below A/A2 by any rating agency, then PJMSettlement may require the Participant to provide a letter of credit from another financial institution that is rated A/A2 or better, or to provide a cash deposit. If a letter of credit is provided from a U.S. branch of a foreign institution, the U.S. branch must itself comply with the terms of this Attachment Q, including having its own acceptable credit rating.~~

~~(ii) The letter of credit shall state that it shall renew automatically for successive one-year periods, until terminated upon at least ninety (90) days prior written notice from the issuing financial institution. If PJM or PJMSettlement receives notice from the issuing financial institution that the current letter of credit is being cancelled, the Participant will be required to provide evidence, acceptable to PJMSettlement, that such letter of credit will be replaced with appropriate Collateral, effective as of the cancellation date of the letter of credit, no later than thirty (30) days before the cancellation date of the letter of credit, and no later than ninety (90) days after the notice of cancellation. Failure to do so will constitute a default under this Attachment Q and one of more of the Agreements.~~

~~(iii) PJM will post on its web site an acceptable standard form of a letter of credit that should be utilized by a Participant choosing to submit a letter of credit to establish credit at PJM. If the letter of credit varies in any way from the standard format, it must first be reviewed and approved by PJMSettlement. All costs associated with obtaining and maintaining a letter of credit and meeting the Attachment Q provisions are the responsibility of the Participant.~~

~~(iv) PJMSettlement may accept a letter of credit from a financial institution that does not meet the credit standards of this Attachment Q provided that the letter of credit has third-party support, in a form acceptable to PJMSettlement, from a financial institution that does meet the credit standards of this Attachment Q.~~

D~~C~~. PJM Administrative Charges

Collateral or credit support held by PJM~~Settlement~~ shall also secure obligations to PJM for PJM administrative charges, and may be liquidated to satisfy all such obligations in an E~~e~~vent of D~~d~~efault.

E~~D~~. Collateral and Credit Support Held by PJM

~~PJMSettlement's credit requirements are applicable as of the effective date of the filing on May 5, 2010 by PJM and PJMSettlement of amendments to this Attachment Q.~~ Collateral or credit support submitted by Participants and held by PJM shall be held by PJM for the benefit of PJM~~Settlement~~.

~~I~~VI. SUPPLEMENTAL CREDIT REQUIREMENTS FOR SCREENED TRANSACTIONS

A. Virtual and Export Transaction Screening

1. Credit for Virtual and Export Transactions

Export Transactions and Virtual Transactions both utilize Credit Available for Virtual Transactions to support their credit requirements.

PJM~~Settlement~~ does not require a Market Participant to establish separate or additional credit for submitting Virtual or Export Transactions; however, once transactions are submitted and accepted by PJM, PJM~~Settlement~~ may require credit supporting those transactions to be held until the transactions are completed and their financial impact incorporated into the Market Participant's Obligations. If a Market Participant chooses to establish additional Collateral and/or Unsecured Credit Allowance in order to increase its Credit Available for Virtual Transactions, the Market Participant's Working Credit Limit for Virtual Transactions shall be increased in accordance with the definition thereof. The Collateral and/or Unsecured Credit Allowance available to increase a Market Participant's Credit Available for Virtual Transactions shall be the amount of Collateral and/or Unsecured Credit Allowance available after subtracting any credit required for Minimum Participation Requirements, FTR, RPM or other credit requirement determinants defined in this Attachment Q, as applicable.

If a Market Participant chooses to provide additional Collateral in order to increase its Credit Available for Virtual Transactions PJM~~Settlement~~ may establish a reasonable timeframe, not to exceed three months, for which such Collateral must be maintained. PJM~~Settlement~~ will not impose such restriction on a deposit unless a Market Participant is notified prior to making the deposit. Such restriction, if applied, shall be applied to all future deposits by all Market Participants engaging in Virtual Transactions.

A Market Participant may increase its Credit Available for Virtual Transactions by providing additional Collateral to PJM~~Settlement~~. PJM~~Settlement~~ will make a good faith effort to make new Collateral available as Credit Available for Virtual Transactions as soon as practicable after confirmation of receipt. In any event, however, Collateral received and confirmed by noon on a Business Day will be applied (as provided under this Attachment Q) to Credit Available for

Virtual Transactions no later than 10:00 am on the following Business Day. Receipt and acceptance of wired funds for cash deposit shall mean actual receipt by PJM~~Settlement~~'s bank, deposit into PJM~~Settlement~~'s customer deposit account, confirmation by PJM~~Settlement~~ that such wire has been received and deposited, and entry into PJM's credit system. Receipt and acceptance of letters of credit shall mean receipt of the original L~~l~~etter of C~~c~~redit or amendment thereto, confirmation from PJM~~Settlement~~'s credit and legal staffs that such L~~l~~etter of C~~c~~redit or amendment thereto conforms to PJM~~Settlement~~'s requirements, which confirmation shall be made in a reasonable and practicable timeframe, and entry into PJM's credit system. To facilitate this process, bidders submitting additional Collateral for the purpose of increasing their Credit Available for Virtual Transactions are advised to submit such Collateral well in advance of the desired time, and to specifically notify PJM~~Settlement~~ of such submission.

A Market Participant wishing to submit Virtual or Export Transactions must allocate within PJM's credit system the appropriate amount of Credit Available for Virtual Transactions to the virtual and export allocation sections within each customer account in which it wishes to submit such transactions.

2. Virtual Transaction Screening

All Virtual Transactions submitted to PJM shall be subject to a credit screen prior to acceptance in the Day-ahead Energy Market. The credit screen is applied separately for each of a Market Participant's customer accounts. The credit screen process will automatically reject Virtual Transactions submitted by the Market Participant in a customer account if the Market Participant's Credit Available for Virtual Transactions, allocated on a customer account basis, is exceeded by the Virtual Credit Exposure that is calculated based on the Market Participant's Virtual Transactions submitted, as described below.

A Market Participant's Virtual Credit Exposure will be calculated separately for each customer account on a daily basis for all Virtual Transactions submitted by the Market Participant for the next Operating Day using the following equation:

Virtual Credit Exposure = INC and DEC Exposure + Up-to Congestion Exposure
Where:

(a) INC and DEC Exposure for each customer account is calculated as:

(i) ((the total MWh bid or offered, whichever is greater, hourly at each node) x the Nodal Reference Price x 1 day) summed over all nodes and all hours; plus (ii) ((the difference between the total bid MWh cleared and total offered MWh cleared hourly at each node) x Nodal Reference Price) summed over all nodes and all hours for the previous cleared Day-ahead Energy Market.

(b) Up-to Congestion Exposure for each customer account is calculated as:

(i) Total MWh bid hourly for each Up-to Congestion Transaction x (price bid – Up-to Congestion Reference Price) summed over all Up-to Congestion Transactions and all hours; plus

(ii) Total MWh cleared hourly for each Up-to Congestion Transaction x (cleared price – Up-to Congestion Reference Price) summed over all Up-to Congestion Transactions and all hours for the previous cleared Day-ahead Energy Market, provided that hours for which the calculation for an Up-to Congestion Transaction is negative, it shall be deemed to have a zero contribution to the sum.

3. Export Transaction Screening

Export Transactions in the Real-time Energy Market shall be subject to Export Transaction Screening. Export Transaction Screening may be performed either for the duration of the entire Export Transaction, or separately for each time interval comprising an Export Transaction. PJM will deny or curtail all or a portion (based on the relevant time interval) of an Export Transaction if that Export Transaction, or portion thereof, would otherwise cause the Market Participant's Export Credit Exposure to exceed its Credit Available for Export Transactions. Export Transaction Screening shall be applied separately for each Operating Day and shall also be applied to each Export Transaction one or more times prior to the market clearing process for each relevant time interval. Export Transaction Screening shall not apply to transactions established directly by and between PJM and a neighboring Balancing Authority for the purpose of maintaining reliability.

A Market Participant’s credit exposure for an individual Export Transaction shall be the MWh volume of the Export Transaction for each relevant time interval multiplied by each relevant Export Transaction Price Factor and summed over all relevant time intervals of the Export Transaction.

B. RPM Auction and Price Responsive Demand Credit Requirements

Settlement during any Delivery Year of cleared positions resulting or expected to result from any RPM Auction shall be included as appropriate in Peak Market Activity, and the provisions of this Attachment Q shall apply to any such activity and obligations arising therefrom. In addition, the provisions of this section shall apply to any entity seeking to participate in any RPM Auction, to address credit risks unique to such auctions. The provisions of this section also shall apply under certain circumstances to PRD Providers that seek to commit Price Responsive Demand pursuant to the provisions of the Reliability Assurance Agreement.
Credit requirements described herein for RPM Auctions and RPM bilateral transactions are applied separately for each customer account of a Market Participant. Market Participants wishing to participate in an RPM Auction or enter into RPM bilateral transactions must designate the appropriate amount of credit to each account in which their offers are submitted.

1. Applicability

A Market Participant seeking to submit a Sell Offer in any RPM Auction based on any Capacity Resource for which there is a materially increased risk of nonperformance must satisfy the credit requirement specified herein before submitting such Sell Offer. A PRD Provider seeking to commit Price Responsive Demand for which there is a materially increased risk of non-performance must satisfy the credit requirement specified herein before it may commit the Price

Responsive Demand. Credit must be maintained until such risk of non-performance is substantially eliminated, but may be reduced commensurate with the reduction in such risk, as set forth in section IV.B.3 below.

For purposes of this provision, a resource for which there is a materially increased risk of nonperformance shall mean: (i) a Planned Generation Capacity Resource; (ii) a Planned Demand Resource or an Energy Efficiency Resource; (iii) a Qualifying Transmission Upgrade; (iv) an existing or Planned Generation Capacity Resource located outside the PJM Region that at the time it is submitted in a Sell Offer has not secured firm transmission service to the border of the PJM Region sufficient to satisfy the deliverability requirements of the Reliability Assurance Agreement; or (v) Price Responsive Demand to the extent the responsible PRD Provider has not registered PRD-eligible load at a PRD Substation level to satisfy its Nominal PRD Value commitment, in accordance with Reliability Assurance Agreement, Schedule 6.1.

2. Reliability Pricing Model Auction and Price Responsive Demand Credit Requirement

Except as provided for Credit-Limited Offers below, for any resource specified in section IV.B.1 above, other than Price Responsive Demand, the credit requirement shall be the RPM Auction Credit Rate, as provided in section IV.B.4 below, times the megawatts to be offered for sale from such resource in an RPM Auction. For Qualified Transmission Upgrades, the credit requirements shall be based on the Locational Deliverability Area in which such upgrade was to increase the Capacity Emergency Transfer Limit. However, the credit requirement for Planned Financed Generation Capacity Resources and Planned External Financed Generation Capacity Resources shall be one half of the product of the RPM Auction Credit Rate, as provided in section IV.B.4 below, times the megawatts to be offered for sale from such resource in a Reliability Pricing Model Auction. The RPM Auction Credit Requirement for each Market Participant shall be determined on a customer account basis, separately for each customer account of a Market Participant, and shall be the sum of the credit requirements for all such resources to be offered by such Market Participant in the auction or, as applicable, cleared by such Market Participant in the relevant auctions. For Price Responsive Demand, the credit requirement shall be based on the Nominal PRD Value (stated in Unforced Capacity terms) times the Price Responsive Demand Credit Rate as set forth in section IV.B.5 below. Except for Credit-Limited Offers, the RPM Auction Credit requirement for a Market Participant will be reduced for any Delivery Year to the extent less than all of such Market Participant's offers clear in the Base Residual Auction or any Incremental Auction for such Delivery Year. Such reduction shall be proportional to the quantity, in megawatts, that failed to clear in such Delivery Year.

A Sell Offer based on a Planned Generation Capacity Resource, Planned Demand Resource, or Energy Efficiency Resource may be submitted as a Credit-Limited Offer. A Market Participant electing this option shall specify a maximum amount of Unforced Capacity, in megawatts, and a maximum credit requirement, in dollars, applicable to the Sell Offer. A Credit-Limited Offer shall clear the RPM Auction in which it is submitted (to the extent it otherwise would clear based on the other offer parameters and the system's need for the offered capacity) only to the extent of the lesser of: (i) the quantity of Unforced Capacity that is the quotient of the division of the specified maximum credit requirement by the Auction Credit Rate resulting from section

IV.B.4.b. below; and (ii) the maximum amount of Unforced Capacity specified in the Sell Offer. For a Market Participant electing this alternative, the RPM Auction Credit requirement applicable prior to the posting of results of the auction shall be the maximum credit requirement specified in its Credit-Limited Offer, and the RPM Auction Credit requirement subsequent to posting of the results will be the Auction Credit Rate, as provided in section IV.B.4.b, c. or d. of this Attachment Q, as applicable, times the amount of Unforced Capacity from such Sell Offer that cleared in the auction. The availability and operational details of Credit-Limited Offers shall be as described in the PJM Manuals.

As set forth in section IV.B.4 below, a Market Participant's Auction Credit requirement shall be determined separately for each Delivery Year.

3. Reduction in Credit Requirement

As specified below, the RPM Auction Credit Rate may be reduced under certain circumstances after the auction has closed.

The Price Responsive Demand credit requirement shall be reduced as and to the extent the PRD Provider registers PRD-eligible load at a PRD Substation level to satisfy its Nominal PRD Value commitment, in accordance with Reliability Assurance Agreement, Schedule 6.1.

In addition, the RPM Auction Credit requirement for a Market Participant for any given Delivery Year shall be reduced periodically, after the Market Participant has provided PJM a written request for each reduction, accompanied by documentation sufficient for PJM to verify attainment of required milestones or satisfaction of other requirements, and PJM has verified that the Market Participant has successfully met progress milestones for its Capacity Resource that reduce the risk of non-performance, as follows:

(a) For Planned Demand Resources and Energy Efficiency Resources, the RPM Auction Credit requirement will be reduced in direct proportion to the megawatts of such Demand Resource that the Resource Provider qualifies as a Capacity Resource, in accordance with the procedures established under the Reliability Assurance Agreement.

(b) For Existing Generation Capacity Resources located outside the PJM Region that have not secured sufficient firm transmission to the border of the PJM Region prior to the auction in which such resource is first offered, the RPM Auction Credit requirement shall be reduced in direct proportion to the megawatts of firm transmission service secured by the Market Participant that qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.

(c) For Planned Generation Capacity Resources located in the PJM Region, the RPM Auction Credit requirement shall be reduced as the Capacity Resource attains the milestones stated in the following table and as further described in the PJM Manuals.

Milestones	Increment of reduction from initial RPM Auction Credit requirement
Effective Date of Interconnection Service Agreement	50%
Financial Close	15%
Full Notice to Proceed and Commencement of Construction (e.g., footers poured)	5%
Main Power Generating Equipment Delivered	5%
Commencement of Interconnection Service	25%

For externally financed projects, the Market Participant must submit with its request for reduction a sworn, notarized certification of a duly authorized independent engineer for the Financial Close, Full Notice to Proceed and Commencement of Construction, and Main Power Generating Equipment Delivered milestones.

For internally financed projects, the Market Participant must submit with its request for reduction a sworn, notarized certification of a duly authorized officer of the Market Participant for the Financial Close milestone and either a duly authorized independent engineer or Professional Engineer for the Full Notice to Proceed and Commencement of Construction and the Main Power Generating Equipment Delivered milestones.

The required certifications must be in a form acceptable to PJM, certifying that the engineer or officer, as applicable, has personal knowledge, or has engaged in a diligent inquiry to determine, that the milestone has been achieved and that, based on its review of the relevant project information, the engineer or officer, as applicable, is not aware of any information that could reasonably cause it to believe that the Capacity Resource will not be in-service by the beginning of the applicable Delivery Year. The Market Participant shall, if requested by PJM, supply to PJM on a confidential basis all records and documents relating to the engineer's and/or officer's certifications.

(d) For Planned External Generation Capacity Resources, the RPM Auction Credit requirement shall be reduced as the Capacity Resource attains the milestones stated in the following table and as further described in the PJM Manuals; provided, however, that the total percentage reduction in the RPM Auction Credit requirement shall be no greater than the quotient of (i) the MWs of firm transmission service that the Market Participant has secured for the complete transmission path divided by (ii) the MWs of firm transmission service required to qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.

Credit Reduction Milestones for Planned External Generation Capacity Resources	
Milestones	**Increment of reduction from initial RPM Auction Credit requirement**

Effective Date of the equivalent of an Interconnection Service Agreement	50%
Financial Close	15%
Full Notice to Proceed and Commencement of Construction (e.g., footers poured)	5%
Main Power Generating Equipment Delivered	5%
Commencement of Interconnection Service	25%

To obtain a reduction in its RPM Auction Credit requirement, the Market Participant must demonstrate satisfaction of the applicable milestone in the same manner as set forth for Planned Generation Capacity Resources in subsection (c) above.

(e) For Planned Financed Generation Capacity Resources located in the PJM Region, the RPM Auction Credit requirement shall be reduced as the Capacity Resource attains the milestones stated in the following table and as further described in the PJM Manuals.

Credit Reduction Milestones for Planned Financed Generation Capacity Resources	
Milestones	**Increment of reduction from initial RPM Auction Credit requirement**
Full Notice to Proceed	50%
Commencement of Construction (e.g., footers poured)	15%
Main Power Generating Equipment Delivered	10%
Commencement of Interconnection Service	25%

To obtain a reduction in its RPM Auction Credit requirement, the Market Participant must demonstrate satisfaction of the applicable milestone in the same manner as set forth for Planned Generation Capacity Resources in subsection (c) above.

(f) For Planned External Financed Generation Capacity Resources, the RPM Auction Credit Requirement shall be reduced as the Capacity Resource attains the milestones stated in the following table and as further described in the PJM Manuals; provided, however, that the total percentage reduction in the RPM Auction Credit requirement, including the initial 50% reduction for being a Planned External Financed Generation Capacity Resources, shall be no greater than the quotient of (i) the MWs of firm transmission service that the Market Participant has secured for the complete transmission path divided by (ii) the MWs of firm transmission service required to qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.

Credit Reduction Milestones for Planned External Financed Generation Capacity	
Milestones	**Increment of reduction from initial RPM Auction Credit requirement**
Full Notice to Proceed	50%

Commencement of Construction (e.g., footers poured)	15%
Main Power Generating Equipment Delivered	10%
Commencement of Interconnection Service	25%

To obtain a reduction in its RPM Auction Credit requirement, the Market Participant must demonstrate satisfaction of the applicable milestone in the same manner as set forth for Planned Generation Capacity Resources in subsection (c) above.

(g) For Qualifying Transmission Upgrades, the RPM Auction Credit requirement shall be reduced to 50% of the amount calculated under section IV.B.2 above beginning as of the effective date of the latest associated Interconnection Service Agreement (or, when a project will have no such agreement, an Upgrade Construction Service Agreement), and shall be reduced to zero on the date the Qualifying Transmission Upgrade is placed in service.

4. RPM Auction Credit Rate

As set forth in the PJM Manuals, a separate Auction Credit Rate shall be calculated for each Delivery Year prior to each RPM Auction for such Delivery Year, as follows:

(a) Prior to the posting of the results of a Base Residual Auction for a Delivery Year, the Auction Credit Rate shall be:

(i) For all Capacity Resources other than Capacity Performance Resources, (the greater of (A) 0.3 times the Net Cost of New Entry for the PJM Region for such Delivery Year, in MW-day or (B) $20 per MW-day) times the number of calendar days in such Delivery Year; and

(ii) For Capacity Performance Resources, the greater of ((A) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in MW-day or (B) $20 per MW-day) times the number of calendar days in such Delivery Year.

(iii) For Seasonal Capacity Performance Resources, the same as the Auction Credit Rate for Capacity Performance Resources, but reduced to be proportional to the number of calendar days in the relevant season.

(b) Subsequent to the posting of the results from a Base Residual Auction, the Auction Credit Rate used for ongoing credit requirements for supply committed in such auction shall be:

(i) For all Capacity Resources other than Capacity Performance Resources, (the greater of (A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located) times the number of calendar days in such Delivery Year; and

(ii) For Capacity Performance Resources, the (greater of [(A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational

Deliverability Area within which the resource is located) or (C) the lesser of (1) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (2) 1.5 times the Net Cost of New Entry (stated on an installed capacity basis) for the PJM Region for such Delivery year or for the Relevant LDA, in $/MW-day minus (the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located)] times the number of calendar days in such Delivery Year).

(iii) For Seasonal Capacity Performance Resources, the same as the Auction Credit Rate for Capacity Performance Resources, but reduced to be proportional to the number of calendar days in the relevant season.

(c) For any resource not previously committed for a Delivery Year that seeks to participate in an Incremental Auction, the Auction Credit Rate shall be:

(i) For all Capacity Resources other than Capacity Performance Resources, (the greater of (A) 0.3 times the Net Cost of New Entry for the PJM Region for such Delivery Year, in MW-day or (B) 0.24 times the Capacity Resource Clearing Price in the Base Residual Auction for such Delivery Year for the Locational Deliverability Area within which the resource is located or (C) $20 per MW-day) times the number of calendar days in such Delivery Year; and

(ii) For Capacity Performance Resources, the (greater of (A) 0.5 times Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA or (B) $20/MW-day) times the number of calendar days in such Delivery Year.

(d) Subsequent to the posting of the results of an Incremental Auction, the Auction Credit Rate used for ongoing credit requirements for supply committed in such auction shall be:

(i) For Base Capacity Resources: (the greater of (A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located) times the number of calendar days in such Delivery Year, but no greater than the Auction Credit Rate previously established for such resource's participation in such Incremental Auction pursuant to subsection (c) above) times the number of calendar days in such Delivery Year; ~~and~~

(ii) For Capacity Performance Resources, the greater of [(A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located or (C) the lesser of (1) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (2) 1.5 times the Net Cost of New Entry (stated on an installed capacity basis) for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day minus (the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located)] times the number of calendar days in such Delivery Year); and~~.~~

(iii) For Seasonal Capacity Performance Resources, the same as the Auction Credit Rate for Capacity Performance Resources, but reduced to be proportional to the number of calendar days in the relevant season.

(e) For the purposes of this section IV.B.4 and section IV.B.5 below, "Relevant LDA" means the Locational Deliverability Area in which the Capacity Performance Resource is located if a separate Variable Resource Requirement Curve has been established for that Locational Deliverability Area for the Base Residual Auction for such Delivery Year.

5. Price Responsive Demand Credit Rate

(a) For the 2018/2019 through 2022/2023 Delivery Years:

(i) Prior to the posting of the results of a Base Residual Auction for a Delivery Year, the Price Responsive Demand Credit Rate shall be (the greater of (A) 0.3 times the Net Cost of New Entry for the PJM Region for such Delivery Year, in MW-day or (B) $20 per MW-day) times the number of calendar days in such Delivery Year;

(ii) Subsequent to the posting of the results from a Base Residual Auction, the Price Responsive Demand Credit Rate used for ongoing credit requirements for Price Responsive Demand committed in such auction shall be (the greater of (A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the Price Responsive Demand load is located, in $/MW-day) times the number of calendar days in such Delivery Year times a final price uncertainty factor of 1.05;

(iii) For any additional Price Responsive Demand that seeks to commit in a Third Incremental Auction in response to a qualifying change in the final LDA load forecast, the Price Responsive Demand Credit Rate shall be the same as the rate for Price Responsive Demand that had cleared in the Base Residual Auction; and

(iv) Subsequent to the posting of the results of the Third Incremental Auction, the Price Responsive Demand Credit Rate used for ongoing credit requirements for all Price Responsive Demand, shall be (the greater of (i) $20/MW-day or (ii) 0.2 times the Final Zonal Capacity Price for the Locational Deliverability Area within which the Price Responsive Demand is located) times the number of calendar days in such Delivery Year, but no greater than the Price Responsive Demand Credit Rate previously established under subsections (a)(i), (a)(ii), or (a)(iii) of this section for such Delivery Year.

(b) For the 2022/2023 Delivery Year and Subsequent Delivery Years:

(i) Prior to the posting of the results of a Base Residual Auction for a Delivery Year, the Price Responsive Demand Credit Rate shall be (the greater of (A) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (B) $20 per MW-day) times the number of calendar days in such Delivery Year;

(ii) Subsequent to the posting of the results from a Base Residual Auction, the Price Responsive Demand Credit Rate used for ongoing credit requirements for Price Responsive Demand committed in such auction shall be (the greater of [(A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the Price Responsive Demand is located, in $/MW-day or (C) the lesser of (1) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (2) 1.5 times the Net Cost of New Entry (stated on an installed capacity basis) for the PJM Region for such Delivery year or for the Relevant LDA, in $/MW-day minus (the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the Price Responsive Demand is located)] times the number of calendar days in such Delivery Year;

(iii) For any additional Price Responsive Demand that seeks to commit in a Third Incremental Auction in response to a qualifying change in the final LDA load forecast, the Price Responsive Demand Credit Rate shall be (the greater of (A) 0.5 times Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (B) $20/MW-day) times the number of calendar days in such Delivery Year; and

(iv) Subsequent to the posting of the results of the Third Incremental Auction, the Price Responsive Demand Credit Rate used for ongoing credit requirements for all Price Responsive Demand committed in such auction shall be the greater of [(A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the Price Responsive Demand is located or (C) the lesser of (1) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (2) 1.5 times the Net Cost of New Entry (stated on an installed capacity basis) for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day minus (the Capacity Performance Resource Clearing Price in such Incremental Auction for the Locational Deliverability Areas within which the Price Responsive Demand is located)] times the number of calendar days in such Delivery Year.

6. RPM Seller Credit - Additional Form of Unsecured Credit for RPM

In addition to the forms of credit specified elsewhere in this Attachment Q, RPM Seller Credit shall be available to Market Participants, but solely for purposes of satisfying RPM Auction Credit requirements. If a supplier has a history of being a net seller into PJM Markets, on average, over the past 12 months, then PJM~~Settlement~~ will count as available Unsecured Credit twice the average of that Market Participant's total net monthly PJM~~Settlement~~ bills over the past 12 months. This RPM Seller Credit shall be subject to the cap on available Unsecured Credit as established in section II.G~~D~~.3 above.

RPM Seller Credit is calculated as a single value for each Market Participant, not separately by account, and must be designated to specific customer accounts in order to be available to satisfy RPM Auction Credit requirements that are calculated in each such customer account.

7. Credit Responsibility for Traded Planned RPM Capacity Resources

PJM~~Settlement~~ may require that credit and financial responsibility for planned Capacity Resources that are traded remain with the original party (which for these purposes, means the party bearing credit responsibility for the planned Capacity Resource immediately prior to trade) unless the receiving party independently establishes consistent with this Attachment Q, that it has sufficient credit with PJM~~Settlement~~ and agrees by providing written notice to PJM~~Settlement~~ that it will fully assume the credit responsibility associated with the traded planned Capacity Resource.

C. Financial Transmission Right Auctions

Credit requirements described herein for FTR activity are applied separately for each customer account of a Market Participant, unless specified otherwise in this section C. FTR Participants must designate the appropriate amount of credit to each separate customer account in which any activity occurs or will occur.

1. FTR Credit Limit.

Participants must maintain their FTR Credit Limit at a level equal to or greater than their FTR Credit Requirement for each applicable account. FTR Credit Limits will be established only by a Participant~~s~~ providing Collateral and designating the available credit to specific accounts.

2. FTR Credit Requirement.

For each Market Participant with FTR activity, PJM~~Settlement~~ shall calculate an FTR Credit Requirement. The FTR Credit Requirement shall be based on FTR cost, FTR Historical Value and MWh volume, anticipated FTR activity for new Market Participants, and anticipated change in exposure for existing Market Participants newly participating in the FTR market, and may be increased to reflect any change in exposure based on the most recent applicable FTR auction prices, as further described below.

FTR Historical Values shall be calculated separately for on-peak, off-peak, and 24-hour FTRs for each month of the year. FTR Historical Values shall be adjusted by plus or minus ten percent for cleared counter flow or prevailing flow FTRs, respectively, in order to mitigate exposure due to uncertainty and fluctuations in actual FTR value. Historical values used in the calculation of FTR Historical Values shall be adjusted when the network simulation model utilized in PJM's economic planning process indicates that transmission congestion will decrease due to certain transmission upgrades that are in effect or planned to go into effect for the following Planning Period. The transmission upgrades to be modeled for this purpose shall only include those upgrades that, individually, or together, have 10% or more impact on the transmission congestion on an individual constraint or constraints with congestion of $5 million or more affecting a common congestion path. The adjustments to historical values shall be the dollar amount of the adjustment shown in the network simulation model.

If FTR cost less the FTR Historical Value, plus any applicable increase related to portfolio diversification as described in section C.6 below, results in a value that is less than ten cents (10¢) per MWh, the FTR Credit Requirement shall be increased to ten cents (10¢) per MWh. When calculating the portfolio MWh for this comparison, for cleared "Sell" FTRs, the MWh shall be subtracted from the portfolio total; prior to clearing, the MWh for "Sell" FTRs shall not be included in the portfolio total. FTR Credit Requirements shall be further adjusted by ARR credits available and by an amount based on portfolio diversification, if applicable. The requirement will be based on individual monthly exposures which are then used to derive a total requirement.

The FTR Credit Requirement shall be calculated by first adding for each month the FTR Monthly Credit Requirement Contribution for each submitted, accepted, and cleared FTR and then subtracting the prorated value of any ARRs held by the Market Participant for that month. The resulting twelve monthly subtotals represent the expected value of net payments between PJM~~Settlement~~ and the Market Participant for FTR activity each month during the Planning Period. Subject to later adjustment by an amount based on portfolio diversification, if applicable, and subject to later adjustment for auction prices, the FTR Credit Requirement shall be the sum of the individual positive monthly subtotals, representing months in which net payments to PJM~~Settlement~~ are expected.

3. Rejection of FTR Bids.

Bids submitted into an auction will be rejected if the Market Participant's FTR Credit Requirement including such submitted bids would exceed the Market Participant's FTR Credit Limit, or if the Market Participant fails to ~~establish~~ provide additional credit support or additional Collateral as required pursuant to provisions related to portfolio diversification and mark-to-auction.

4. FTR Credit Collateral Returns.

A Market Participant may request from PJM~~Settlement~~ the return of any Collateral no longer required for the FTR markets~~auctions~~. PJM~~Settlement~~ is permitted to limit the frequency of such requested Collateral returns, provided that Collateral returns shall be made by PJM~~Settlement~~ at least once per calendar quarter, if requested by a Market Participant.

5. Credit Responsibility for Bilateral Transfers of FTRs.

PJM~~Settlement~~ may require that credit responsibility associated with an FTR bilaterally transferred to a new Market Participant remain with the original party (which for these purposes, means the party bearing credit responsibility for the FTR immediately prior to bilateral transfer) unless and until the receiving party independently establishes, consistent with this Attachment Q, sufficient credit with PJM~~Settlement~~ and agrees through confirmation of the bilateral transfer in PJM's FTR reporting tool that it will meet in full the credit requirements associated with the transferred FTR.

6. Portfolio Diversification.

Portfolio diversification shall be calculated, and the appropriate provisions herein applied, separately for each customer account of a Market Participant, and separately for each month.

Subsequent to calculating a tentative cleared solution for an FTR auction (or auction round), PJM shall determine the FTR Portfolio Auction Value for each customer account of a Market Participant, including the tentative cleared solution. Any customer accounts with such FTR Portfolio Auction Values that are negative in one or more months shall be deemed "FTR Flow Undiversified."~~.~~

For customer accounts that are FTR Flow Undiversified in a month, PJM~~Settlement~~ shall increment the FTR Credit Requirement by an amount equal to three times the absolute value of the FTR Portfolio Auction Value in that month, including the tentative cleared solution. For portfolios that are FTR Flow Undiversified in months subsequent to the current planning year, these incremental amounts, calculated on a monthly basis, shall be reduced (but not below zero) by an amount up to 25% of the monthly value of ARR credits that are held by a Market Participant. Subsequent to the ARR allocation process preceding an annual FTR auction, such ARRs credits shall be reduced to zero for months associated with that ARR allocation process. PJM~~Settlement~~ may recalculate such ARR credits at any time, but at a minimum shall do so subsequent to each annual FTR auction. If a reduction in such ARR credits at any time increases an ~~Market~~ FTR Participant's FTR Credit Requirements beyond its credit available for FTR activity, the ~~Market~~ FTR Participant must increase its credit to eliminate the shortfall in the applicable customer account(s).

If the FTR Credit Requirement for any Market Participant's customer account exceeds its credit available for FTRs as a result of these diversification requirements for the tentatively cleared portfolio of FTRs, PJM~~Settlement~~ shall immediately issue a demand for additional credit, and such demand must be fulfilled before 4:00 p.m. on the Business Day following the demand. If any Market Participant does not timely satisfy such demand, ~~PJMSettlement, in coordination with~~ PJM~~,~~ shall cause the removal of that Market Participant's entire set of bids in that account for that FTR auction (or auction round) and a new cleared solution shall be calculated for the entire auction (or auction round).

If necessary, PJM shall repeat the auction clearing calculation. PJM shall repeat these portfolio diversification calculations subsequent to any secondary clearing calculation, and PJM~~Settlement~~ shall require affected Market Participants to establish additional credit.

7. FTR Administrative Charge Credit Requirement

In addition to any other credit requirements, PJM~~Settlement~~ may apply a credit requirement to cover the maximum administrative fees that may be charged to a Market Participant for its bids and offers.

8. Long-Term FTR Credit Recalculation

Long-term FTR Credit Requirement calculations shall be updated annually for known history, consistent with updating of historical values used for FTR Credit Requirement calculations in the annual auctions. If the historical value update results in an FTR Credit Requirement for any Market Participant's customer account that exceeds its credit available for FTR activity, then PJM shall issue a Collateral Call equal to the lesser of the increase in the FTR Credit Requirement from the historical value adjustment and the credit shortfall after the historical value adjustment.

9. Mark-to-Auction

A Mark-to-Auction Value shall be calculated separately for each customer account of a Market Participant. For each such customer account, the Mark-to-Auction Value shall be a single number equal to the sum, over all months remaining in the applicable FTR period and for all cleared FTRs in the customer account, of the most recently available cleared auction price applicable to the FTR minus the original transaction price of the FTR, multiplied by the transacted quantity.

The FTR Credit Requirement, as otherwise described above, shall be increased when the Mark-to-Auction Value is negative. The increase shall equal the absolute value of the negative Mark-to-Auction Value less the value of ARR credits that are held in the customer account and have not been used to reduce the FTR Credit Requirement prior to application of the Mark-to-Auction Value. PJM~~Settlement~~ shall recalculate ARR credits held by each Market Participant after each annual FTR auction and may also recalculate such ARR credits at any other additional time intervals it deems appropriate. Application of the Mark-to-Auction Value, including the effect from ARR application, shall not decrease the FTR Credit Requirement.

For Market Participant customer accounts for which FTR bids have been submitted into the current FTR auction, if the Market Participant's FTR Credit Requirement exceeds its credit available for FTRs as a result of the mark-to-auction requirements for the Market Participant's portfolio of FTRs in the tentative cleared solution for an FTR auction (or auction round), PJM~~Settlement~~ shall issue a Collateral Call to the Market Participant, and the Market Participant must fulfill such demand before 4:00 p.m. on the following Business Day. If a Market Participant does not timely satisfy such Collateral Call, PJM~~Settlement~~ shall, in coordination with PJM, cause the removal of all of that Market Participant's bids in that FTR auction (or auction round), submitted from such Market Participant's customer account, and a new cleared solution shall be calculated for the FTR auction (or auction round).

If necessary, PJM shall repeat the auction clearing calculation. PJM shall repeat these mark-to-auction calculations subsequent to any secondary clearing calculation, and PJM~~Settlement~~ shall require affected Market Participants to establish additional credit.

Subsequent to final clearing of an FTR auction or an annual FTR auction round, PJM shall recalculate the FTR Credit Requirement for all FTR portfolios, and, as applicable, issue to each Market Participant an MTA Collateral Call for the total amount by which the FTR Credit Requirement exceeds the credit allocated in any of the Market Participant's accounts.

If the MTA Collateral Call is not satisfied within ~~two Business Days~~the applicable cure period referenced in Operating Agreement, section 15, then such Market Participant shall be restricted in all of its credit-screened transactions. Specifically, such Market Participant may not engage in any Virtual Transactions or Export Transactions, or participate in RPM Auctions or other RPM activity. Such Market Participant may engage only in the selling of open FTR positions, either in FTR auctions or bilaterally, provided such sales would reduce the Market Participant's FTR Credit Requirements. PJM shall not return any Collateral to such Market Participant, and no payment shall be due or payable to such Market Participant, until its credit shortfall is remedied. Market Participant shall allocate any excess or unallocated Collateral to any of its account in which there is a credit shortfall. Market Participants may remedy their credit shortfall at any time through provision of sufficient Collateral.

If a Market Participant fails to satisfy MTA Collateral Calls for two consecutive auctions of overlapping periods, e.g. two balance of Planning Period auctions, an annual FTR auction and a balance of Planning Period auction, or two long term FTR auctions, (for this purpose the four rounds of an annual FTR auction shall be considered a single auction), the Market Participant shall be declared in default of this Attachment Q.

VII. PEAK MARKET ACTIVITY AND WORKING CREDIT LIMIT~~GENERAL OBLIGATIONS~~

A. Peak Market Activity Credit Requirement

PJM shall calculate a Peak Market Activity credit requirement for each Participant. Each Participant must maintain sufficient Unsecured Credit Allowance and/or Collateral, as applicable, and subject to the provisions herein, to satisfy its Peak Market Activity credit requirement.

Peak Market Activity for Participants will be determined semi-annually, utilizing an initial Peak Market Activity, as explained below, calculated after the first complete billing week in the months of April and October. Peak Market Activity shall be the greater of the initial Peak Market Activity, or the greatest amount invoiced for the Participant’s transaction activity for all PJM Markets and services in any rolling one, two, or three week period, ending within a respective semi-annual period. However, Peak Market Activity shall not exceed the greatest amount invoiced for the Participant’s transaction activity for all PJM Markets and services in any rolling one, two or three week period in the prior 52 weeks.

Peak Market Activity shall exclude FTR Net Activity, Virtual Transactions Net Activity, and Export Transactions Net Activity.

When calculating Peak Market Activity, PJM~~Settlement~~ may attribute credits for Regulation service to the days on which they were accrued, rather than including them in the month-end invoice.

The initial Peak Market Activity for Applicants will be determined by PJM~~Settlement~~ based on a review of an estimate of their transactional activity for all PJM Markets and services over the next 52 weeks, which the Applicant shall provide to PJM~~Settlement~~.

The initial Peak Market Activity for Market Participants and Transmission Customers, calculated at the beginning of each semi-annual period, shall be the three-week average of all non-zero invoice totals over the previous 52 weeks. This calculation shall be performed and applied within three (3) Business Days following the day the invoice is issued for the first full billing week in the current semi-annual period.

Prepayments shall not affect Peak Market Activity unless otherwise agreed to in writing pursuant to this Attachment Q.

Peak Market Activity calculations shall take into account reductions of invoice values effectuated by early payments which are applied to reduce a Participant's Peak Market Activity as contemplated by other terms of this Attachment Q; provided that the initial Peak Market Activity shall not be less than the average value calculated using the weeks for which no early payment was made.

A Participant may reduce its Collateral requirement by agreeing in writing (in a form acceptable to PJM~~Settlement~~) to make additional payments, including prepayments, as and when necessary to ensure that such Participant's Total Net Obligation at no time exceeds such reduced Collateral requirement.

PJM~~Settlement~~ may, at its discretion, adjust a Participant's Peak Market Activity requirement if PJM~~Settlement~~ determines that the Peak Market Activity is not representative of such Participant's expected activity, as a consequence of known, measurable, and sustained changes. Such changes may include the loss (without replacement) of short-term load contracts, when such contracts had terms of three months or more and were acquired through state-sponsored retail load programs, but shall not include short-term buying and selling activities.

PJM~~Settlement~~ may waive the credit requirements for a Participant that has no outstanding transactions and agrees in writing that it shall not, after the date of such agreement, incur obligations under any of the Agreements. Such entity's access to all electronic transaction systems administered by PJM shall be terminated.

A Participant receiving unsecured credit may make early payments up to ten times in a rolling 52-week period in order to reduce its Peak Market Activity for credit requirement purposes. Imputed Peak Market Activity reductions for credit purposes will be applied to the billing period for which the payment was received. Payments used as the basis for such reductions must be received prior to issuance or posting of the invoice for the relevant billing period. The imputed Peak Market Activity reduction attributed to any payment may not exceed the amount of Unsecured Credit for which the Participant is eligible.

B. Working Credit Limit

PJM~~Settlement~~ will establish a Working Credit Limit for each Participant against which its Total Net Obligation will be monitored. The Working Credit Limit is defined as 75% of the Collateral provided to PJM~~Settlement~~ and/or 75% of the Unsecured Credit Allowance determined by PJM~~Settlement~~, as reduced by any applicable credit requirement allocations for the FTR and RPM markets~~determinants defined in this Attachment Q~~. A Participant's Total Net Obligation should not exceed its Working Credit Limit.

~~Example: After a credit evaluation by PJMSettlement, a Participant that has satisfied the Minimum Participation Requirements with audited financials demonstrating a Tangible Net Worth greater than $1,000,000 is allowed an Unsecured Credit Allowance of $10.0 million. The Participant will be assigned a Working Credit Limit of $7.5 million.~~

If a Participant's Total Net Obligation approaches its Working Credit Limit, PJM~~Settlement~~ may require the Participant to make an advance payment or increase its Collateral in order to maintain its Total Net Obligation below its Working Credit Limit. Except as explicitly provided herein, advance payments shall not serve to reduce the Participant's Peak Market Activity for the purpose of calculating credit requirements.

> Example: After ten (10) calendar days, and with five (5) calendar days remaining before the bill is due to be paid, a Participant approaches its $4.0 million Working Credit Limit. PJM~~Settlement~~ may require a prepayment of $2.0 million in order that the Total Net Obligation will not exceed the Working Credit Limit.

If a Participant exceeds its Working Credit Limit or is required to make advance payments more than ten times during a 52-week period, PJM~~Settlement~~ may require Collateral in an amount as may be deemed reasonably necessary to support its Total Net Obligation.

When calculating Total Net Obligation, PJM~~Settlement~~ may attribute credits for Regulation service to the days on which they were accrued, rather than including them in the month-end invoice.

VIII. SUSPENSION OR LIMITATION ON MARKET PARTICIPATION

If PJM determines that a Participant presents an unreasonable credit risk as determined pursuant to initial or ongoing risk evaluations, as described in section II above, or in the case of any other event which, after notice, lapse of time, or both, would result in an Event of Default, PJM will take steps to mitigate the exposure of any PJM Markets, which may include, but is not limited to, requiring Collateral, additional Collateral or Restricted Collateral or suspending or limiting the Market Participant's ability to participate in the PJM Markets commensurate to the risk to any PJM Markets.

If a Participant fails to reduce or eliminate any unreasonable credit risks to PJM's satisfaction within the applicable cure period including without limitation by posting Collateral, additional Collateral or Restricted Collateral, PJM may treat such failure as an Event of Default.

Notwithstanding the foregoing, a Participant that transacts in FTRs will be eligible to request that PJM exempt or exclude FTR transactions of such Participant from the effect of any such limitations on market activity established by PJM, and PJM may but shall not be required to so exempt or exclude, any FTR transactions that the Participant reasonably demonstrates to PJM it has entered into to "hedge or mitigate commercial risk" arising from its transactions in the PJM Interchange Energy Market that are intended to result in the actual flow of physical energy or ancillary services in the PJM Region, as the phrase "hedge or mitigate commercial risks" is defined under the CFTC's regulations defining the end-user exception to clearing set forth in 17 C.F.R. §50.50(c).

IX~~VI~~. REMEDIES FOR CREDIT BREACH~~ AND~~, FINANCIAL DEFAULT OR CREDIT SUPPORT DEFAULT; REMEDIES FOR EVENTS OF DEFAULT

If PJM~~Settlement~~ determines that a Market Participant is in Credit Breach, or that a Financial Default or Credit Support Default exists, PJM ~~of its requirements, including payment requirements, PJMSettlement~~ may issue to the Market Participant a breach notice and/or a Collateral Call or demand for additional documentation or assurances. At such time, PJM may also suspend payments of any amounts due to the Participant and limit, restrict or rescind the Market Participant's privileges to participate in any or all PJM Markets under the Agreements during any such cure period. ~~A Participant will have two Business Days from notification of Credit Breach or issuance of a Collateral Call to remedy the Credit Breach or satisfy the Collateral Call in a manner deemed acceptable by PJMSettlement.~~ Failure to remedy the Credit Breach, Financial Default or to satisfy a~~such~~ Collateral Call or demand for additional documentation or assurances within the applicable cure period described in Operating Agreement, section 15.1.5, shall constitute~~within such two Business Days will be considered~~ an E~~e~~vent of D~~d~~efault. If a Participant fails to meet the requirements of this Attachment Q, but then remedies the Credit Breach, Financial Default or Credit Support Default, or satisfies a Collateral Call or demand for additional documentation or assurances within the applicable~~two Business Day~~ cure period, then the Participant shall be deemed to again be in compliance~~have complied~~ with this Attachment Q, so long as no other Credit Breach, Financial Default, Credit Support Default or Collateral Call or demand for additional documentation or assurances has occurred and is continuing. ~~Any such two Business Day cure period will expire at 4:00 p.m. eastern prevailing time on the final day.~~

Only one cure period shall apply to a single event giving rise to a Credit Breach, Financial Default or Credit ~~Breach default~~Support Default. Application of Collateral towards a ~~non-payment~~Financial Default, Credit Breach or Credit Support Breach shall not be considered a ~~satisfactory~~ cure of such Credit Breach, Financial Default or Credit Support Default unless~~ if~~ the Participant is determined by PJM to be in full compliance with~~fails to meet~~ all requirements of this Attachment Q after such application.

~~Failure to comply with this Attachment Q (except for the responsibility of a Participant to notify PJMSettlement of a material change) shall be considered an event of default. Pursuant to Operating Agreement, section 15.1.3 and Tariff, Part I, section 7.3, non-compliance with this Attachment Q is an event of default under those respective Agreements.~~ When an ~~In~~ Eevent of D~~d~~efault under this Attachment Q or one or more of the Agreements has occurred and is continuing, ~~PJMSettlement, in coordination with~~ PJM~~, will~~ may take such actions as may be required or permitted under the Agreements to protect the PJM Markets and the PJM Members, including but not limited to (a) suspension and/or ~~the~~ termination of the Participant's ongoing Transmission Service, (b) limitation, suspension and/or termination of participation in any PJM Markets, (c) close out and liquidation of the Market Participant's market portfolio, exercising judgment in the manner in which this is achieved in any PJM Markets. When an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing, PJM also~~. PJMSettlement~~ has the immediate right to liquidate all or a portion of a Participant's Collateral at its discretion to satisfy Total Net Obligations to PJM~~Settlement in the event of default~~ under this Attachment Q or one or more of the Agreements. No remedy for an Event of Default is or shall be deemed to be exclusive of any other available remedy or remedies by contract or under applicable laws and regulations. Each such remedy shall be distinct, separate and cumulative, shall not be deemed inconsistent with or in exclusion of any other available remedy, and shall be in addition to and separate and distinct from every other remedy.

When an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing, PJM may continue to retain all payments due to a Participant as a cash security for all such Participant's obligations under the Agreements (regardless of any restrictions placed on such Participant's use of Collateral for any account, market activity or capitalization purpose); provided, however, that an Event of Default will not be deemed cured or no longer continuing because PJM is retaining amounts due the Participant, or because PJM has not yet applied Collateral or credit support to any amounts due PJM, unless PJM determines that the Participant has again satisfied all the Collateral requirements and application requirements as a new Applicant for participation in the PJM Markets, and consistent with the requirements and limitations of Operating Agreement, section 15.

In Eevent of ~~breach or~~ D~~d~~efault by a Participant ~~of any requirements of this Attachment Q~~, PJM~~Settlement~~ may exercise any remedy or action allowed or prescribed by this Attachment Q immediately ~~upon identification of the Breach~~ or following ~~a reasonable time after identification in order to properly~~ investigat~~e~~ion and ~~to~~determination of an orderly exercise of such remedy or action. Delay in exercising any allowed ~~or prescribed~~ remedy or action shall not preclude PJM~~Settlement~~ from exercising such remedy or action at a later time.

PJM~~Settlement~~ may hold a defaulting Participant's Collateral for as long as such party's positions exist and consistent with this Attachment Q, in order to protect the PJM Markets and PJM's membership, and minimize or mitigate the impacts or potential impacts or risks associated with such Event of Default when an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing ~~from default~~.

~~No payments shall be due to a Participant, nor shall any payments be made to a Participant, while the Participant is in default or has been declared in Credit Breach of this Attachment Q or~~

~~the Agreements, or while a Collateral Call is outstanding.~~ PJM~~Settlement~~ may apply towards an ongoing Event of D~~d~~efault any amounts that are held or later become available or due to the defaulting Participant through PJM's markets and systems.

In order to cover the Participant's Obligations, PJM~~Settlement~~ may hold a Participant's Collateral indefinitely and specifically through the end of the billing period which includes the 90th day following the last day a Participant had activity, open positions, or accruing obligations (other than reconciliations and true-ups), ~~and~~ until such Participant has satisfactorily paid any obligations invoiced through such period and until PJM determines that the Participant's positions represent no risk exposure to the PJM Markets or the PJM Members. Obligations incurred or accrued through such period shall survive any withdrawal from PJM. ~~In event of non-payment by a Participant, PJMSettlement~~ When an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing, PJM may apply any Collateral to such Participant's Obligations, even if Participant had previously announced and effected its withdrawal from PJM.

X. FTRS UNDER THE COMMODITY EXCHANGE ACT AND THE BANKRUPTCY CODE

Under the terms of the Tariff, PJM Settlement is the counterparty to all transactions in PJM Markets, including but not limited to all FTR transactions, other than (i) any bilateral transactions between Participants, or (ii) with respect to self-supplied or self-scheduled transactions reported to the Office of the Interconnection. Pursuant to the "Final Order in Response to a Petition From Certain Independent System Operators and Regional Transmission Organizations To Exempt Specified Transactions Authorized by a Tariff or Protocol Approved by the Federal Energy Regulatory Commission or the Public Utility Commission of Texas From Certain Provisions of the Commodity Exchange Act Pursuant to the Authority Provided in the Act" 78 Fed. Reg. 19880 (April 2, 2013) (the "CFTC RTO/ISO Order"), the Commodity Futures Trading Commission (the "CFTC") exempts transactions offered or entered into in a market administered by PJM pursuant to the Tariff, including but not limited to FTR transactions, from the provisions of the Commodity Exchange Act and the CFTC's rules applicable to "swaps," with the exception of the CFTC's general anti-fraud and anti-manipulation authority and scienter-based prohibitions.

Notwithstanding the CFTC RTO/ISO Order, for purposes of the United States Bankruptcy Code ("Bankruptcy Code"), all FTR transactions constitute "swap agreements" and/or "forward contracts," and PJM and each FTR Participant is a "forward contract merchant" and/or a "swap participant" within the meaning of the Bankruptcy Code for purposes of FTR transactions.

Pursuant to this Attachment Q and other provisions of the Agreements, PJM already has, and shall continue to have, the following rights (among other rights) with respect to a Market Participant's Event of Default: (a) the right to terminate and/or liquidate any FTR transaction held by that Market Participant; (b) the right to immediately proceed against any Collateral provided by the Market Participant; (c) the right to set-off any obligations due or owing to that Market Participant pursuant to any forward contract, swap agreement, or similar agreement against any amounts due and owing by that Market Participant pursuant to any forward contract, swap agreement, or similar agreement, such arrangement to constitute a "master netting agreement" within the meaning of the Bankruptcy Code; and (d) the right to suspend or limit that Market Participant from entering into further FTR transactions.

For the avoidance of doubt, upon the commencement of a voluntary or involuntary proceeding for a Participant under the Bankruptcy Code, and without limiting any other rights of PJM or obligations of any Participant under the Agreements, PJM may exercise any of its rights against such Participant, including, without limitation (1) the right to terminate and/or liquidate any FTR transaction held by that Participant, (2) the right to immediately proceed against any Collateral provided by that Participant, (3) the right to set off any obligations due and owing to that Participant pursuant to any forward contract, swap agreement and/or master netting agreement against any amounts due and owing by that Participant with respect to an FTR transaction including as a result of the actions taken by PJM pursuant to (a) above, and 4) the right to suspend or limit that Participant from entering into future FTR transactions.

For purposes of the Bankruptcy Code, all transactions, including but not limited to FTR transactions, between PJM, on the one hand, and a Market Participant, on the other hand, are intended to be part of a single integrated agreement, and together with the Agreements constitute a "master netting agreement."

Attachment Q
Appendix 1

PJM MINIMUM PARTICIPATION CRITERIA
ANNUAL OFFICER CERTIFICATION FORM

Participant Name: ____ ("Participant")

I, ____, a duly authorized officer of Participant, understanding that PJM Interconnection, L.L.C. and PJMSettlement, Inc. ("PJMSettlement") are relying on this certification as evidence that Participant meets the minimum requirements set forth in the PJM Open Access Transmission Tariff ("PJM Tariff"), Attachment Q hereby certify that I have full authority to represent on behalf of Participant and further represent as follows, as evidenced by my initialing each representation in the space provided below:

1. All employees or agents transacting in markets or services provided pursuant to the PJM Tariff or PJM Amended and Restated Operating Agreement ("PJM Operating Agreement") on behalf of the Participant have received appropriate~~[1]~~ training and are authorized to transact on behalf of Participant. As used in this representation, the term "appropriate" as used with respect to training means training that is (i) comparable to generally accepted practices in the energy trading industry, and (ii) commensurate and proportional in sophistication, scope and frequency to the volume of transactions and the nature and extent of the risk taken by the participant.__________

2. Participant has written risk management policies, procedures, and controls, approved by Participant's independent risk management function~~[2]~~ and applicable to transactions in ~~the~~ any PJM Markets in which it participates and for which employees or agents transacting in markets or services provided pursuant to the PJM Tariff or PJM Operating Agreement have been trained, that provide an appropriate, comprehensive risk management framework that, at a minimum, clearly identifies and documents the range of risks to which Participant is exposed, including, but not limited to credit risks, liquidity risks and market risks.~~__________~~ As used in this representation, a Participant's "independent risk management function" can include appropriate corporate persons or bodies that are independent of the Participant's trading functions, such as a risk management committee, a risk officer, a Participant's board or board committee, or a board or committee of the Participant's parent company.

   a. Participant is providing to PJM or PJMSettlement, in accordance with Tariff, Attachment Q, section III, with this Annual Officer Certification Form, a copy of its current governing risk management policies, procedures and controls applicable to its activities in any PJM Markets as part of its initial application pursuant to Attachment Q or because there have been substantive changes made to such policies, procedures and controls applicable to its market activities since they were last provided to PJM.__________

   b. If the risk management policies, procedures and controls applicable to Participant's market activities submitted to PJM or PJMSettlement were submitted prior to the current certification, Participant certifies that no substantive changes have been made to such policies, procedures and controls applicable to its market activities since such submission.___________

3. An FTR Participant must make either the following 3.a. or 3.b. additional representations, evidenced by the undersigned officer initialing either the one 3.a. representation or the four~~six~~ 3.b. representations in the spaces provided below:

~~3.~~a. Participant transacts in PJM's FTR markets with the sole intent to hedge congestion risk in connection with either obligations Participant has to serve load or rights Participant has to generate electricity in the PJM Region ("physical transactions") and monitors all of the Participant's FTR market activity to endeavor to ensure that its FTR positions, considering both the size and pathways of the positions, are either generally proportionate to or generally do not exceed the Participant's physical transactions, and remain generally consistent with the Participant's intention to hedge its physical transactions.___________

~~3.~~b. On no less than a weekly basis, Participant values its FTR positions and engages in a probabilistic assessment of the hypothetical risk of such positions using analytically based methodologies, predicated on the use of industry accepted valuation methodologies.___________

Such valuation and risk assessment functions are performed either by persons within Participant's organization independent from those trading in PJM's FTR markets or by an outside firm qualified and with expertise in this area of risk management.___________

Having valued its FTR positions and quantified their hypothetical risks, Participant applies its written policies, procedures and controls to limit its risks using industry recognized practices, such as value-at-risk limitations, concentration limits, or other controls designed to prevent Participant from purposefully or unintentionally taking on risk that is not commensurate or proportional to Participant's financial capability to manage such risk.___________

Exceptions to Participant's written risk policies, procedures and controls applicable to Participant's FTR positions are documented and explain a reasoned basis for the granting of any exception.___________

~~[1] As used in this representation, the term "appropriate" as used with respect to training means training that is (i) comparable to generally accepted practices in the energy trading industry, and (ii) commensurate and proportional in sophistication, scope and frequency to the volume of transactions and the nature and extent of the risk taken by the participant.~~

~~[2] As used in this representation, a Participant's "independent risk management function" can include appropriate corporate persons or bodies that are independent of the Participant's trading functions, such as a risk management committee, a risk officer, a Participant's board or board committee, or a board or committee of the Participant's parent company.~~

~~Participant has provided to PJMSettlement, in accordance with Tariff, Attachment Q, section I.B, a copy of its current governing risk management policies, procedures and controls applicable to its FTR trading activities.___________~~

~~If the risk management policies, procedures and controls applicable to Participant's FTR trading activities submitted to PJMSettlement were submitted prior to the current certification, Participant certifies that no substantive changes have been made to such policies, procedures and controls applicable to its FTR trading activities since such submission.___________~~

4. Participant has appropriate personnel resources, operating procedures and technical abilities to promptly and effectively respond to all PJM and PJMSettlement communications and directions.___________

5. Participant has demonstrated compliance with the Minimum Capitalization criteria set forth in Tariff, Attachment Q that are applicable to ~~the~~ any PJM Market~~(s)~~ in which Participant transacts, and is not aware of any change having occurred or being imminent that would invalidate such compliance.___________

6. All Participants must certify and initial in at least one of the four sections below:

   a. I certify that Participant qualifies as an "appropriate person" as that term is defined under section 4(c)(3), or successor provision, of the Commodity Exchange Act or an "eligible contract participant" as that term is defined under section 1a(18), or successor provision, of the Commodity Exchange Act. I certify that Participant will cease transacting in any PJM~~'s~~ Markets and notify PJM and PJMSettlement immediately if Participant no longer qualifies as an "appropriate person" or "eligible contract participant."___________

   If providing audited financial statements, which shall be in US GAAP format or any other format acceptable to PJM, to support Participant's certification of qualification as an "appropriate person:"

   I certify, to the best of my knowledge and belief, that the audited financial statements provided to PJM and/or PJMSettlement present fairly, pursuant to such disclosures in such audited financial statements, the financial position of Participant as of the date of those audited financial statements. Further, I certify that Participant continues to maintain the minimum $1 million total net worth and/or $5 million total asset levels reflected in these audited financial statements as of the date of this certification. I acknowledge that both PJM and PJMSettlement are relying upon my certification to maintain compliance with federal regulatory requirements.___________

   If not providing audited financial statements to support Participant's certification of qualification as an "appropriate person," Participant certifies that they qualify as an "appropriate person" under one of the entities defined in section 4(c)(3)(A)-(J) of the Commodities Exchange Act. __________

If providing audited financial statements, which shall be in US GAAP format or any other format acceptable to PJM, to support Participant's certification of qualification as an "eligible contract participant:"

> I certify, to the best of my knowledge and belief, that the audited financial statements provided to PJM and/or PJMSettlement present fairly, pursuant to such disclosures in such audited financial statements, the financial position of Participant as of the date of those audited financial statements. Further, I certify that Participant continues to maintain the minimum $1 million total net worth and/or $10 million total asset levels reflected in these audited financial statements as of the date of this certification. I acknowledge that both PJM and PJMSettlement are relying upon my certification to maintain compliance with federal regulatory requirements.__________
>
> If not providing audited financial statements to support Participant's certification of qualification as an "eligible contract participant," Participant certifies that they qualify as an "eligible contract participant" under one of the entities defined in section 1a(18)(A) of the Commodities Exchange Act. __________

b. I certify that Participant has provided an unlimited Corporate Guaranty in a form acceptable to PJM as described in Tariff, Attachment Q, section III.~~C~~D from an issuer that has at least $1 million of total net worth or $5 million of total assets per Participant for which the issuer has issued an unlimited Corporate Guaranty. I also certify, to the best of my knowledge and belief, that the audited financial statements provided to PJM and/or PJMSettlement present fairly, pursuant to such disclosures in such audited financial statements, the financial position of the issuer as of the date of those audited financial statements. Further, I certify that Participant will cease transacting PJM's Markets and notify PJM and PJMSettlement immediately if issuer of the unlimited Corporate Guaranty for Participant no longer has at least $1 million of total net worth or $5 million of total assets per Participant for which the issuer has issued an unlimited Corporate Guaranty.__________

   I certify that the issuer of the unlimited Corporate Guaranty to Participant continues to have at least $1 million of total net worth or $5 million of total assets per Participant for which the issuer has issued an unlimited Corporate Guaranty. I acknowledge that PJM and PJMSettlement are relying upon my certifications to maintain compliance with federal regulatory requirements.__________

c. I certify that Participant fulfills the eligibility requirements of the Commodity Futures Trading Commission exemption order (78 F.R. 19880 – April 2, 2013) by being in the business of at least one of the following in the PJM Region as indicated below (initial those applicable):

1. Generating electric energy, including Participants that resell physical energy acquired from an entity generating electric energy:___________

2. Transmitting electric energy:___________

3. Distributing electric energy delivered under Point-to-Point or Network Integration Transmission Service, including scheduled import, export and wheel through transactions:___________

4. Other electric energy services that are necessary to support the reliable operation of the transmission system:___________

   Description only if c(4) is initialed:

   ____

Further, I certify that Participant will cease transacting in ~~the~~ any PJM Markets and notify PJM and PJMSettlement immediately if Participant no longer performs at least one of the functions noted above in the PJM Region. I acknowledge that PJM and PJMSettlement are relying on my certification to maintain compliance with federal energy regulatory requirements.___________

d. I certify that Participant has provided a L~~l~~etter of C~~c~~redit of $5 million or more to PJM or PJMSettlement in a form acceptable to PJM and/or PJMSettlement as described in Tariff, Attachment Q, section V~~III~~.B that the Participant acknowledges cannot be utilized to meet its credit requirements to PJM and PJMSettlement. I acknowledge that PJM and PJMSettlement are relying on the provision of this letter of credit and my certification to maintain compliance with federal regulatory requirements.___________

7. I acknowledge that I have read and understood the provisions of Tariff, Attachment Q applicable to Participant's business in ~~the~~ any PJM Markets, including those provisions describing PJM's M~~m~~inimum P~~p~~articipation R~~r~~equirements and the enforcement actions available to PJM and PJMSettlement of a Participant not satisfying those requirements. I acknowledge that the information provided herein is true and accurate to the best of my belief and knowledge after due investigation. In addition, by signing this certification, I acknowledge the potential consequences of making incomplete or false statements in this Certification.___________

Date: ______________________________ ____________________________________

Participant (Signature)

Print Name: ____________________________________

Title: ____________________

4. GENERAL PROVISIONS

4.1 Capacity Market Sellers

Only Capacity Market Sellers shall be eligible to submit Sell Offers into the Base Residual Auction and Incremental Auctions. Capacity Market Sellers shall comply with the terms and conditions of all Sell Offers, as established by the Office of the Interconnection in accordance with this Attachment DD, Tariff, Attachment M, Tariff, Attachment M - Appendix and the Operating Agreement.

4.2 Capacity Market Buyers

Only Capacity Market Buyers shall be eligible to submit Buy Bids into an Incremental Auction. Capacity Market Buyers shall comply with the terms and conditions of all Buy Bids, as established by the Office of the Interconnection in accordance with this Attachment DD, Tariff, Attachment M, Tariff, Attachment M - Appendix and the Operating Agreement.

4.3 Agents

A Capacity Market Seller may participate in a Base Residual Auction or Incremental Auction through an Agent, provided that the Capacity Market Seller informs the Office of the Interconnection in advance in writing of the appointment and authority of such Agent. A Capacity Market Buyer may participate in an Incremental Auction through an Agent, provided that the Capacity Market Buyer informs the Office of the Interconnection in advance in writing of the appointment and authority of such Agent. A Capacity Market Buyer or Capacity Market Seller participating in such an auction through an Agent shall be bound by all of the acts or representations of such Agent with respect to transactions in such auction. Any written instrument establishing the authority of such Agent shall provide that any such Agent shall comply with the requirements of this Attachment DD and the Operating Agreement.

4.4 General Obligations of Capacity Market Buyers and Capacity Market Sellers

Each Capacity Market Buyer and Capacity Market Seller shall comply with all laws and regulations applicable to the operation of the Base Residual and Incremental Auctions and the use of these auctions shall comply with all applicable provisions of this Attachment DD, Tariff, Attachment M, Tariff, Attachment M - Appendix, Tariff, Attachment Q, the Operating Agreement, and the Reliability Assurance Agreement, Tariff, Attachment K-Appendix, section 1.4 and the parallel provisions of Operating Agreement, Schedule 1, section 1.4, and all procedures and requirements for the conduct of the Base Residual and Incremental Auctions and the PJM Region established by the Office of the Interconnection in accordance with the foregoing.

4.5 Confidentiality

The following information submitted to the Office of the Interconnection in connection with any Base Residual Auction, Incremental Auction, Reliability Backstop Auction, or Capacity

Performance Transition Incremental Auction shall be deemed confidential information for purposes of Operating Agreement, s~~S~~ection 18.17~~ of the Operating Agreement~~, Tariff, Attachment M and Tariff, Attachment M - Appendix: (i) the terms and conditions of the Sell Offers and Buy Bids; and (ii) the terms and conditions of any bilateral transactions for Capacity Resources.

4.6 Bilateral Capacity Transactions

(a) Unit-Specific Internal Capacity Bilateral Transaction Transferring All Rights and Obligations ("Section 4.6(a) Bilateral").

(i) Market Participants may enter into unit-specific internal bilateral capacity contracts for the purchase and sale of title and rights to a specified amount of installed capacity from a specific generating unit or units. Such bilateral capacity contracts shall be for the transfer of rights to capacity to and from a Market Participant and shall be reported to the Office of the Interconnection in accordance with this Attachment DD and the Office of the Interconnection's rules related to its eRPM tools.

(ii) For purposes of clarity, with respect to all Section 4.6(a) Bilateral transactions, the rights to, and obligations regarding, the capacity that is the subject of the transaction shall pass to the buyer under the contract at the location of the unit and further transactions and rights and obligations associated with such capacity shall be the responsibility of the buyer under the contract. Such obligations include any charges, including penalty charges, relating to the capacity under this Attachment DD. In no event shall the purchase and sale of the rights to capacity pursuant to a Section 4.6(a) Bilateral constitute a transaction with the Office of the Interconnection or PJMSettlement or a transaction in any auction under this Attachment DD.

(iii) All payments and related charges associated with a Section 4.6(a) Bilateral shall be arranged between the parties to the transaction and shall not be billed or settled by the Office of the Interconnection or PJMSettlement. The Office of the Interconnection, PJMSettlement, and the Members will not assume financial responsibility for the failure of a party to perform obligations owed to the other party under a Section 4.6(a) Bilateral reported to the Office of the Interconnection under this Attachment DD.

(iv) With respect to capacity that is the subject of a Section 4.6(a) Bilateral that has cleared an auction under this Attachment DD prior to a transfer, the buyer of the cleared capacity shall be considered in the Delivery Year the party to a transaction with PJMSettlement as Counterparty for the cleared capacity at the Capacity Resource Clearing Price published for the applicable auction.

(v) A buyer under a Section 4.6(a) Bilateral contract shall pay any penalties or charges associated with the capacity transferred under the contract. To the extent the capacity that is the subject of a Section 4.6(a) Bilateral contract has cleared an auction under this Attachment DD prior to a transfer, then the seller under the contract also shall guarantee and indemnify the Office of the Interconnection, PJMSettlement, and the Members for the buyer's obligation to pay any penalties or charges associated with the capacity and for which payment is not made to PJMSettlement by the buyer as determined by the Office of the Interconnection. All claims regarding a default of a buyer to a seller under a Section 4.6(a) Bilateral contract shall be resolved solely between the buyer and the seller.

(vi) To the extent the capacity that is the subject of the Section 4.6(a) Bilateral transaction already has cleared an auction under this Attachment DD, such bilateral capacity transactions shall be subject to the prior consent of the Office of the Interconnection and its determination that sufficient credit is in place for the buyer with respect to the credit exposure associated with such obligations.

(b) Bilateral Capacity Transaction Transferring Title to Capacity But Not Transferring Performance Obligations ("Section 4.6(b) Bilateral").

(i) Market Participants may enter into bilateral capacity transactions for the purchase and sale of a specified megawatt quantity of capacity that has cleared an auction pursuant to this Attachment DD. The parties to a Section 4.6(b) Bilateral transaction shall identify (1) each unit from which the transferred megawatts are being sold, and (2) the auction in which the transferred megawatts cleared. Such bilateral capacity transactions shall transfer title and all rights with respect to capacity and shall be reported to the Office of the Interconnection on an annual basis prior to each Delivery Year in accordance with this Attachment DD and pursuant to the Office of the Interconnection's rules related to its eRPM tools. Reported transactions with respect to a unit will be accepted by the Office of the Interconnection only to the extent that the total of all bilateral sales from the reported unit (including Section 4.6(a) Bilaterals, Section 4.6(b) Bilaterals, and Locational UCAP bilaterals) do not exceed the unit's cleared unforced capacity.

(ii) For purposes of clarity, with respect to all Section 4.6(b) Bilateral transactions, the rights to the capacity shall pass to the buyer at the location of the unit(s) specified in the reported transaction. In no event shall the purchase and sale of the rights to capacity pursuant to a Section 4.6(b) Bilateral constitute a transaction with PJMSettlement or the Office of the Interconnection or a transaction in any auction under this Attachment DD.

(iii) With respect to a Section 4.6(b) Bilateral, the buyer of the cleared capacity shall be considered in the Delivery Year the party to a transaction with PJMSettlement as Coutnerparty for the cleared capacity at the Capacity Resource Clearing Price published for the applicable auction; provided, however, with respect to all Section 4.6(b) Bilateral transactions, such transactions do not effect a novation of the seller's obligations to make RPM capacity available to PJM pursuant to the terms and conditions originally agreed to by the seller; provided further, however, the buyer shall indemnify PJMSettlement, the LLC, and the Members for any failure by a seller under a Section 4.6(b) Bilateral to meet any resulting obligations, including the obligation to pay deficiency penalties and charges owed to PJMSettlement, associated with the capacity.

(iv) All payments and related charges associated with a Section 4.6(b) Bilateral shall be arranged between the parties to the contract and shall not be billed or settled by the Office of the Interconnection or PJMSettlement. The Office of the Interconnection, PJMSettlement, and the Members will not assume financial responsibility for the failure of a party to perform obligations owed to the other party under a Section 4.6(b) Bilateral capacity contract reported to the Office of the Interconnection under this Attachment DD.

(v) All claims regarding a default of a buyer to a seller under a Section 4.6(b) Bilateral shall be resolved solely between the buyer and the seller.

(c) Locational UCAP Bilateral Transactions Between Capacity Sellers.

(i) Market Participants may enter into Locational UCAP bilateral transactions which shall be reported to the Office of the Interconnection in accordance with this Attachment DD and the LLC's rules related to its eRPM tools.

(ii) For purposes of clarity, with respect to all Locational UCAP bilateral transactions, the rights to the Locational UCAP that are the subject of the Locational UCAP bilateral transaction shall pass to the buyer under the Locational UCAP bilateral contract subject to the provisions of Tariff, Attachment DD, section 5.3A. In no event, shall the purchase and sale of Locational UCAP pursuant to a Locational UCAP bilateral transaction constitute a transaction with the Office of the Interconnection or PJMSettlement, or a transaction in any auction under this Attachment DD.

(iii) A Locational UCAP Seller shall have the obligation to make the capacity available to PJM in the same manner as capacity that has cleared an auction under this Attachment DD and the Locational UCAP Seller shall have all obligations for charges and penalties associated with the capacity that is the subject of the Locational UCAP bilateral contract; provided, however, the buyer shall indemnify PJMSettlement, the LLC, and the Members for any failure by a seller to meet any resulting obligations, including the obligation to pay deficiency penalties and charges owed to PJMSettlement, associated with the capacity. All claims regarding a default of a buyer to a seller under a Locational UCAP bilateral contract shall be resolved solely between the buyer and the seller.

(iv) All payments and related charges for the Locational UCAP associated with a Locational UCAP bilateral contract shall be arranged between the parties to such bilateral contract and shall not be billed or settled by the Office of the Interconnection or PJMSettlement. The LLC, PJMSettlement, and the Members will not assume financial responsibility for the failure of a party to perform obligations owed to the other party under a Locational UCAP bilateral contract reported to the Office of the Interconnection under this Attachment DD.

(d) The bilateral transactions provided for in this section 4.6 shall be for the physical transfer of capacity to or from a Market Participant and shall be reported to and coordinated with the Office of the Interconnection in accordance with this Attachment DD and pursuant to the Office of the Interconnection's rules relating to its eRPM tools. Bilateral transactions that do not contemplate the physical transfer of capacity to and from a Market Participant are not subject to this Attachment DD and shall not be reported to and coordinated with the Office of the Interconnection.

5.5 Eligibility for Participation in RPM Auctions

A Capacity Market Seller may submit a Sell Offer for a Capacity Resource in a Base Residual Auction, Incremental Auction, or Capacity Performance Transition Incremental Auction only if such seller owns or has the contractual authority to control the output or load reduction capability of such resource and has not transferred such authority to another entity prior to submitting such Sell Offer, and has satisfied all of the applicable requirements of Tariff, Attachment Q. Capacity Resources must satisfy the capability and deliverability requirements of Reliability Assurance Agreement, Schedule~~s~~ 9 and ~~10 of the PJM~~ Reliability Assurance Agreement, Schedule 10, the requirements for Demand Resources or Energy Efficiency Resources in Tariff, Attachment DD-1 and Reliability Assurance Agreement, Schedule 6~~ of the Reliability Assurance Agreement~~, as applicable, and, for the 2018/2019 Delivery Year and subsequent Delivery Years, the criteria in section 5.5A below.

5.6 Sell Offers

Sell Offers shall be submitted or withdrawn via the internet site designated by the Office of the Interconnection, under the procedures and time schedule set forth in the PJM Manuals.

5.6.1 Specifications

A Sell Offer shall state quantities in increments of 0.1 megawatts and shall specify, as appropriate:

a) Identification of the Generation Capacity Resource, Demand Resource, Capacity Storage Resource or Energy Efficiency Resource on which such Sell Offer is based;

b) Minimum and maximum megawatt quantity of installed capacity that the Capacity Market Seller is willing to offer (notwithstanding such specification, the product offered shall be Unforced Capacity), or designate as Self-Supply, from a Generation Capacity Resource;

i) Price, in dollars and cents per megawatt-day, that will be accepted by the Capacity Market Seller for the megawatt quantity of Unforced Capacity offered from such Generation Capacity Resource.

ii) The Sell Offer may take the form of offer segments with varying price-quantity pairs for varying output levels from the underlying resource, but may not take the form of an offer curve with nonzero slope.

c) EFORd of each Generation Capacity Resource offered.

i) If a Capacity Market Seller is offering such resource in a Base Residual Auction, First Incremental Auction, Second Incremental Auction, or Conditional Incremental Auction occurring before the Third Incremental Auction, the Capacity Market Seller shall specify the EFORd to apply to the offer.

ii) If a Capacity Market Seller is committing the resource as Self-Supply, the Capacity Market Seller shall specify the EFORd to apply to the commitment.

iii) The EFORd applied to the Third Incremental Auction will be the final EFORd established by the Office of the Interconnection six (6) months prior to the Delivery Year, based on the actual EFORd in the PJM Region during the 12-month period ending September 30 that last precedes such Delivery Year.

d) The Nominated Demand Resource Value for each Demand Resource offered and the Nominated Energy Efficiency Value for each Energy Efficiency Resource offered. The Office of the Interconnection shall, in both cases, convert such value to an Unforced Capacity basis by multiplying such value by the DR Factor (for Delivery Years through May 31, 2018) times the Forecast Pool Requirement. Demand Resources shall specify the LDA in which the Demand Resource is located, including the location of such resource within any Zone that includes more than one LDA as identified on Reliability Assurance Agreement, Schedule 10.1 ~~of the RAA~~.

e) For Delivery Years through May 31, 2018, a Demand Resource with the potential to qualify as two or more of a Limited Demand Resource, Extended Summer Demand Resource or Annual Demand Resource may submit separate but coupled Sell Offers for each Demand Resource type for which it qualifies at different prices and the auction clearing algorithm will select the Sell Offer that yields the least-cost solution. For such coupled Demand Resource offers, the offer price of an Annual Demand Resource offer must be at least $.01 per MW-day greater than the offer price of a coupled Extended Summer Demand Resource offer and the offer price of a Extended Summer Demand Resource offer must be at least $.01 per MW-day greater than the offer price of a coupled Limited Demand Resource offer.

f) For a Qualifying Transmission Upgrade, the Sell Offer shall identify such upgrade, and the Office of the Interconnection shall determine and certify the increase in CETL provided by such upgrade. The Capacity Market Seller may offer the upgrade with an associated increase in CETL to an LDA in accordance with such certification, including an offer price that will be accepted by the Capacity Market Seller, stated in dollars and cents per megawatt-day as a price difference between a Capacity Resource located outside such an LDA and a Capacity Resource located inside such LDA; and the increase in CETL into such LDA to be provided by such Qualifying Transmission Upgrade, as certified by the Office of the Interconnection.

g) For the 2018/2019 and 2019/2020 Delivery Years, each Capacity Market Seller owning or controlling a resource that qualifies as both a Base Capacity Resource and a Capacity Performance Resource may submit separate but coupled Sell Offers for such resource as a Base Capacity Resource and as a Capacity Performance Resource, at different prices, and the auction clearing algorithm will select the Sell Offer that yields the least-cost solution. Submission of a coupled Base Capacity Resource Sell Offer shall be mandatory for any Capacity Performance Resource Sell Offer that exceeds a Sell Offer Price equal to the applicable Net Cost of New Entry times the Balancing Ratio as provided for in Tariff, Attachment DD, section 6.4. For such coupled Sell Offers, the offer price of a Capacity Performance Resource offer must be at least $.01 per MW-day greater than the offer price of a coupled Base Capacity Resource offer.

(h) For the 2018/2019 Delivery Year and subsequent Delivery Years, a Capacity Market Seller that owns or controls one or more Capacity Storage Resources, Intermittent Resources, Demand Resources, or Energy Efficiency Resources may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with their average expected output during peak-hour periods. Alternatively, for the 2018/2019 Delivery Year and subsequent Delivery Years, a Capacity Market Seller that owns or controls one or more Capacity Storage Resources, Intermittent Resources, Demand Resources, Energy Efficiency Resources, or Environmentally-Limited Resources may submit a Sell Offer which represents the aggregated Unforced Capacity value of such resources, where such Sell Offer shall be considered to be located in the smallest modeled LDA common to the aggregated resources. Such aggregated resources shall be owned by or under contract to the Capacity Market Seller, including all such resources obtained through bilateral contract and reported to the Office of the Interconnection in accordance with the Office of the Interconnection's rules related to its eRPM tools. For the 2018/2019 and 2019/2020 Delivery Years, any such offer may be submitted as Capacity

Performance Resource, Base Capacity Resource, or as a coupled offer for Capacity Performance Resource and Base Capacity Resource, provided that, for any such coupled Sell Offers, the offer price of a Capacity Performance Resource offer must be at least $.01 per MW-day greater than the offer price of a coupled Base Capacity Resource offer. For the 2020/2021 Delivery Year and subsequent Delivery Years, any such offer must be submitted as a Capacity Performance Resource.

(i) For the 2020/2021 Delivery Year and subsequent Delivery Years, a Capacity Market Seller that owns or controls a resource that qualifies as a Summer-Period Capacity Performance Resource may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during peak-hour periods, and may submit a separate Sell Offer as a Summer-Period Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during summer peak-hour periods, provided the total Sell Offer MW quantity submitted as both a Capacity Performance Resource and a Summer-Period Capacity Performance Resource does not exceed the Unforced Capacity value of the resource. For the 2020/2021 Delivery Year and subsequent Delivery Years, a Capacity Market Seller that owns or controls a resource that qualifies as a Winter-Period Capacity Performance Resource may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during peak-hour periods, and may submit a separate Sell Offer as a Winter-Period Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during winter peak-hour periods, provided the total Sell Offer MW quantity submitted as both a Capacity Performance Resource and a Winter-Period Capacity Performance Resource does not exceed the Unforced Capacity value of the resource. Each segment of a Seasonal Capacity Performance Resource Sell Offer must be submitted as a flexible Sell Offer segment with the minimum MW quantity offered set to zero.

5.6.2 Compliance with PJM Credit Risk Management Policy

Capacity Market Sellers shall comply with the provisions of the PJM Credit Risk Management Policy as set forth in Tariff, Attachment Q ~~to this Tariff~~, including the provisions specific to the Reliability Pricing Model, prior to submission of Sell Offers in any Reliability Pricing Model Auction. A Capacity Market Seller desiring to submit a Credit-Limited Offer shall specify in its Sell Offer the maximum auction credit requirement, in dollars, and the maximum amount of Unforced Capacity, in megawatts, applicable to its Sell Offer.

5.6.3 [reserved]

5.6.4 Qualifying Transmission Upgrades

A Qualifying Transmission Upgrade may not be the subject of any Sell Offer in a Base Residual Auction unless it has been approved by the Office of the Interconnection, including certification of the increase in Import Capability to be provided by such Qualifying Transmission Upgrade, no later than 45 days prior to such Base Residual Auction. No such approval shall be granted unless, at a minimum, a Facilities Study Agreement has been executed with respect to such upgrade, and such upgrade conforms to all applicable standards of the Regional Transmission Expansion Plan process.

5.6.5 Market-based Sell Offers

Subject to Tariff, Attachment DD, section 6, a Market Seller authorized by FERC to sell electric generating capacity at market-based prices, or that is not required to have such authorization, may submit Sell Offers that specify market-based prices in any Base Residual Auction or Incremental Auction.

5.6.6 Availability of Capacity Resources for Sale

(a) The Office of the Interconnection shall determine the quantity of megawatts of available installed capacity that each Capacity Market Seller must offer in any RPM Auction pursuant to Tariff, Attachment DD, s~~S~~ection 6.6~~ of Attachment DD~~, through verification of the availability of megawatts of installed capacity from: (i) all Generation Capacity Resources owned by or under contract to the Capacity Market Seller, including all Generation Capacity Resources obtained through bilateral contract; (ii) the results of prior Reliability Pricing Model Auctions, if any, for such Delivery Year (including consideration of any restriction imposed as a consequence of a prior failure to offer); and (iii) such other information as may be available to the Office of the Interconnection. The Office of the Interconnection shall reject Sell Offers or portions of Sell Offers for Capacity Resources in excess of the quantity of installed capacity from such Capacity Market Seller's Capacity Resource that it determines to be available for sale.

(b) The Office of the Interconnection shall determine the quantity of installed capacity available for sale in a Base Residual Auction or Incremental Auction as of the beginning of the period during which Buy Bids and Sell Offers are accepted for such auction, as applicable, in accordance with the time schedule set forth in the PJM Manuals. Removal of a resource from Capacity Resource status shall not be reflected in the determination of available installed capacity unless the associated unit-specific bilateral transaction is approved, the designation of such resource (or portion thereof) as a network resource for the external load is demonstrated to the Office of the Interconnection, or equivalent evidence of a firm external sale is provided prior to the deadline established therefor. The determination of available installed capacity shall also take into account, as they apply in proportion to the share of each resource owned or controlled by a Capacity Market Seller, any approved capacity modifications, and existing capacity commitments established in a prior RPM Auction, an FRR Capacity Plan, Locational UCAP transactions and/or replacement capacity transactions under this Attachment DD. To enable the Office of the Interconnection to make this determination, no bilateral transactions for Capacity Resources applicable to the period covered by an auction will be processed from the beginning of the period for submission of Sell Offers and Buy Bids, as appropriate, for that auction until completion of the clearing determination for such auction. Processing of such bilateral transactions will reconvene once clearing for that auction is completed. A Generation Capacity Resource located in the PJM Region shall not be removed from Capacity Resource status to the extent the resource is committed to service of PJM loads as a result of an RPM Auction, FRR Capacity Plan, Locational UCAP transaction and/or by designation as a replacement resource under this Attachment DD.

(c) In order for a bilateral transaction for the purchase and sale of a Capacity Resource to be processed by the Office of the Interconnection, both parties to the transaction must notify the Office of the Interconnection of the transfer of the Capacity Resource from the seller to the buyer in accordance with procedures established by the Office of the Interconnection and set forth in the PJM Manuals. If a material change with respect to any of the prerequisites for the application of this ~~S~~section 5.6.6 to the Generation Capacity Resource occurs, the Capacity Resource Owner shall immediately notify the Market Monitoring Unit and the Office of the Interconnection.

Attachment B

Revisions to the
PJM Open Access Transmission Tariff

(Clean Format)

Definitions – A - B

Abnormal Condition:

"Abnormal Condition" shall mean any condition on the Interconnection Facilities which, determined in accordance with Good Utility Practice, is: (i) outside normal operating parameters such that facilities are operating outside their normal ratings or that reasonable operating limits have been exceeded; and (ii) could reasonably be expected to materially and adversely affect the safe and reliable operation of the Interconnection Facilities; but which, in any case, could reasonably be expected to result in an Emergency Condition. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not, standing alone, constitute an Abnormal Condition.

Acceleration Request:

"Acceleration Request" shall mean a request pursuant to Operating Agreement, Schedule 1, section 1.9.4A, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.9.4A, to accelerate or reschedule a transmission outage scheduled pursuant to Operating Agreement, Schedule 1, section 1.9.2 or Operating Agreement, Schedule 1, section 1.9.4, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.9.2 or Tariff, Attachment K-Appendix, section 1.9.4.

Additional Day-ahead Scheduling Reserves Requirement:

"Additional Day-ahead Scheduling Reserves Requirement" shall mean the portion of the Day-ahead Scheduling Reserves Requirement that is required in addition to the Base Day-ahead Scheduling Reserves Requirement to ensure adequate resources are procured to meet real-time load and operational needs, as specified in the PJM Manuals.

Affected System:

"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.

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.

Affiliate:

"Affiliate" shall mean any two or more entities, one of which Controls the other or that are under common Control. "Control," as that term is used in this definition, shall mean the possession, directly or indirectly, of the power to direct the management or policies of an entity. Ownership of publicly-traded equity securities of another entity shall not result in Control or affiliation for purposes of the Tariff or Operating Agreement if the securities are held as an investment, the holder owns (in its name or via intermediaries) less than 10 percent (10%) of the outstanding securities of the entity, the holder does not have representation on the entity's board of directors (or equivalent managing entity) or vice versa, and the holder does not in fact exercise influence over day-to-day management decisions. Unless the contrary is demonstrated to the satisfaction of the Members Committee, Control shall be presumed to arise from the ownership of or the power to vote, directly or indirectly, ten percent or more of the voting securities of such entity.

Agreements:

"Agreements" shall mean the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C., the PJM Open Access Transmission Tariff, the Reliability Assurance Agreement, and/or other agreements between PJM Interconnection, L.L.C. and its Members.

Ancillary Services:

"Ancillary Services" shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.

Annual Demand Resource:

"Annual Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Annual Energy Efficiency Resource:

"Annual Energy Efficiency Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Annual Resource:

"Annual Resource" shall mean a Generation Capacity Resource, an Annual Energy Efficiency Resource or an Annual Demand Resource.

Annual Resource Price Adder:

"Annual Resource Price Adder" shall mean, for Delivery Years starting June 1, 2014 and ending May 31, 2017, an addition to the marginal value of Unforced Capacity and the Extended Summer Resource Price Adder as necessary to reflect the price of Annual Resources required to meet the applicable Minimum Annual Resource Requirement.

Annual Revenue Rate:

"Annual Revenue Rate" shall mean the rate employed to assess a compliance penalty charge on a

Curtailment Service Provider under Tariff, Attachment DD, section 11.

Annual Transmission Costs:

"Annual Transmission Costs" shall mean the total annual cost of the Transmission System for purposes of Network Integration Transmission Service shall be the amount specified in Attachment H for each Zone until amended by the applicable Transmission Owner or modified by the Commission.

Applicable Laws and Regulations:

"Applicable Laws and Regulations" shall mean all duly promulgated applicable federal, State and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority having jurisdiction over the relevant parties, their respective facilities, and/or the respective services they provide.

Applicable Regional Entity:

"Applicable Regional Entity" shall mean the Regional Entity for the region in which a Network Customer, Transmission Customer, New Service Customer, or Transmission Owner operates.

Applicable Standards:

"Applicable Standards" shall mean the requirements and guidelines of NERC, the Applicable Regional Entity, and the Control Area in which the Customer Facility is electrically located; the PJM Manuals; and Applicable Technical Requirements and Standards.

Applicable Technical Requirements and Standards:

"Applicable Technical Requirements and Standards" shall mean those certain technical requirements and standards applicable to interconnections of generation and/or transmission facilities with the facilities of an Interconnected Transmission Owner or, as the case may be and to the extent applicable, of an Electric Distributor, as published by Transmission Provider in a PJM Manual provided, however, that, with respect to any generation facilities with maximum generating capacity of 2 MW or less (synchronous) or 5 MW or less (inverter-based) for which the Interconnection Customer executes a Construction Service Agreement or Interconnection Service Agreement on or after March 19, 2005, "Applicable Technical Requirements and Standards" shall refer to the "PJM Small Generator Interconnection Applicable Technical Requirements and Standards." All Applicable Technical Requirements and Standards shall be publicly available through postings on Transmission Provider's internet website.

Applicant:

"Applicant" shall mean an entity desiring to become a PJM Member, become a Market Participant, engage in market activities, or to take Transmission Service that has submitted the

PJMSettlement credit application, PJMSettlement credit agreement and other required submittals as set forth in Tariff, Attachment Q.

Application:

“Application” shall mean a request by an Eligible Customer for transmission service pursuant to the provisions of the Tariff.

Attachment Facilities:

“Attachment Facilities” shall mean the facilities necessary to physically connect a Customer Facility to the Transmission System or interconnected distribution facilities.

Attachment H:

“Attachment H” shall refer collectively to the Attachments to the PJM Tariff with the prefix “H” that set forth, among other things, the Annual Transmission Rates for Network Integration Transmission Service in the PJM Zones.

Auction Revenue Rights:

“Auction Revenue Rights” or “ARRs” shall mean the right to receive the revenue from the Financial Transmission Right auction, as further described in Operating Agreement, Schedule 1, section 7.4, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.

Auction Revenue Rights Credits:

“Auction Revenue Rights Credits” shall mean the allocated share of total FTR auction revenues or costs credited to each holder of Auction Revenue Rights, calculated and allocated as specified in Operating Agreement, Schedule 1, section 7.4.3, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.3.

Authorized Government Agency:

“Authorized Government Agency” means a regulatory body or government agency, with jurisdiction over PJM, the PJM Market, or any entity doing business in the PJM Market, including, but not limited to, the Commission, State Commissions, and state and federal attorneys general.

Avoidable Cost Rate:

“Avoidable Cost Rate” shall mean a component of the Market Seller Offer Cap calculated in accordance with Tariff, Attachment DD, section 6.

Balancing Congestion Charges:

"Balancing Congestion Charges" shall be equal to the sum of congestion charges collected from Market Participants that are purchasing energy in the Real-time Energy Market minus [the sum of congestion charges paid to Market Participants that are selling energy in the Real-time Energy Market plus any congestion charges calculated pursuant to the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 38), plus any congestion charges calculated pursuant to the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45), plus any congestion charges calculated pursuant to agreements between the Office of the Interconnection and other entities, plus any charges or credits calculated pursuant to Operating Agreement, Schedule 1, section 3.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 3.8, as applicable)].

Balancing Ratio:

"Balancing Ratio" shall have the meaning provided in Tariff, Attachment DD, section 10A.

Base Capacity Demand Resource:

"Base Capacity Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Base Capacity Demand Resource Constraint:

"Base Capacity Demand Resource Constraint" for the PJM Region or an LDA, shall mean, for the 2018/2019 and 2019/2020 Delivery Years, the maximum Unforced Capacity amount, determined by PJM, of Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources that is consistent with the maintenance of reliability. As more fully set forth in the PJM Manuals, PJM calculates the Base Capacity Demand Resource Constraint for the PJM Region or an LDA, by first determining a reference annual loss of load expectation ("LOLE") assuming no Base Capacity Resources, including no Base Capacity Demand Resources or Base Capacity Energy Efficiency Resources. The calculation for the PJM Region uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast and iteratively shifting the load distributions to result in the Installed Reserve Margin established for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). The calculation for each relevant LDA uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). For the relevant LDA calculation, the weekly capacity distributions are adjusted to reflect the Capacity Emergency Transfer Limit for the Delivery Year in question.

For both the PJM Region and LDA analyses, PJM then models the commitment of varying amounts of Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources (displacing otherwise committed generation) as interruptible from June 1 through September 30 and unavailable the rest of the Delivery Year in question and calculates the LOLE at each DR and EE level. The Base Capacity Demand Resource Constraint is the combined amount of Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources, stated as a percentage of the unrestricted annual peak load, that produces no more than a five percent increase in the LOLE, compared to the reference value. The Base Capacity Demand Resource Constraint shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

Base Capacity Demand Resource Price Decrement:

"Base Capacity Demand Resource Price Decrement" shall mean, for the 2018/2019 and 2019/2020 Delivery Years, a difference between the clearing price for Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources and the clearing price for Base Capacity Resources and Capacity Performance Resources, representing the cost to procure additional Base Capacity Resources or Capacity Performance Resources out of merit order when the Base Capacity Demand Resource Constraint is binding.

Base Capacity Energy Efficiency Resource:

"Base Capacity Energy Efficiency Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Base Capacity Resource:

"Base Capacity Resource" shall mean a Capacity Resource as described in Tariff, Attachment DD, section 5.5A(b).

Base Capacity Resource Constraint:

"Base Capacity Resource Constraint" for the PJM Region or an LDA, shall mean, for the 2018/2019 and 2019/2020 Delivery Years, the maximum Unforced Capacity amount, determined by PJM, of Base Capacity Resources, including Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources, that is consistent with the maintenance of reliability. As more fully set forth in the PJM Manuals, PJM calculates the above Base Capacity Resource Constraint for the PJM Region or an LDA, by first determining a reference annual loss of load expectation ("LOLE") assuming no Base Capacity Resources, including no Base Capacity Demand Resources or Base Capacity Energy Efficiency Resources. The calculation for the PJM Region uses the weekly load distribution from the Installed Reserve Margin study for the Delivery Year in question (based on the most recent load forecast and iteratively shifting the load distributions to result in the Installed Reserve Margin established for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). The calculation for each relevant LDA uses a weekly load distribution (based on the Installed Reserve Margin study and the most recent load forecast for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). For the relevant LDA calculation, the weekly capacity distributions are adjusted to reflect the Capacity Emergency Transfer Limit for the Delivery Year in question. Additionally, for the PJM Region and relevant LDA calculation, the weekly capacity distributions are adjusted to reflect winter ratings.

For both the PJM Region and LDA analyses, PJM models the commitment of an amount of Base Capacity Demand Resources and Base Capacity Energy Efficiency Resources equal to the Base Capacity Demand Resource Constraint (displacing otherwise committed generation). PJM then models the commitment of varying amounts of Base Capacity Resources (displacing otherwise committed generation) as unavailable during the peak week of winter and available the rest of the Delivery Year in question and calculates the LOLE at each Base Capacity Resource level. The Base Capacity Resource Constraint is the combined amount of Base Capacity Demand Resources, Base Capacity Energy Efficiency Resources and Base Capacity Resources, stated as a percentage of the unrestricted annual peak load, that produces no more than a ten percent increase in the LOLE, compared to the reference value. The Base Capacity Resource Constraint shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [one minus the pool-wide average EFORd] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

Base Capacity Resource Price Decrement:

"Base Capacity Resource Price Decrement" shall mean, for the 2018/2019 and 2019/2020 Delivery Years, a difference between the clearing price for Base Capacity Resources and the clearing price for Capacity Performance Resources, representing the cost to procure additional Capacity Performance Resources out of merit order when the Base Capacity Resource Constraint is binding.

Base Day-ahead Scheduling Reserves Requirement:

"Base Day-ahead Scheduling Reserves Requirement" shall mean the thirty-minute reserve requirement for the PJM Region established consistent with the Applicable Standards, plus any additional thirty-minute reserves scheduled in response to an RTO-wide Hot or Cold Weather Alert or other reasons for conservative operations.

Base Load Generation Resource

"Base Load Generation Resource" shall mean a Generation Capacity Resource that operates at least 90 percent of the hours that it is available to operate, as determined by the Office of the Interconnection in accordance with the PJM Manuals.

Base Offer Segment:

"Base Offer Segment" shall mean a component of a Sell Offer based on an existing Generation

Capacity Resource, equal to the Unforced Capacity of such resource, as determined in accordance with the PJM Manuals. If the Sell Offers of multiple Market Sellers are based on a single Existing Generation Capacity Resource, the Base Offer Segments of such Market Sellers shall be determined pro rata based on their entitlements to Unforced Capacity from such resource.

Base Residual Auction:

"Base Residual Auction" shall mean the auction conducted three years prior to the start of the Delivery Year to secure commitments from Capacity Resources as necessary to satisfy any portion of the Unforced Capacity Obligation of the PJM Region not satisfied through Self-Supply.

Batch Load Demand Resource:

"Batch Load Demand Resource" shall mean a Demand Resource that has a cyclical production process such that at most times during the process it is consuming energy, but at consistent regular intervals, ordinarily for periods of less than ten minutes, it reduces its consumption of energy for its production processes to minimal or zero megawatts.

Behind The Meter Generation:

"Behind The Meter Generation" shall refer to a generation unit that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities has consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of the Interconnection); provided, however, that Behind The Meter Generation does not include (i) at any time, any portion of such generating unit's capacity that is designated as a Generation Capacity Resource; or (ii) in an hour, any portion of the output of such generating unit that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market.

Black Start Service:

"Black Start Service" shall mean the capability of generating units to start without an outside electrical supply or the demonstrated ability of a generating unit with a high operating factor (subject to Transmission Provider concurrence) to automatically remain operating at reduced levels when disconnected from the grid.

Border Yearly Charge:

"Border Yearly Charge" shall mean the yearly charge determined in accordance with Tariff, Schedule 7.

Breach:

"Breach" shall mean the failure of a party to perform or observe any material term or condition of Tariff, Part IV or Tariff, Part VI, or any agreement entered into thereunder as described in the relevant provisions of such agreement.

Breaching Party:

"Breaching Party" shall mean a party that is in Breach of Tariff, Part IV or Tariff, Part VI and/or an agreement entered into thereunder.

Business Day:

"Business Day" shall mean a day in which the Federal Reserve System is open for business and is not a scheduled PJM holiday.

Buy Bid:

"Buy Bid" shall mean a bid to buy Capacity Resources in any Incremental Auction.

Definitions – C-D

Canadian Guaranty:

"Canadian Guaranty" shall mean a Corporate Guaranty provided by an Affiliate of a Participant that is domiciled in Canada, and meets all of the provisions of Tariff, Attachment Q.

Cancellation Costs:

"Cancellation Costs" shall mean costs and liabilities incurred in connection with: (a) cancellation of supplier and contractor written orders and agreements entered into to design, construct and install Attachment Facilities, Direct Assignment Facilities and/or Customer-Funded Upgrades, and/or (b) completion of some or all of the required Attachment Facilities, Direct Assignment Facilities and/or Customer-Funded Upgrades, or specific unfinished portions and/or removal of any or all of such facilities which have been installed, to the extent required for the Transmission Provider and/or Transmission Owner(s) to perform their respective obligations under Tariff, Part IV and/or Tariff, Part VI.

Capacity:

"Capacity" shall mean the installed capacity requirement of the Reliability Assurance Agreement or similar such requirements as may be established.

Capacity Emergency Transfer Limit:

"Capacity Emergency Transfer Limit" or "CETL" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Emergency Transfer Objective:

"Capacity Emergency Transfer Objective" or "CETO" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Export Transmission Customer:

"Capacity Export Transmission Customer" shall mean a customer taking point to point transmission service under Tariff, Part II to export capacity from a generation resource located in the PJM Region that has qualified for an exception to the RPM must-offer requirement as described in Tariff, Attachment DD, section 6.6(g).

Capacity Import Limit:

"Capacity Import Limit" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Interconnection Rights:

"Capacity Interconnection Rights" shall mean the rights to input generation as a Generation Capacity Resource into the Transmission System at the Point of Interconnection where the generating facilities connect to the Transmission System.

Capacity Market Buyer:

"Capacity Market Buyer" shall mean a Member that submits bids to buy Capacity Resources in any Incremental Auction.

Capacity Market Seller:

"Capacity Market Seller" shall mean a Member that owns, or has the contractual authority to control the output or load reduction capability of, a Capacity Resource, that has not transferred such authority to another entity, and that offers such resource in the Base Residual Auction or an Incremental Auction.

Capacity Performance Resource:

"Capacity Performance Resource" shall mean a Capacity Resource as described in Tariff, Attachment DD, section 5.5A(a).

Capacity Performance Transition Incremental Auction:

"Capacity Performance Transition Incremental Auction" shall have the meaning specified in Tariff, Attachment DD, section 5.14D.

Capacity Resource:

"Capacity Resource" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Resource Clearing Price:

"Capacity Resource Clearing Price" shall mean the price calculated for a Capacity Resource that offered and cleared in a Base Residual Auction or Incremental Auction, in accordance with Tariff, Attachment DD, section 5.

Capacity Storage Resource:

"Capacity Storage Resource" shall mean any Energy Storage Resource that participates in the Reliability Pricing Model or is otherwise treated as capacity in PJM's markets such as through a Fixed Resource Requirement Capacity Plan.

Capacity Transfer Right:

"Capacity Transfer Right" shall mean a right, allocated to LSEs serving load in a Locational Deliverability Area, to receive payments, based on the transmission import capability into such Locational Deliverability Area, that offset, in whole or in part, the charges attributable to the Locational Price Adder, if any, included in the Zonal Capacity Price calculated for a Locational Delivery Area.

Capacity Transmission Injection Rights:

"Capacity Transmission Injection Rights" shall mean the rights to schedule energy and capacity deliveries at a Point of Interconnection of a Merchant Transmission Facility with the Transmission System. Capacity Transmission Injection Rights may be awarded only to a Merchant D.C. Transmission Facility and/or Controllable A.C. Merchant Transmission Facilities that connects the Transmission System to another control area. Deliveries scheduled using Capacity Transmission Injection Rights have rights similar to those under Firm Point-to-Point Transmission Service or, if coupled with a generating unit external to the PJM Region that satisfies all applicable criteria specified in the PJM Manuals, similar to Capacity Interconnection Rights.

Charge Economic Maximum Megawatts:

"Charge Economic Maximum Megawatts" shall mean the greatest magnitude of megawatt power consumption available for charging in economic dispatch by an Energy Storage Resource Model Participant in Continuous Mode or in Charge Mode. Charge Economic Maximum Megawatts shall be the Economic Minimum for an Energy Storage Resource in Charge Mode or in Continuous Mode.

Charge Economic Minimum Megawatts:

"Charge Economic Minimum Megawatts" shall mean the smallest magnitude of megawatt power consumption available for charging in economic dispatch by an Energy Storage Resource Model Participant in Charge Mode. Charge Economic Minimum Megawatts shall be the Economic Maximum for an Energy Storage Resource in Charge Mode.

Charge Mode:

"Charge Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that only includes negative megawatt quantities (i.e., the Energy Storage Resource Model Participant is only withdrawing megawatts from the grid).

Charge Ramp Rate:

"Charge Ramp Rate" shall mean the Ramping Capability of an Energy Storage Resource Model Participant in Charge Mode.

Cold/Warm/Hot Notification Time:

"Cold/Warm/Hot Notification Time" shall mean the time interval between PJM notification and the beginning of the start sequence for a generating unit that is currently in its cold/warm/hot temperature state. The start sequence may include steps such as any valve operation, starting feed water pumps, startup of auxiliary equipment, etc.

Cold/Warm/Hot Start-up Time:

For all generating units that are not combined cycle units, "Cold/Warm/Hot Start-up Time" shall mean the time interval, measured in hours, from the beginning of the start sequence to the point after generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero for a generating unit in its cold/warm/hot temperature state. For combined cycle units, "Cold/Warm/Hot Start-up Time" shall mean the time interval from the beginning of the start sequence to the point after first combustion turbine generator breaker closure in its cold/warm/hot temperature state, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero. For all generating units, the start sequence may include steps such as any valve operation, starting feed water pumps, startup of auxiliary equipment, etc. Other more detailed actions that could signal the beginning of the start sequence could include, but are not limited to, the operation of pumps, condensers, fans, water chemistry evaluations, checklists, valves, fuel systems, combustion turbines, starting engines or systems, maintaining stable fuel/air ratios, and other auxiliary equipment necessary for startup.

Cold Weather Alert:

"Cold Weather Alert" shall mean the notice that PJM provides to PJM Members, Transmission Owners, resource owners and operators, customers, and regulators to prepare personnel and facilities for expected extreme cold weather conditions.

Collateral:

"Collateral" shall be a cash deposit, including any interest thereon, or a Letter of Credit issued for the benefit of PJM or PJMSettlement, in an amount and form determined by and acceptable to PJM or PJMSettlement, provided by a Participant to PJM or PJMSettlement as credit support in order to participate in the PJM Markets or take Transmission Service.

Collateral Call:

"Collateral Call" shall mean a notice to a Participant that additional Collateral, or possibly early payment, is required in order to remain in, or to regain, compliance with Tariff, Attachment Q.

Commencement Date:

"Commencement Date" shall mean the date on which Interconnection Service commences in accordance with an Interconnection Service Agreement.

Committed Offer:

The “Committed Offer” shall mean 1) for pool-scheduled resources, an offer on which a resource was scheduled by the Office of the Interconnection for a particular clock hour for an Operating Day, and 2) for self-scheduled resources, either the offer on which the Market Seller has elected to schedule the resource or the applicable offer for the resource determined pursuant to Operating Agreement, Schedule 1, section 6.4, and the parallel provisions of Tariff, Attachment K-Appendix, section 6.4, or Operating Agreement, Schedule 1, section 6.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 6.6, for a particular clock hour for an Operating Day.

Completed Application:

“Completed Application” shall mean an application that satisfies all of the information and other requirements of the Tariff, including any required deposit.

Compliance Aggregation Area (CAA):

“Compliance Aggregation Area” or “CAA” shall mean a geographic area of Zones or sub-Zones that are electrically-contiguous and experience for the relevant Delivery Year, based on Resource Clearing Prices of, for Delivery Years through May 31, 2018, Annual Resources and for the 2018/2019 Delivery Year and subsequent Delivery Years, Capacity Performance Resources, the same locational price separation in the Base Residual Auction, the same locational price separation in the First Incremental Auction, the same locational price separation in the Second Incremental Auction, the same locational price separation in the Third Incremental Auction.

Conditional Incremental Auction:

“Conditional Incremental Auction” shall mean an Incremental Auction conducted for a Delivery Year if and when necessary to secure commitments of additional capacity to address reliability criteria violations arising from the delay in a Backbone Transmission upgrade that was modeled in the Base Residual Auction for such Delivery Year.

CONE Area:

“CONE Area” shall mean the areas listed in Tariff, Attachment DD, section 5.10(a)(iv)(A) and any LDAs established as CONE Areas pursuant to Tariff, Attachment DD, section 5.10(a)(iv)(B).

Confidential Information:

“Confidential Information” shall mean any confidential, proprietary, or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy, or compilation relating to the present or planned business of a New Service Customer, Transmission Owner, or other Interconnection Party or Construction Party, which is designated as confidential by the party supplying the information, whether conveyed verbally, electronically, in writing, through inspection, or otherwise, and shall include, without limitation, all information relating to the producing party's technology, research and development, business affairs and pricing, and any information supplied by any New Service Customer, Transmission Owner, or other Interconnection Party or Construction Party to another such party prior to the execution of an Interconnection Service Agreement or a Construction Service Agreement.

Congestion Price:

"Congestion Price" shall mean the congestion component of the Locational Marginal Price, which is the effect on transmission congestion costs (whether positive or negative) associated with increasing the output of a generation resource or decreasing the consumption by a Demand Resource, based on the effect of increased generation from or consumption by the resource on transmission line loadings, calculated as specified in Operating Agreement, Schedule 1, section 2, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

Consolidated Transmission Owners Agreement, PJM Transmission Owners Agreement or Transmission Owners Agreement:

"Consolidated Transmission Owners Agreement," "PJM Transmission Owners Agreement" or "Transmission Owners Agreement" shall mean the certain Consolidated Transmission Owners Agreement dated as of December 15, 2005, by and among the Transmission Owners and by and between the Transmission Owners and PJM Interconnection, L.L.C. on file with the Commission, as amended from time to time.

Constraint Relaxation Logic:

"Constraint Relaxation Logic" shall mean the logic applied in the market clearing software where the transmission limit is increased to prevent the Transmission Constraint Penalty Factor from setting the Marginal Value of a transmission constraint.

Constructing Entity:

"Constructing Entity" shall mean either the Transmission Owner or the New Services Customer, depending on which entity has the construction responsibility pursuant to Tariff, Part VI and the applicable Construction Service Agreement; this term shall also be used to refer to an Interconnection Customer with respect to the construction of the Customer Interconnection Facilities.

Construction Party:

"Construction Party" shall mean a party to a Construction Service Agreement. "Construction Parties" shall mean all of the Parties to a Construction Service Agreement.

Construction Service Agreement:

"Construction Service Agreement" shall mean either an Interconnection Construction Service Agreement or an Upgrade Construction Service Agreement.

Contingent Facilities:

"Contingent Facilities" shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent and, if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

Continuous Mode:

"Continuous Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that includes both negative and positive megawatt quantities (i.e., the Energy Storage Resource Model Participant is capable of continually and immediately transitioning from withdrawing megawatt quantities from the grid to injecting megawatt quantities onto the grid or injecting megawatts to withdrawing megawatts). Energy Storage Resource Model Participants operating in Continuous Mode are considered to have an unlimited ramp rate. Continuous Mode requires Discharge Economic Maximum Megawatts to be zero or correspond to an injection, and Charge Economic Maximum Megawatts to be zero or correspond to a withdrawal.

Control Area:

"Control Area" shall mean an electric power system or combination of electric power systems bounded by interconnection metering and telemetry to which a common automatic generation control scheme is applied in order to:

(1) match the power output of the generators within the electric power system(s) and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);

(2) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;

(3) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice; and

(4) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

Control Zone:

"Control Zone" shall have the meaning given in the Operating Agreement.

Controllable A.C. Merchant Transmission Facilities:

"Controllable A.C. Merchant Transmission Facilities" shall mean transmission facilities that (1) employ technology which Transmission Provider reviews and verifies will permit control of the amount and/or direction of power flow on such facilities to such extent as to effectively enable the controllable facilities to be operated as if they were direct current transmission facilities, and (2) that are interconnected with the Transmission System pursuant to Tariff, Part IV and Tariff, Part VI.

Coordinated External Transaction:

"Coordinated External Transaction" shall mean a transaction to simultaneously purchase and sell energy on either side of a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Coordinated Transaction Scheduling:

"Coordinated Transaction Scheduling" or "CTS" shall mean the scheduling of Coordinated External Transactions at a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Corporate Guaranty:

"Corporate Guaranty" shall mean a legal document, in a form acceptable to PJM and/or PJMSettlement, used by a Credit Affiliate of an entity to guaranty the obligations of another entity.

Cost of New Entry:

"Cost of New Entry" or "CONE" shall mean the nominal levelized cost of a Reference Resource, as determined in accordance with Tariff, Attachment DD, section 5.

Costs:

As used in Tariff, Part IV, Tariff, Part VI and related attachments, "Costs" shall mean costs and expenses, as estimated or calculated, as applicable, including, but not limited to, capital expenditures, if applicable, and overhead, return, and the costs of financing and taxes and any Incidental Expenses.

Counterparty:

"Counterparty" shall mean PJMSettlement as the contracting party, in its name and own right and not as an agent, to an agreement or transaction with a Market Participant or other entities, including the agreements and transactions with customers regarding transmission service and other transactions under the PJM Tariff and the Operating Agreement. PJMSettlement shall not be a counterparty to (i) any bilateral transactions between Members, or (ii) any Member's self-supply of energy to serve its load, or (iii) any Member's self-schedule of energy reported to the Office of the Interconnection to the extent that energy serves that Member's own load .

Credit Affiliate:

"Credit Affiliate" shall mean Principals, corporations, partnerships, firms, joint ventures, associations, joint stock companies, trusts, unincorporated organizations or entities, one of which directly or indirectly controls the other or that are both under common Control. "Control," as that term is used in this definition, shall mean the possession, directly or indirectly, of the power to direct the management or policies of a person or an entity.

Credit Available for Export Transactions:

"Credit Available for Export Transactions" shall mean a designation of credit to be used for Export Transactions that is allocated by each Market Participant from its Credit Available for Virtual Transactions, and which reduces the Market Participant's Credit Available for Virtual Transactions accordingly.

Credit Available for Virtual Transactions:

"Credit Available for Virtual Transactions" shall mean the Market Participant's Working Credit Limit for Virtual Transactions calculated on its credit provided in compliance with its Peak Market Activity requirement plus available credit submitted above that amount, less any unpaid billed and unbilled amounts owed to PJMSettlement, plus any unpaid unbilled amounts owed by PJMSettlement to the Market Participant, less any applicable credit required for Minimum Participation Requirements, FTRs, RPM activity, or other credit requirement determinants as defined in Tariff, Attachment Q.

Credit Breach:

"Credit Breach" shall mean (a) the failure of a Participant to perform, observe, meet or comply with any requirements of Tariff, Attachment Q or other provisions of the Agreements, other than a Financial Default, or (b) a determination by PJM and notice to the Participant that a Participant represents an unreasonable credit risk to the PJM Markets; that, in either event, has not been cured or remedied after any required notice has been given and any cure period has elapsed.

Credit-Limited Offer:

"Credit-Limited Offer" shall mean a Sell Offer that is submitted by a Market Participant in an RPM Auction subject to a maximum credit requirement specified by such Market Participant.

Credit Support Default:

"Credit Support Default," shall mean (a) the failure of any Guarantor of a Market Participant to make any payment, or to perform, observe, meet or comply with any provisions of the applicable Guaranty or Credit Support Document that has not been cured or remedied, after any required notice has been given and an opportunity to cure (if any) has elapsed, (b) a representation made or deemed made by a Guarantor in any Credit Support Document that proves to be false, incorrect or misleading in any material respect when made or deemed made, (c) the failure of a Guaranty or other Credit Support Document to be in full force and effect prior to the satisfaction of all obligations of such Participant to PJM, without PJM's consent, or (d) a Guarantor repudiating, disaffirming, disclaiming or rejecting, in whole or in part, its obligations under the Guaranty or challenging the validity of the Guaranty.

Credit Support Document:

"Credit Support Document" shall mean any agreement or instrument in any way guaranteeing or securing any or all of a Participant's obligations under the Agreements (including, without limitation, the provisions of Tariff, Attachment Q), any agreement entered into under, pursuant to, or in connection with the Agreements or any agreement entered into under, pursuant to, or in connection with the Agreements and/or any other agreement to which PJM, PJMSettlement and the Participant are parties, including, without limitation, any Corporate Guaranty, Letter of Credit, or agreement granting PJM and PJMSettlement a security interest.

CTS Enabled Interface:

"CTS Enabled Interface" shall mean an interface between the PJM Control Area and an adjacent Control Area at which the Office of the Interconnection has authorized the use of Coordinated Transaction Scheduling ("CTS"). The CTS Enabled Interfaces between the PJM Control Area and the New York Independent System Operator, Inc. Control Area shall be designated in the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C., Schedule A (PJM Rate Schedule FERC No. 45). The CTS Enabled Interfaces between the PJM Control Area and the Midcontinent Independent System Operator, Inc. shall be designated consistent with Attachment 3, section 2 of the Joint Operating Agreement between Midcontinent Independent System Operator, Inc. and PJM Interconnection, L.L.C.

CTS Interface Bid:

"CTS Interface Bid" shall mean a unified real-time bid to simultaneously purchase and sell energy on either side of a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Curtailment:

"Curtailment" shall mean a reduction in firm or non-firm transmission service in response to a transfer capability shortage as a result of system reliability conditions.

Curtailment Service Provider:

"Curtailment Service Provider" or "CSP" shall mean a Member or a Special Member, which action on behalf of itself or one or more other Members or non-Members, participates in the PJM Interchange Energy Market, Ancillary Services markets, and/or Reliability Pricing Model by causing a reduction in demand.

Customer Facility:

"Customer Facility" shall mean Generation Facilities or Merchant Transmission Facilities interconnected with or added to the Transmission System pursuant to an Interconnection Request under Tariff, Part IV.

Customer-Funded Upgrade:

"Customer-Funded Upgrade" shall mean any Network Upgrade, Local Upgrade, or Merchant Network Upgrade for which cost responsibility (i) is imposed on an Interconnection Customer or an Eligible Customer pursuant to Tariff, Part VI, section 217, or (ii) is voluntarily undertaken by a New Service Customer in fulfillment of an Upgrade Request. No Network Upgrade, Local Upgrade or Merchant Network Upgrade or other transmission expansion or enhancement shall be a Customer-Funded Upgrade if and to the extent that the costs thereof are included in the rate base of a public utility on which a regulated return is earned.

Customer Interconnection Facilities:

"Customer Interconnection Facilities" shall mean all facilities and equipment owned and/or controlled, operated and maintained by Interconnection Customer on Interconnection Customer's side of the Point of Interconnection identified in the appropriate appendices to the Interconnection Service Agreement and to the Interconnection Construction Service Agreement, including any modifications, additions, or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Customer Facility with the Transmission System.

Daily Deficiency Rate:

"Daily Deficiency Rate" shall mean the rate employed to assess certain deficiency charges under Tariff, Attachment DD, section 7, Tariff, Attachment DD, section 8, Tariff, Attachment DD, section 9, or Tariff, Attachment DD, section 13.

Daily Unforced Capacity Obligation:

"Daily Unforced Capacity Obligation" shall mean the capacity obligation of a Load Serving Entity during the Delivery Year, determined in accordance with Reliability Assurance Agreement, Schedule 8, or, as to an FRR entity, in Reliability Assurance Agreement, Schedule 8.1.

Day-ahead Congestion Price:

"Day-ahead Congestion Price" shall mean the Congestion Price resulting from the Day-ahead Energy Market.

Day-ahead Energy Market:

"Day-ahead Energy Market" shall mean the schedule of commitments for the purchase or sale of energy and payment of Transmission Congestion Charges developed by the Office of the Interconnection as a result of the offers and specifications submitted in accordance with Operating Agreement, Schedule 1, section 1.10 and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.

Day-ahead Energy Market Injection Congestion Credits:

"Day-ahead Energy Market Injection Congestion Credits" shall mean those congestion credits paid to Market Participants for supply transactions in the Day-ahead Energy Market including generation schedules, Increment Offers, Up-to Congestion Transactions, import transactions, and Day-Ahead Pseudo-Tie Transactions.

Day-ahead Energy Market Transmission Congestion Charges:

"Day-ahead Energy Market Transmission Congestion Charges" shall be equal to the sum of Day-ahead Energy Market Withdrawal Congestion Charges minus [the sum of Day-ahead Energy Market Injection Congestion Credits plus any congestion charges calculated pursuant to the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 38), plus any congestion charges calculated pursuant to the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45), plus any congestion charges calculated pursuant to agreements between the Office of the Interconnection and other entities, as applicable)].

Day-ahead Energy Market Withdrawal Congestion Charges:

"Day-ahead Energy Market Withdrawal Congestion Charges" shall mean those congestion charges collected from Market Participants for withdrawal transactions in the Day-ahead Energy Market from transactions including Demand Bids, Decrement Bids, Up-to Congestion Transactions, Export Transactions, and Day-Ahead Pseudo-Tie Transactions.

Day-ahead Loss Price:

"Day-ahead Loss Price" shall mean the Loss Price resulting from the Day-ahead Energy Market.

Day-ahead Prices:

"Day-ahead Prices" shall mean the Locational Marginal Prices resulting from the Day-ahead Energy Market.

Day-Ahead Pseudo-Tie Transaction:

"Day-Ahead Pseudo-Tie Transaction" shall mean a transaction scheduled in the Day-ahead Energy Market to the PJM-MISO interface from a generator within the PJM balancing authority area that Pseudo-Ties into the MISO balancing authority area.

Day-ahead Scheduling Reserves:

"Day-ahead Scheduling Reserves" shall mean thirty-minute reserves as defined by the Reliability*First* Corporation and SERC.

Day-ahead Scheduling Reserves Market:

"Day-ahead Scheduling Reserves Market" shall mean the schedule of commitments for the purchase or sale of Day-ahead Scheduling Reserves developed by the Office of the Interconnection as a result of the offers and specifications submitted in accordance with Operating Agreement, Schedule 1, section 1.10 and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.

Day-ahead Scheduling Reserves Requirement:

"Day-ahead Scheduling Reserves Requirement" shall mean the sum of Base Day-ahead Scheduling Reserves Requirement and Additional Day-ahead Scheduling Reserves Requirement.

Day-ahead Scheduling Reserves Resources:

"Day-ahead Scheduling Reserves Resources" shall mean synchronized and non-synchronized generation resources and Demand Resources electrically located within the PJM Region that are capable of providing Day-ahead Scheduling Reserves.

Day-ahead Settlement Interval:

"Day-ahead Settlement Interval" shall mean the interval used by settlements, which shall be every one clock hour.

Day-ahead System Energy Price:

"Day-ahead System Energy Price" shall mean the System Energy Price resulting from the Day-ahead Energy Market.

Deactivation:

"Deactivation" shall mean the retirement or mothballing of a generating unit governed by Tariff, Part V.

Deactivation Avoidable Cost Credit:

“Deactivation Avoidable Cost Credit” shall mean the credit paid to Generation Owners pursuant to Tariff, Part V, section 114.

Deactivation Avoidable Cost Rate:

“Deactivation Avoidable Cost Rate” shall mean the formula rate established pursuant to Tariff, Part V, section 115 .

Deactivation Date:

“Deactivation Date” shall mean the date a generating unit within the PJM Region is either retired or mothballed and ceases to operate.

Decrement Bid:

“Decrement Bid” shall mean a type of Virtual Transaction that is a bid to purchase energy at a specified location in the Day-ahead Energy Market. A cleared Decrement Bid results in scheduled load at the specified location in the Day-ahead Energy Market.

Default:

As used in the Interconnection Service Agreement and Construction Service Agreement, “Default” shall mean the failure of a Breaching Party to cure its Breach in accordance with the applicable provisions of an Interconnection Service Agreement or Construction Service Agreement.

Delivering Party:

“Delivering Party” shall mean the entity supplying capacity and energy to be transmitted at Point(s) of Receipt.

Delivery Year:

“Delivery Year” shall mean the Planning Period for which a Capacity Resource is committed pursuant to the auction procedures specified in Tariff, Attachment DD, or pursuant to an FRR Capacity Plan under Reliability Assurance Agreement, Schedule 8.1.

Demand Bid:

“Demand Bid” shall mean a bid, submitted by a Load Serving Entity in the Day-ahead Energy Market, to purchase energy at its contracted load location, for a specified timeframe and megawatt quantity, that if cleared will result in energy being scheduled at the specified location in the Day-ahead Energy Market and in the physical transfer of energy during the relevant Operating Day.

Demand Bid Limit:

"Demand Bid Limit" shall mean the largest MW volume of Demand Bids that may be submitted by a Load Serving Entity for any hour of an Operating Day, as determined pursuant to Operating Agreement, Schedule 1, section 1.10.1B, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1B.

Demand Bid Screening:

"Demand Bid Screening" shall mean the process by which Demand Bids are reviewed against the applicable Demand Bid Limit, and rejected if they would exceed that limit, as determined pursuant to Operating Agreement, Schedule 1, section 1.10.1B, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1B.

Demand Resource:

"Demand Resource" shall mean a resource with the capability to provide a reduction in demand.

Demand Resource Factor or DR Factor:

"Demand Resource Factor" or ("DR Factor") shall have the meaning specified in the Reliability Assurance Agreement.

Designated Agent:

"Designated Agent" shall mean any entity that performs actions or functions on behalf of the Transmission Provider, a Transmission Owner, an Eligible Customer, or the Transmission Customer required under the Tariff.

Designated Entity:

"Designated Entity" shall have the same meaning provided in the Operating Agreement.

Direct Assignment Facilities:

"Direct Assignment Facilities" shall mean facilities or portions of facilities that are constructed for the sole use/benefit of a particular Transmission Customer requesting service under the Tariff. Direct Assignment Facilities shall be specified in the Service Agreement that governs service to the Transmission Customer and shall be subject to Commission approval.

Direct Charging Energy:

"Direct Charging Energy" shall mean the energy that an Energy Storage Resource purchases from the PJM Interchange Energy Market and (i) later resells to the PJM Interchange Energy Market; or (ii) is lost to conversion inefficiencies, provided that such inefficiencies are an unavoidable component of the conversion, storage, and discharge process that is used to resell energy back to the PJM Interchange Energy Market.

Direct Load Control:

"Direct Load Control" shall mean load reduction that is controlled directly by the Curtailment Service Provider's market operations center or its agent, in response to PJM instructions.

Discharge Economic Maximum Megawatts:

"Discharge Economic Maximum Megawatts" shall mean the maximum megawatt power output available for discharge in economic dispatch by an Energy Storage Resource Model Participant in Continuous Mode or in Discharge Mode. Discharge Economic Maximum Megawatts shall be the Economic Maximum for an Energy Storage Resource in Discharge Mode or in Continuous Mode.

Discharge Economic Minimum Megawatts:

"Discharge Economic Minimum Megawatts" shall mean the minimum megawatt power output available for discharge in economic dispatch by an Energy Storage Resource Model Participant in Discharge Mode. Discharge Economic Minimum Megawatts shall be the Economic Minimum for an Energy Storage Resource in Discharge Mode.

Discharge Mode:

"Discharge Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that only includes positive megawatt quantities (i.e., the Energy Storage Resource Model Participant is only injecting megawatts onto the grid).

***Discharge Ramp Rate**:*

"Discharge Ramp Rate" shall mean the Ramping Capability of an Energy Storage Resource Model Participant in Discharge Mode.

Dispatch Rate:

"Dispatch Rate" shall mean the control signal, expressed in dollars per megawatt-hour, calculated and transmitted continuously and dynamically to direct the output level of all generation resources dispatched by the Office of the Interconnection in accordance with the Offer Data.

Dispatched Charging Energy:

"Dispatched Charging Energy" shall mean Direct Charging Energy that an Energy Storage Resource Model Participant receives from the electric grid pursuant to PJM dispatch while providing *one of the following* services in the PJM markets*: Energy Imbalance Service pursuant* *to Tariff, Schedule 4; Regulation; Tier 2 Synchronized Reserves; or Reactive Service. Energy Storage Resource Model Participants shall be considered to be providing Energy Imbalance Service when they are dispatchable by PJM in real-time.*

Dynamic Schedule:

"Dynamic Schedule" shall have the same meaning provided in the Operating Agreement.

Dynamic Transfer:

"Dynamic Transfer" shall have the same meaning provided in the Operating Agreement.

Definitions – E - F

Economic-based Enhancement or Expansion:

"Economic-based Enhancement or Expansion" shall have the same meaning provided in the Operating Agreement.

Economic Load Response Participant:

"Economic Load Response Participant" shall mean a Member or Special Member that qualifies under Operating Agreement, Schedule 1, section 1.5A, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.5A, to participate in the PJM Interchange Energy Market and/or Ancillary Services markets through reductions in demand.

Economic Maximum:

"Economic Maximum" shall mean the highest incremental MW output level, submitted to PJM market systems by a Market Participant, that a unit can achieve while following economic dispatch.

Economic Minimum:

"Economic Minimum" shall mean the lowest incremental MW output level, submitted to PJM market systems by a Market Participant, that a unit can achieve while following economic dispatch.

Effective FTR Holder:

"Effective FTR Holder" shall mean:

(i) For an FTR Holder that is either a (a) privately held company, or (b) a municipality or electric cooperative, as defined in the Federal Power Act, such FTR Holder, together with any Affiliate, subsidiary or parent of the FTR Holder, any other entity that is under common ownership, wholly or partly, directly or indirectly, or has the ability to influence, directly or indirectly, the management or policies of the FTR Holder; or

(ii) For an FTR Holder that is a publicly traded company including a wholly owned subsidiary of a publicly traded company, such FTR Holder, together with any Affiliate, subsidiary or parent of the FTR Holder, any other PJM Member has over 10% common ownership with the FTR Holder, wholly or partly, directly or indirectly, or has the ability to influence, directly or indirectly, the management or policies of the FTR Holder; or

(iii) an FTR Holder together with any other PJM Member, including also any Affiliate, subsidiary or parent of such other PJM Member, with which it shares common ownership, wholly or partly, directly or indirectly, in any third entity which is a PJM Member (e.g., a joint venture).

EFORd:

"EFORd" shall have the meaning specified in the PJM Reliability Assurance Agreement.

Electrical Distance:

"Electrical Distance" shall mean, for a Generation Capacity Resource geographically located outside the metered boundaries of the PJM Region, the measure of distance, based on impedance and in accordance with the PJM Manuals, from the Generation Capacity Resource to the PJM Region.

Eligible Customer:

"Eligible Customer" shall mean:

(i) Any electric utility (including any Transmission Owner and any power marketer), Federal power marketing agency, or any person generating electric energy for sale for resale is an Eligible Customer under the Tariff. Electric energy sold or produced by such entity may be electric energy produced in the United States, Canada or Mexico. However, with respect to transmission service that the Commission is prohibited from ordering by Section 212(h) of the Federal Power Act, such entity is eligible only if the service is provided pursuant to a state requirement that the Transmission Provider or Transmission Owner offer the unbundled transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner.

(ii) Any retail customer taking unbundled transmission service pursuant to a state requirement that the Transmission Provider or a Transmission Owner offer the transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner, is an Eligible Customer under the Tariff. As used in Tariff, Part VI, Eligible Customer shall mean only those Eligible Customers that have submitted a Completed Application.

Emergency Action:

"Emergency Action" shall mean any emergency action for locational or system-wide capacity shortages that either utilizes pre-emergency mandatory load management reductions or other emergency capacity, or initiates a more severe action including, but not limited to, a Voltage Reduction Warning, Voltage Reduction Action, Manual Load Dump Warning, or Manual Load Dump Action.

Emergency Condition:

"Emergency Condition" shall mean a condition or situation (i) that in the judgment of any Interconnection Party is imminently likely to endanger life or property; or (ii) that in the judgment of the Interconnected Transmission Owner or Transmission Provider is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Transmission System, the Interconnection Facilities, or the transmission systems or distribution systems to which the Transmission System is directly or indirectly connected; or (iii) that in the judgment of Interconnection Customer is imminently likely (as determined in a non-discriminatory manner) to cause damage to the Customer Facility or to the Customer Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions, provided that a Generation Interconnection Customer is not obligated by an Interconnection Service Agreement to possess black start capability. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one or more of the enumerated conditions or situations identified in this definition also exists.

Emergency Load Response Program:

"Emergency Load Response Program" shall mean the program by which Curtailment Service Providers may be compensated by PJM for Demand Resources that will reduce load when dispatched by PJM during emergency conditions, and is described in Operating Agreement, Schedule 1, section 8 and the parallel provisions of Tariff, Attachment K-Appendix, section 8.

Energy Efficiency Resource:

"Energy Efficiency Resource" shall have the meaning specified in the PJM Reliability Assurance Agreement.

Energy Market Opportunity Cost:

"Energy Market Opportunity Cost" shall mean the difference between (a) the forecasted cost to operate a specific generating unit when the unit only has a limited number of available run hours due to limitations imposed on the unit by Applicable Laws and Regulations, and (b) the forecasted future Locational Marginal Price at which the generating unit could run while not violating such limitations. Energy Market Opportunity Cost therefore is the value associated with a specific generating unit's lost opportunity to produce energy during a higher valued period of time occurring within the same compliance period, which compliance period is determined by the applicable regulatory authority and is reflected in the rules set forth in PJM Manual 15. Energy Market Opportunity Costs shall be limited to those resources which are specifically delineated in Operating Agreement, Schedule 2.

Energy Resource:

"Energy Resource" shall mean a Generating Facility that is not a Capacity Resource.

Energy Settlement Area:

"Energy Settlement Area" shall mean the bus or distribution of busses that represents the physical location of Network Load and by which the obligations of the Network Customer to PJM are settled.

Energy Storage Resource:

“Energy Storage Resource” shall mean a resource capable of receiving electric energy from the grid and storing it for later injection to the grid that participates in the PJM Energy, Capacity and/or Ancillary Services markets as a Market Participant.

Energy Storage Resource Model Participant:

“Energy Storage Resource Model Participant” shall mean an Energy Storage Resource utilizing the Energy Storage Resource Participation Model.

Energy Storage Resource Participation Model:

“Energy Storage Resource Participation Model” shall mean the participation model accepted by the Commission in Docket No. ER19-469-000.

Energy Transmission Injection Rights:

“Energy Transmission Injection Rights” shall mean the rights to schedule energy deliveries at a specified point on the Transmission System. Energy Transmission Injection Rights may be awarded only to a Merchant D.C. Transmission Facility that connects the Transmission System to another control area. Deliveries scheduled using Energy Transmission Injection Rights have rights similar to those under Non-Firm Point-to-Point Transmission Service.

Environmental Laws:

“Environmental Laws” shall mean applicable Laws or Regulations relating to pollution or protection of the environment, natural resources or human health and safety.

Environmentally-Limited Resource:

“Environmentally-Limited Resource” shall mean a resource which has a limit on its run hours imposed by a federal, state, or other governmental agency that will significantly limit its availability, on either a temporary or long-term basis. This includes a resource that is limited by a governmental authority to operating only during declared PJM capacity emergencies.

Equivalent Load:

“Equivalent Load” shall mean the sum of a Market Participant’s net system requirements to serve its customer load in the PJM Region, if any, plus its net bilateral transactions.

Event of Default:

“Event of Default,” as that term is used in Tariff, Attachment Q, shall mean a Financial Default, Credit Breach, or Credit Support Default.

Existing Generation Capacity Resource:

"Existing Generation Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Export Credit Exposure:

"Export Credit Exposure" is determined for each Market Participant for a given Operating Day, and shall mean the sum of credit exposures for the Market Participant's Export Transactions for that Operating Day and for the preceding Operating Day.

Export Nodal Reference Price:

"Export Nodal Reference Price" at each location is the 97th percentile, shall be, the real-time hourly integrated price experienced over the corresponding two-month period in the preceding calendar year, calculated separately for peak and off-peak time periods. The two-month time periods used in this calculation shall be January and February, March and April, May and June, July and August, September and October, and November and December.

Export Transaction:

"Export Transaction" shall be a transaction by a Market Participant that results in the transfer of energy from within the PJM Control Area to outside the PJM Control Area. Coordinated External Transactions that result in the transfer of energy from the PJM Control Area to an adjacent Control Area are one form of Export Transaction.

Export Transaction Price Factor:

"Export Transaction Price Factor" for a prospective time interval shall be the greater of (i) PJM's forecast price for the time interval, if available, or (ii) the Export Nodal Reference Price, but shall not exceed the Export Transaction's dispatch ceiling price cap, if any, for that time interval. The Export Transaction Price Factor for a past time interval shall be calculated in the same manner as for a prospective time interval, except that the Export Transaction Price Factor may use a tentative or final settlement price, as available. If an Export Nodal Reference Price is not available for a particular time interval, PJM may use an Export Transaction Price Factor for that time interval based on an appropriate alternate reference price.

Export Transaction Screening:

"Export Transaction Screening" shall be the process PJM uses to review the Export Credit Exposure of Export Transactions against the Credit Available for Export Transactions, and deny or curtail all or a portion of an Export Transaction, if the credit required for such transactions is greater than the credit available for the transactions.

Export Transactions Net Activity:

"Export Transactions Net Activity" shall mean the aggregate net total, resulting from Export Transactions, of (i) Spot Market Energy charges, (ii) Transmission Congestion Charges, and (iii) Transmission Loss Charges, calculated as set forth in Operating Agreement, Schedule 1 and the parallel provisions of Tariff, Attachment K-Appendix. Export Transactions Net Activity may be positive or negative.

Extended Primary Reserve Requirement:

"Extended Primary Reserve Requirement" shall equal the Primary Reserve Requirement in a Reserve Zone or Reserve Sub-zone, plus 190 MW, plus any additional reserves scheduled under emergency conditions necessary to address operational uncertainty. The Extended Primary Reserve Requirement is calculated in accordance with the PJM Manuals.

Extended Summer Demand Resource:

"Extended Summer Demand Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Extended Summer Resource Price Adder:

"Extended Summer Resource Price Adder" shall mean, for Delivery Years through May 31, 2018, an addition to the marginal value of Unforced Capacity as necessary to reflect the price of Annual Resources and Extended Summer Demand Resources required to meet the applicable Minimum Extended Summer Resource Requirement.

Extended Synchronized Reserve Requirement:

"Extended Synchronized Reserve Requirement" shall equal the Synchronized Reserve Requirement in a Reserve Zone or Reserve Sub-zone, plus 190 MW, plus any additional reserves scheduled under emergency conditions necessary to address operational uncertainty. The Extended Synchronized Reserve Requirement is calculated in accordance with the PJM Manuals.

External Market Buyer:

"External Market Buyer" shall mean a Market Buyer making purchases of energy from the PJM Interchange Energy Market for consumption by end-users outside the PJM Region, or for load in the PJM Region that is not served by Network Transmission Service.

External Resource:

"External Resource" shall mean a generation resource located outside the metered boundaries of the PJM Region.

Facilities Study:

"Facilities Study" shall be an engineering study conducted by the Transmission Provider (in coordination with the affected Transmission Owner(s)) to: (1) determine the required modifications to the Transmission Provider's Transmission System necessary to implement the conclusions of the System Impact Study; and (2) complete any additional studies or analyses documented in the System Impact Study or required by PJM Manuals, and determine the required modifications to the Transmission Provider's Transmission System based on the conclusions of such additional studies. The Facilities Study shall include the cost and scheduled completion date for such modifications, that will be required to provide the requested transmission service or to accommodate a New Service Request. As used in the Interconnection Service Agreement or Construction Service Agreement, Facilities Study shall mean that certain Facilities Study conducted by Transmission Provider (or at its direction) to determine the design and specification of the Customer Funded Upgrades necessary to accommodate the New Service Customer's New Service Request in accordance with Tariff, Part VI, section 207.

Federal Power Act:

"Federal Power Act" shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a, et seq.

FERC or Commission:

"FERC" or "Commission" shall mean the Federal Energy Regulatory Commission or any successor federal agency, commission or department exercising jurisdiction over the Tariff, Operating Agreement and Reliability Assurance Agreement.

FERC Market Rules:

"FERC Market Rules" mean the market behavior rules and the prohibition against electric energy market manipulation codified by the Commission in its Rules and Regulations at 18 CFR §§ 1c.2 and 35.37, respectively; the Commission-approved PJM Market Rules and any related proscriptions or any successor rules that the Commission from time to time may issue, approve or otherwise establish.

Final Offer:

"Final Offer" shall mean the offer on which a resource was dispatched by the Office of the Interconnection for a particular clock hour for the Operating Day.

Final RTO Unforced Capacity Obligation:

"Final RTO Unforced Capacity Obligation" shall mean the capacity obligation for the PJM Region, determined in accordance with RAA, Schedule 8.

Financial Close:

"Financial Close" shall mean the Capacity Market Seller has demonstrated that the Capacity Market Seller or its agent has completed the act of executing the material contracts and/or other documents necessary to (1) authorize construction of the project and (2) establish the necessary funding for the project under the control of an independent third-party entity. A sworn, notarized certification of an independent engineer certifying to such facts, and that the engineer has personal knowledge of, or has engaged in a diligent inquiry to determine, such facts, shall be sufficient to make such demonstration. For resources that do not have external financing, Financial Close shall mean the project has full funding available, and that the project has been duly authorized to proceed with full construction of the material portions of the project by the appropriate governing body of the company funding such project. A sworn, notarized certification by an officer of such company certifying to such facts, and that the officer has personal knowledge of, or has engaged in a diligent inquiry to determine, such facts, shall be sufficient to make such demonstration.

Financial Default:

"Financial Default" shall mean (a) the failure of a Member or Transmission Customer to make any payment for obligations under the Agreements when due, including but not limited to an invoice payment that has not been cured or remedied after notice has been given and any cure period has elapsed, (b) a bankruptcy proceeding filed by a Member, Transmission Customer or its Guarantor, or filed against a Member, Transmission Customer or its Guarantor and to which the Member, Transmission Customer or Guarantor, as applicable, acquiesces or that is not dismissed within 60 days, (c) a Member, Transmission Customer or its Guarantor, if any, is unable to meet its financial obligations as they become due, or (d) a Merger Without Assumption occurs in respect of the Member, Transmission Customer or any Guarantor of such Member or Transmission Customer.

Financial Transmission Right:

"Financial Transmission Right" or "FTR" shall mean a right to receive Transmission Congestion Credits as specified in Operating Agreement, Schedule 1, section 5.2.2 and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.2.

Financial Transmission Right Obligation:

"Financial Transmission Right Obligation" shall mean a right to receive Transmission Congestion Credits as specified in Operating Agreement, Schedule 1, section 5.2.2(b), and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.2(b).

Financial Transmission Right Option:

"Financial Transmission Right Option" shall mean a right to receive Transmission Congestion Credits as specified in Operating Agreement, Schedule 1, section 5.2.2(c), and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.2(c).

Firm Point-To-Point Transmission Service:

“Firm Point-To-Point Transmission Service” shall mean Transmission Service under the Tariff that is reserved and/or scheduled between specified Points of Receipt and Delivery pursuant to Tariff, Part II.

Firm Transmission Feasibility Study:

“Firm Transmission Feasibility Study” shall mean a study conducted by the Transmission Provider in accordance with Tariff, Part II, section 19.3 and Tariff, Part III, section 32.3.

Firm Transmission Withdrawal Rights:

“Firm Transmission Withdrawal Rights” shall mean the rights to schedule energy and capacity withdrawals from a Point of Interconnection of a Merchant Transmission Facility with the Transmission System. Firm Transmission Withdrawal Rights may be awarded only to a Merchant D.C. Transmission Facility that connects the Transmission System with another control area. Withdrawals scheduled using Firm Transmission Withdrawal Rights have rights similar to those under Firm Point-to-Point Transmission Service.

First Incremental Auction:

“First Incremental Auction” shall mean an Incremental Auction conducted 20 months prior to the start of the Delivery Year to which it relates.

Flexible Resource:

“Flexible Resource” shall mean a generating resource that must have a combined Start-up Time and Notification Time of less than or equal to two hours; and a Minimum Run Time of less than or equal to two hours.

Forecast Pool Requirement:

“Forecast Pool Requirement” shall have the meaning specified in the Reliability Assurance Agreement.

Foreign Guaranty:

“Foreign Guaranty” shall mean a Corporate Guaranty provided by an Affiliate of a Participant that is domiciled in a foreign country, and meets all of the provisions of Tariff, Attachment Q.

Form 715 Planning Criteria:

“Form 715 Planning Criteria” shall have the same meaning provided in the Operating Agreement.

FTR Credit Limit:

“FTR Credit Limit” shall mean the amount of credit established with PJMSettlement that an FTR Participant has specifically designated to be used for FTR activity in a specific customer account. Any such credit so set aside shall not be considered available to satisfy any other credit requirement the FTR Participant may have with PJMSettlement.

FTR Credit Requirement:

“FTR Credit Requirement” shall mean the amount of credit that a Participant must provide in order to support the FTR positions that it holds and/or for which it is bidding. The FTR Credit Requirement shall not include months for which the invoicing has already been completed, provided that PJMSettlement shall have up to two Business Days following the date of the invoice completion to make such adjustments in its credit systems. FTR Credit Requirements are calculated and applied separately for each separate customer account.

FTR Flow Undiversified:

“FTR Flow Undiversified” shall have the meaning established in Tariff, Attachment Q, section VI.C.6.

FTR Historical Value:

For each FTR for each month, “FTR Historical Value” shall mean the weighted average of historical values over three years for the FTR path using the following weightings: 50% - most recent year; 30% - second year; 20% - third year.

FTR Holder:

“FTR Holder” shall mean the PJM Member that has acquired and possesses an FTR.

FTR Monthly Credit Requirement Contribution:

For each FTR, for each month, ”FTR Monthly Credit Requirement Contribution” shall mean the total FTR cost for the month, prorated on a daily basis, less the FTR Historical Value for the month. For cleared FTRs, this contribution may be negative; prior to clearing, FTRs with negative contribution shall be deemed to have zero contribution.

FTR Net Activity:

“FTR Net Activity” shall mean the aggregate net value of the billing line items for auction revenue rights credits, FTR auction charges, FTR auction credits, and FTR congestion credits, and shall also include day-ahead and balancing/real-time congestion charges up to a maximum net value of the sum of the foregoing auction revenue rights credits, FTR auction charges, FTR auction credits and FTR congestion credits.

FTR Participant:

"FTR Participant" shall mean any Market Participant that provides or is required to provide Collateral in order to participate in PJM's FTR market.

FTR Portfolio Auction Value:

"FTR Portfolio Auction Value" shall mean for each customer account of a Market Participant, the sum, calculated on a monthly basis, across all FTRs, of the FTR price times the FTR volume in MW.

Fuel Cost Policy:

"Fuel Cost Policy" shall mean the document provided by a Market Seller to PJM and the Market Monitoring Unit in accordance with PJM Manual 15 and Operating Agreement, Schedule 2, which documents the Market Seller's method used to price fuel for calculation of the Market Seller's cost-based offers for a generation resource.

Full Notice to Proceed:

"Full Notice to Proceed" shall mean that all material third party contractors have been given the notice to proceed with construction by the Capacity Market Seller or its agent, with a guaranteed completion date backed by liquidated damages.

Definitions – G - H

Generating Market Buyer:

"Generating Market Buyer" shall mean an Internal Market Buyer that is a Load Serving Entity that owns or has contractual rights to the output of generation resources capable of serving the Market Buyer's load in the PJM Region, or of selling energy or related services in the PJM Interchange Energy Market or elsewhere.

Generation Capacity Resource:

"Generation Capacity Resource" shall have the meaning specified in the Reliability Assurance Agreement.

Generation Interconnection Customer:

"Generation Interconnection Customer" shall mean an entity that submits an Interconnection Request to interconnect a new generation facility or to increase the capacity of an existing generation facility interconnected with the Transmission System in the PJM Region.

Generation Interconnection Facilities Study:

"Generation Interconnection Facilities Study" shall mean a Facilities Study related to a Generation Interconnection Request.

Generation Interconnection Feasibility Study:

"Generation Interconnection Feasibility Study" shall mean a study conducted by the Transmission Provider (in coordination with the affected Transmission Owner(s)) in accordance with Tariff, Part IV, section 36.2.

Generation Interconnection Request:

"Generation Interconnection Request" shall mean a request by a Generation Interconnection Customer pursuant to Tariff, Part IV, subpart A, to interconnect a generating unit with the Transmission System or to increase the capacity of a generating unit interconnected with the Transmission System in the PJM Region.

Generation Owner:

"Generation Owner" shall mean a Member that owns, leases with rights equivalent to ownership, or otherwise controls and operates one or more operating generation resources located in the PJM Region. The foregoing notwithstanding, for a planned generation resource to qualify a Member as a Generation Owner, such resource shall have cleared an RPM auction, and for Energy Resources, the resource shall have a FERC-jurisdictional interconnection agreement or wholesale market participation agreement within PJM. Purchasing all or a portion of the output of a generation resource shall not be sufficient to qualify a Member as a Generation Owner. For purposes of Members Committee sector classification, a Member that is primarily a retail end-user of electricity that owns generation may qualify as a Generation Owner if: (1) the generation resource is the subject of a FERC-jurisdictional interconnection agreement or wholesale market participation agreement within PJM; (2) the average physical unforced capacity owned by the Member and its affiliates over the five Planning Periods immediately preceding the relevant Planning Period exceeds the average PJM capacity obligation of the Member and its affiliates over the same time period; and (3) the average energy produced by the Member and its affiliates within PJM over the five Planning Periods immediately preceding the relevant Planning Period exceeds the average energy consumed by the Member and its affiliates within PJM over the same time period.

Generation Resource Maximum Output:

"Generation Resource Maximum Output" shall mean, for Customer Facilities identified in an Interconnection Service Agreement or Wholesale Market Participation Agreement, the Generation Resource Maximum Output for a generating unit shall equal the unit's pro rata share of the Maximum Facility Output, determined by the Economic Maximum values for the available units at the Customer Facility. For generating units not identified in an Interconnection Service Agreement or Wholesale Market Participation Agreement, the Generation Resource Maximum Output shall equal the generating unit's Economic Maximum.

Generator Forced Outage:

"Generator Forced Outage" shall mean an immediate reduction in output or capacity or removal from service, in whole or in part, of a generating unit by reason of an Emergency or threatened Emergency, unanticipated failure, or other cause beyond the control of the owner or operator of the facility, as specified in the relevant portions of the PJM Manuals. A reduction in output or removal from service of a generating unit in response to changes in market conditions shall not constitute a Generator Forced Outage.

Generator Maintenance Outage:

"Generator Maintenance Outage" shall mean the scheduled removal from service, in whole or in part, of a generating unit in order to perform necessary repairs on specific components of the facility, if removal of the facility meets the guidelines specified in the PJM Manuals.

Generator Planned Outage:

"Generator Planned Outage" shall mean the scheduled removal from service, in whole or in part, of a generating unit for inspection, maintenance or repair with the approval of the Office of the Interconnection in accordance with the PJM Manuals.

Good Utility Practice:

“Good Utility Practice” shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather is intended to include acceptable practices, methods, or acts generally accepted in the region; including those practices required by Federal Power Act, section 215(a)(4).

Governmental Authority:

“Governmental Authority” shall mean any federal, state, local or other governmental, regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, arbitrating body, or other governmental authority having jurisdiction over any Interconnection Party or Construction Party or regarding any matter relating to an Interconnection Service Agreement or Construction Service Agreement, as applicable.

Guarantor:

“Guarantor” shall mean a credit support provider for a Participant that provides a Corporate Guaranty accepted by PJM and/or PJMSettlement, and for which PJM has made a determination that the Guarantor meets applicable creditworthiness requirements under Tariff, Attachment Q.

Hazardous Substances:

“Hazardous Substance” shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “radioactive substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Hot Weather Alert:

“Hot Weather Alert” shall mean the notice provided by PJM to PJM Members, Transmission Owners, resource owners and operators, customers, and regulators to prepare personnel and facilities for extreme hot and/or humid weather conditions which may cause capacity requirements and/or unit unavailability to be substantially higher than forecast are expected to persist for an extended period.

Definitions – I – J - K

IDR Transfer Agreement:

"IDR Transfer Agreement" shall mean an agreement to transfer, subject to the terms of Tariff, Part VI, section 237, Incremental Deliverability Rights to a party for the purpose of eliminating or reducing the need for Local or Network Upgrades that would otherwise have been the responsibility of the party receiving such rights.

Immediate-need Reliability Project:

"Immediate-need Reliability Project" shall have the same meaning provided in the Operating Agreement.

Inadvertent Interchange:

"Inadvertent Interchange" shall mean the difference between net actual energy flow and net scheduled energy flow into or out of the individual Control Areas operated by PJM.

Incidental Expenses:

"Incidental Expenses" shall mean those expenses incidental to the performance of construction pursuant to an Interconnection Construction Service Agreement, including, but not limited to, the expense of temporary construction power, telecommunications charges, Interconnected Transmission Owner expenses associated with, but not limited to, document preparation, design review, installation, monitoring, and construction-related operations and maintenance for the Customer Facility and for the Interconnection Facilities.

Incremental Auction:

"Incremental Auction" shall mean any of several auctions conducted for a Delivery Year after the Base Residual Auction for such Delivery Year and before the first day of such Delivery Year, including the First Incremental Auction, Second Incremental Auction, Third Incremental Auction or Conditional Incremental Auction. Incremental Auctions (other than the Conditional Incremental Auction shall be held for the purposes of:

(i) allowing Market Sellers that committed Capacity Resources in the Base Residual Auction for a Delivery Year, which subsequently are determined to be unavailable to deliver the committed Unforced Capacity in such Delivery Year (due to resource retirement, resource cancellation or construction delay, resource derating, EFORd increase, a decrease in the Nominated Demand Resource Value of a Planned Demand Resource, delay or cancellation of a Qualifying Transmission Upgrade, or similar occurrences) to submit Buy Bids for replacement Capacity Resources; and

(ii) allowing the Office of the Interconnection to reduce or increase the amount of committed capacity secured in prior auctions for such Delivery Year if, as a result of changed circumstances or expectations since the prior auction(s), there is, respectively, a significant excess or significant deficit of committed capacity for such Delivery Year, for the PJM Region or for an LDA.

Incremental Auction Revenue Rights:

"Incremental Auction Revenue Rights" shall mean the additional Auction Revenue Rights, not previously feasible, created by the addition of Incremental Rights-Eligible Required Transmission Enhancements, Merchant Transmission Facilities, or of one or more Customer-Funded Upgrades.

Incremental Available Transfer Capability Revenue Rights:

"Incremental Available Transfer Capability Revenue Rights" shall mean the rights to revenues that are derived from incremental Available Transfer Capability created by the addition of Merchant Transmission Facilities or of one of more Customer-Funded Upgrades.

Incremental Capacity Transfer Right:

"Incremental Capacity Transfer Right" shall mean a Capacity Transfer Right allocated to a Generation Interconnection Customer or Transmission Interconnection Customer obligated to fund a transmission facility or upgrade, to the extent such upgrade or facility increases the transmission import capability into a Locational Deliverability Area, or a Capacity Transfer Right allocated to a Responsible Customer in accordance with Tariff, Schedule 12A.

Incremental Deliverability Rights (IDRs):

"Incremental Deliverability Rights" or "IDRs" shall mean the rights to the incremental ability, resulting from the addition of Merchant Transmission Facilities, to inject energy and capacity at a point on the Transmission System, such that the injection satisfies the deliverability requirements of a Capacity Resource. Incremental Deliverability Rights may be obtained by a generator or a Generation Interconnection Customer, pursuant to an IDR Transfer Agreement, to satisfy, in part, the deliverability requirements necessary to obtain Capacity Interconnection Rights.

Incremental Energy Offer:

"Incremental Energy Offer" shall mean offer segments comprised of a pairing of price (in dollars per MWh) and megawatt quantities, which must be a non-decreasing function and taken together produce all of the energy segments above a resource's Economic Minimum. No-load Costs are not included in the Incremental Energy Offer.

Incremental Multi-Driver Project:

"Incremental Multi-Driver Project" shall have the same meaning provided in the Operating Agreement.

Incremental Rights-Eligible Required Transmission Enhancements:

"Incremental Rights-Eligible Required Transmission Enhancements" shall mean Regional Facilities and Necessary Lower Voltage Facilities or Lower Voltage Facilities (as defined in Tariff, Schedule 12) and meet one of the following criteria: (1) cost responsibility is assigned to non-contiguous Zones that are not directly electrically connected; or (2) cost responsibility is assigned to Merchant Transmission Providers that are Responsible Customers.

Increment Offer:

"Increment Offer" shall mean a type of Virtual Transaction that is an offer to sell energy at a specified location in the Day-ahead Energy Market. A cleared Increment Offer results in scheduled generation at the specified location in the Day-ahead Energy Market.

Independent Auditor:

"Independent Auditor" shall mean an external accountant or external accounting firm who is not an employee of, not otherwise related to, not obligated to, has no interest in, and is independent in the performance of professional services for, the entity he/she/it is auditing, its management and/or its owners.

Initial Operation:

"Initial Operation" shall mean the commencement of operation of the Customer Facility and Customer Interconnection Facilities after satisfaction of the conditions of Tariff, Attachment O-Appendix 2, section 1.4 (an Interconnection Service Agreement).

Interconnected Entity:

"Interconnected Entity" shall mean either the Interconnection Customer or the Interconnected Transmission Owner; Interconnected Entities shall mean both of them.

Interconnected Transmission Owner:

"Interconnected Transmission Owner" shall mean the Transmission Owner to whose transmission facilities or distribution facilities Customer Interconnection Facilities are, or as the case may be, a Customer Facility is, being directly connected. When used in an Interconnection Construction Service Agreement, the term may refer to a Transmission Owner whose facilities must be upgraded pursuant to the Facilities Study, but whose facilities are not directly interconnected with those of the Interconnection Customer.

Interconnection Construction Service Agreement:

"Interconnection Construction Service Agreement" shall mean the agreement entered into by an Interconnection Customer, Interconnected Transmission Owner and the Transmission Provider pursuant to Tariff, Part VI, Subpart B and in the form set forth in Tariff, Attachment P, relating to construction of Attachment Facilities, Network Upgrades, and/or Local Upgrades and coordination of the construction and interconnection of an associated Customer Facility. A separate Interconnection Construction Service Agreement will be executed with each Transmission Owner that is responsible for construction of any Attachment Facilities, Network Upgrades, or Local Upgrades associated with interconnection of a Customer Facility.

Interconnection Customer:

"Interconnection Customer" shall mean a Generation Interconnection Customer and/or a Transmission Interconnection Customer.

Interconnection Facilities:

"Interconnection Facilities" shall mean the Transmission Owner Interconnection Facilities and the Customer Interconnection Facilities.

Interconnection Feasibility Study:

"Interconnection Feasibility Study" shall mean either a Generation Interconnection Feasibility Study or Transmission Interconnection Feasibility Study.

Interconnection Party:

"Interconnection Party" shall mean a Transmission Provider, Interconnection Customer, or the Interconnected Transmission Owner. Interconnection Parties shall mean all of them.

Interconnection Request:

"Interconnection Request" shall mean a Generation Interconnection Request, a Transmission Interconnection Request and/or an IDR Transfer Agreement.

Interconnection Service:

"Interconnection Service" shall mean the physical and electrical interconnection of the Customer Facility with the Transmission System pursuant to the terms of Tariff, Part IV and Tariff, Part VI and the Interconnection Service Agreement entered into pursuant thereto by Interconnection Customer, the Interconnected Transmission Owner and Transmission Provider.

Interconnection Service Agreement:

"Interconnection Service Agreement" shall mean an agreement among the Transmission Provider, an Interconnection Customer and an Interconnected Transmission Owner regarding interconnection under Tariff, Part IV and Tariff, Part VI.

Interconnection Studies:

"Interconnection Studies" shall mean the Interconnection Feasibility Study, the System Impact Study, and the Facilities Study described in Tariff, Part IV and Tariff, Part VI.

Interface Pricing Point:

"Interface Pricing Point" shall have the meaning specified in Operating Agreement, Schedule 1, section 2.6A, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.6A.

Intermittent Resource:

"Intermittent Resource" shall mean a Generation Capacity Resource with output that can vary as a function of its energy source, such as wind, solar, run of river hydroelectric power and other renewable resources.

Internal Credit Score:

"Internal Credit Score" shall mean a composite numerical score determined by PJMSettlement using quantitative and qualitative metrics to estimate various predictors of a credit event happening to a Market Participant that may trigger a credit event.

Internal Market Buyer:

"Internal Market Buyer" shall mean a Market Buyer making purchases of energy from the PJM Interchange Energy Market for ultimate consumption by end-users inside the PJM Region that are served by Network Transmission Service.

Interregional Transmission Project:

"Interregional Transmission Project" shall mean transmission facilities that would be located within two or more neighboring transmission planning regions and are determined by each of those regions to be a more efficient or cost effective solution to regional transmission needs.

Interruption:

"Interruption" shall mean a reduction in non-firm transmission service due to economic reasons pursuant to Tariff, Part II, section 14.7.

Definitions – L – M – N

Letter of Credit:

"Letter of Credit" shall mean a Credit Support Document acceptable to PJM and/or PJM Settlement, issued by a financial institution acceptable to PJM and/or PJM Settlement, naming PJM and/or PJMSettlement as beneficiary, in substantially the form posted on PJM's website.

Limited Demand Resource:

"Limited Demand Resource**"** shall have the meaning specified in the Reliability Assurance Agreement.

Limited Demand Resource Reliability Target:

"Limited Demand Resource Reliability Target**"** for the PJM Region or an LDA, shall mean the maximum amount of Limited Demand Resources determined by PJM to be consistent with the maintenance of reliability, stated in Unforced Capacity that shall be used to calculate the Minimum Extended Summer Demand Resource Requirement for Delivery Years through May 31, 2017 and the Limited Resource Constraint for the 2017/2018 and 2018/2019 Delivery Years for the PJM Region or such LDA. As more fully set forth in the PJM Manuals, PJM calculates the Limited Demand Resource Reliability Target by first: i) testing the effects of the ten-interruption requirement by comparing possible loads on peak days under a range of weather conditions (from the daily load forecast distributions for the Delivery Year in question) against possible generation capacity on such days under a range of conditions (using the cumulative capacity distributions employed in the Installed Reserve Margin study for the PJM Region and in the Capacity Emergency Transfer Objective study for the relevant LDAs for such Delivery Year) and, by varying the assumed amounts of DR that is committed and displaces committed generation, determines the DR penetration level at which there is a ninety percent probability that DR will not be called (based on the applicable operating reserve margin for the PJM Region and for the relevant LDAs) more than ten times over those peak days; ii) testing the six-hour duration requirement by calculating the MW difference between the highest hourly unrestricted peak load and seventh highest hourly unrestricted peak load on certain high peak load days (e.g., the annual peak, loads above the weather normalized peak, or days where load management was called) in recent years, then dividing those loads by the forecast peak for those years and averaging the result; and (iii) (for the 2016/2017 and 2017/2018 Delivery Years) testing the effects of the six-hour duration requirement by comparing possible hourly loads on peak days under a range of weather conditions (from the daily load forecast distributions for the Delivery Year in question) against possible generation capacity on such days under a range of conditions (using a Monte Carlo model of hourly capacity levels that is consistent with the capacity model employed in the Installed Reserve Margin study for the PJM Region and in the Capacity Emergency Transfer Objective study for the relevant LDAs for such Delivery Year) and, by varying the assumed amounts of DR that is committed and displaces committed generation, determines the DR penetration level at which there is a ninety percent probability that DR will not be called (based on the applicable operating reserve margin for the PJM Region and for the relevant LDAs) for more than six hours over any one or more of the tested peak days. Second, PJM adopts the lowest result from these three tests as the Limited Demand Resource Reliability Target. The Limited Demand Resource Reliability Target shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the DR Factor] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

Limited Resource Constraint:

“Limited Resource Constraint” shall mean, for the 2017/2018 Delivery Year and for FRR Capacity Plans the 2017/2018 and Delivery Years, for the PJM Region or each LDA for which the Office of the Interconnection is required under Tariff, Attachment DD, section 5.10(a) to establish a separate VRR Curve for a Delivery Year, a limit on the total amount of Unforced Capacity that can be committed as Limited Demand Resources for the 2017/2018 Delivery Year in the PJM Region or in such LDA, calculated as the Limited Demand Resource Reliability Target for the PJM Region or such LDA, respectively, minus the Short Term Resource Procurement Target for the PJM Region or such LDA, respectively.

Limited Resource Price Decrement:

“Limited Resource Price Decrement” shall mean, for the 2017/2018 Delivery Year, a difference between the clearing price for Limited Demand Resources and the clearing price for Extended Summer Demand Resources and Annual Resources, representing the cost to procure additional Extended Summer Demand Resources or Annual Resources out of merit order when the Limited Resource Constraint is binding.

List of Approved Contractors:

“List of Approved Contractors” shall mean a list developed by each Transmission Owner and published in a PJM Manual of (a) contractors that the Transmission Owner considers to be qualified to install or construct new facilities and/or upgrades or modifications to existing facilities on the Transmission Owner’s system, provided that such contractors may include, but need not be limited to, contractors that, in addition to providing construction services, also provide design and/or other construction-related services, and (b) manufacturers or vendors of major transmission-related equipment (e.g., high-voltage transformers, transmission line, circuit breakers) whose products the Transmission Owner considers acceptable for installation and use on its system.

Load Management:

“Load Management” shall mean a Demand Resource (“DR”) as defined in the Reliability Assurance Agreement.

Load Management Event:

“Load Management Event” shall mean a) a single temporally contiguous dispatch of Demand Resources in a Compliance Aggregation Area during an Operating Day, or b) multiple dispatches of Demand Resources in a Compliance Aggregation Area during an Operating Day that are temporally contiguous.

Load Ratio Share:

"Load Ratio Share" shall mean the ratio of a Transmission Customer's Network Load to the Transmission Provider's total load.

Load Reduction Event:

"Load Reduction Event" shall mean a reduction in demand by a Member or Special Member for the purpose of participating in the PJM Interchange Energy Market.

Load Serving Charging Energy:

"Load Serving Charging Energy" shall mean energy that is purchased from the PJM Interchange Energy Market and stored in an Energy Storage Resource for later resale to end-use load.

Load Serving Entity (LSE):

"Load Serving Entity" or "LSE" shall have the meaning specified in the Reliability Assurance Agreement.

Load Shedding:

"Load Shedding" shall mean the systematic reduction of system demand by temporarily decreasing load in response to transmission system or area capacity shortages, system instability, or voltage control considerations under Tariff, Part II or Tariff, Part III.

Local Upgrades:

"Local Upgrades" shall mean modifications or additions of facilities to abate any local thermal loading, voltage, short circuit, stability or similar engineering problem caused by the interconnection and delivery of generation to the Transmission System. Local Upgrades shall include:

(i) Direct Connection Local Upgrades which are Local Upgrades that only serve the Customer Interconnection Facility and have no impact or potential impact on the Transmission System until the final tie-in is complete; and

(ii) Non-Direct Connection Local Upgrades which are parallel flow Local Upgrades that are not Direct Connection Local Upgrades.

Location:

“Location” as used in the Economic Load Response rules shall mean an end-use customer site as defined by the relevant electric distribution company account number.

LOC Deviation:

“LOC Deviation,” shall mean, for units other than wind units, the LOC Deviation shall equal the desired megawatt amount for the resource determined according to the point on the Final Offer curve corresponding to the Real-time Settlement Interval real-time Locational Marginal Price at the resource’s bus and adjusted for any Regulation or Tier 2 Synchronized Reserve assignments and limited to the lesser of the unit’s Economic Maximum or the unit’s Generation Resource Maximum Output, minus the actual output of the unit. For wind units, the LOC Deviation shall mean the deviation of the generating unit’s output equal to the lesser of the PJM forecasted output for the unit or the desired megawatt amount for the resource determined according to the point on the Final Offer curve corresponding to the Real-time Settlement Interval integrated real-time Locational Marginal Price at the resource’s bus, and shall be limited to the lesser of the unit’s Economic Maximum or the unit’s Generation Resource Maximum Output, minus the actual output of the unit.

Locational Deliverability Area (LDA):

“Locational Deliverability Area” or “LDA” shall mean a geographic area within the PJM Region that has limited transmission capability to import capacity to satisfy such area’s reliability requirement, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, and as specified in Reliability Assurance Agreement, Schedule 10.1.

Locational Deliverability Area Reliability Requirement:

“Locational Deliverability Area Reliability Requirement” shall mean the projected internal capacity in the Locational Deliverability Area plus the Capacity Emergency Transfer Objective for the Delivery Year, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, less the minimum internal resources required for all FRR Entities in such Locational Deliverability Area.

Locational Price Adder:

“Locational Price Adder” shall mean an addition to the marginal value of Unforced Capacity within an LDA as necessary to reflect the price of Capacity Resources required to relieve applicable binding locational constraints.

Locational Reliability Charge:

“Locational Reliability Charge” shall have the meaning specified in the Reliability Assurance Agreement.

Locational UCAP:

"Locational UCAP" shall mean unforced capacity that a Member with available uncommitted capacity sells in a bilateral transaction to a Member that previously committed capacity through an RPM Auction but now requires replacement capacity to fulfill its RPM Auction commitment. The Locational UCAP Seller retains responsibility for performance of the resource providing such replacement capacity.

Locational UCAP Seller:

"Locational UCAP Seller" shall mean a Member that sells Locational UCAP.

Long-lead Project:

"Long-lead Project" shall have the same meaning provided in the Operating Agreement.

Long-Term Firm Point-To-Point Transmission Service:

"Long-Term Firm Point-To-Point Transmission Service" shall mean firm Point-To-Point Transmission Service under Tariff, Part II with a term of one year or more.

Loss Price:

"Loss Price" shall mean the loss component of the Locational Marginal Price, which is the effect on transmission loss costs (whether positive or negative) associated with increasing the output of a generation resource or decreasing the consumption by a Demand Resource based on the effect of increased generation from or consumption by the resource on transmission losses, calculated as specified in Operating Agreement, Schedule 1, section 2, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

M2M Flowgate:

"M2M Flowgate" shall have the meaning provided in the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C.

Maintenance Adder:

"Maintenance Adder" shall mean an adder that may be included to account for variable operation and maintenance expenses in a Market Seller's Fuel Cost Policy. The Maintenance Adder is calculated in accordance with the applicable provisions of PJM Manual 15, and may only include expenses incurred as a result of electric production.

Manual Load Dump Action:

"Manual Load Dump Action" shall mean an Operating Instruction, as defined by NERC, from PJM to shed firm load when the PJM Region cannot provide adequate capacity to meet the PJM

Region’s load and tie schedules, or to alleviate critically overloaded transmission lines or other equipment.

Manual Load Dump Warning:

“Manual Load Dump Warning” shall mean a notification from PJM to warn Members of an increasingly critical condition of present operations that may require manually shedding load.

Marginal Value:

“Marginal Value” shall mean the incremental change in system dispatch costs, measured as a $/MW value incurred by providing one additional MW of relief to the transmission constraint.

Market Monitor:

“Market Monitor**”** means the head of the Market Monitoring Unit.

Market Monitoring Unit or MMU:

“Market Monitoring Unit” or “MMU” means the independent Market Monitoring Unit defined in 18 CFR § 35.28(a)(7) and established under the PJM Market Monitoring Plan (Attachment M) to the PJM Tariff that is responsible for implementing the Market Monitoring Plan, including the Market Monitor. The Market Monitoring Unit may also be referred to as the IMM or Independent Market Monitor for PJM

Market Monitoring Unit Advisory Committee or MMU Advisory Committee:

“Market Monitoring Unit Advisory Committee” or “MMU Advisory Committee” shall mean the committee established under Tariff, Attachment M, section III.H.

Market Operations Center:

“Market Operations Center” shall mean the equipment, facilities and personnel used by or on behalf of a Market Participant to communicate and coordinate with the Office of the Interconnection in connection with transactions in the PJM Interchange Energy Market or the operation of the PJM Region.

Market Participant:

“Market Participant” shall mean a Market Buyer, a Market Seller, and/or an Economic Load Response Participant, except when that term is used in or pertaining to Tariff, Attachment M, Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4. “Market Participant,” when such term is used in Tariff, Attachment M, shall mean an entity that generates, transmits, distributes, purchases, or sells electricity, ancillary services, or any other product or service provided under the PJM Tariff or Operating Agreement within, into, out of, or through the PJM Region, but it shall not include an Authorized Government Agency that consumes energy for its own use but does not purchase or sell energy at wholesale. “Market Participant,” when such term is used in or pertaining to Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4, shall mean a Market Buyer, a Market Seller, an Economic Load Response Participant, an FTR Participant, a Capacity Market Buyer, or a Capacity Market Seller.

Market Participant Energy Injection:

“Market Participant Energy Injection” shall mean transactions in the Day-ahead Energy Market and Real-time Energy Market, including but not limited to Day-ahead generation schedules, real-time generation output, Increment Offers, internal bilateral transactions and import transactions, as further described in the PJM Manuals.

Market Participant Energy Withdrawal:

“Market Participant Energy Withdrawal” shall mean transactions in the Day-ahead Energy Market and Real-time Energy Market, including but not limited to Demand Bids, Decrement Bids, real-time load (net of Behind The Meter Generation expected to be operating, but not to be less than zero), internal bilateral transactions and Export Transactions, as further described in the PJM Manuals.

Market Seller Offer Cap:

“Market Seller Offer Cap” shall mean a maximum offer price applicable to certain Market Sellers under certain conditions, as determined in accordance with Tariff, Attachment DD. section 6 and Tariff, Attachment M-Appendix, section II.E.

Market Violation:

“Market Violation” shall mean a tariff violation, violation of a Commission-approved order, rule or regulation, market manipulation, or inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies, as defined in 18 C.F.R. § 35.28(b)(8).

Material Adverse Change:

“Material Adverse Change” shall mean (i) any material adverse change in the financial condition of the respective entity or (ii) any adverse change, event or occurrence which, individually or in the aggregate is likely to have a material adverse effect on the ability of the Participant to pay and perform its obligations to PJM or on the operations, business, assets, financial condition, results, or creditworthiness of the respective entity or its credit support provider, and may include, without limitation, the items listed in Tariff, Attachment Q.

Material Modification:

"Material Modification" shall mean any modification to an Interconnection Request that has a material adverse effect on the cost or timing of Interconnection Studies related to, or any Network Upgrades or Local Upgrades needed to accommodate, any Interconnection Request with a later Queue Position.

Maximum Daily Starts:

"Maximum Daily Starts" shall mean the maximum number of times that a generating unit can be started in an Operating Day under normal operating conditions.

Maximum Emergency:

"Maximum Emergency" shall mean the designation of all or part of the output of a generating unit for which the designated output levels may require extraordinary procedures and therefore are available to the Office of the Interconnection only when the Office of the Interconnection declares a Maximum Generation Emergency and requests generation designated as Maximum Emergency to run. The Office of the Interconnection shall post on the PJM website the aggregate amount of megawatts that are classified as Maximum Emergency.

Maximum Facility Output:

"Maximum Facility Output" shall mean the maximum (not nominal) net electrical power output in megawatts, specified in the Interconnection Service Agreement, after supply of any parasitic or host facility loads, that a Generation Interconnection Customer's Customer Facility is expected to produce, provided that the specified Maximum Facility Output shall not exceed the output of the proposed Customer Facility that Transmission Provider utilized in the System Impact Study.

Maximum Generation Emergency:

"Maximum Generation Emergency" shall mean an Emergency declared by the Office of the Interconnection to address either a generation or transmission emergency in which the Office of the Interconnection anticipates requesting one or more Generation Capacity Resources, or Non-Retail Behind The Meter Generation resources to operate at its maximum net or gross electrical power output, subject to the equipment stress limits for such Generation Capacity Resource or Non-Retail Behind The Meter resource in order to manage, alleviate, or end the Emergency.

Maximum Generation Emergency Alert:

"Maximum Generation Emergency Alert" shall mean an alert issued by the Office of the Interconnection to notify PJM Members, Transmission Owners, resource owners and operators, customers, and regulators that a Maximum Generation Emergency may be declared, for any Operating Day in either, as applicable, the Day-ahead Energy Market or the Real-time Energy Market, for all or any part of such Operating Day.

Maximum Run Time:

"Maximum Run Time" shall mean the maximum number of hours a generating unit can run over the course of an Operating Day, as measured by PJM's State Estimator.

Maximum Weekly Starts:

"Maximum Weekly Starts" shall mean the maximum number of times that a generating unit can be started in one week, defined as the 168 hour period starting Monday 0001 hour, under normal operating conditions.

Member:

"Member" shall have the meaning provided in the Operating Agreement.

Merchant A.C. Transmission Facilities:

"Merchant A.C. Transmission Facility" shall mean Merchant Transmission Facilities that are alternating current (A.C.) transmission facilities, other than those that are Controllable A.C. Merchant Transmission Facilities.

Merchant D.C. Transmission Facilities:

"Merchant D.C. Transmission Facilities" shall mean direct current (D.C.) transmission facilities that are interconnected with the Transmission System pursuant to Tariff, Part IV and Tariff, Part VI.

Merchant Network Upgrades:

"Merchant Network Upgrades" shall mean additions to, or modifications or replacements of, physical facilities of the Interconnected Transmission Owner that, on the date of the pertinent Transmission Interconnection Customer's Upgrade Request, are part of the Transmission System or are included in the Regional Transmission Expansion Plan.

Merchant Transmission Facilities:

"Merchant Transmission Facilities" shall mean A.C. or D.C. transmission facilities that are interconnected with or added to the Transmission System pursuant to Tariff, Part IV and Tariff, Part VI and that are so identified in Tariff, Attachment T, provided, however, that Merchant Transmission Facilities shall not include (i) any Customer Interconnection Facilities, (ii) any physical facilities of the Transmission System that were in existence on or before March 20, 2003 ; (iii) any expansions or enhancements of the Transmission System that are not identified as Merchant Transmission Facilities in the Regional Transmission Expansion Plan and Tariff, Attachment T, or (iv) any transmission facilities that are included in the rate base of a public utility and on which a regulated return is earned.

Merchant Transmission Provider:

“Merchant Transmission Provider” shall mean an Interconnection Customer that (1) owns, controls, or controls the rights to use the transmission capability of, Merchant D.C. Transmission Facilities and/or Controllable A.C. Merchant Transmission Facilities that connect the Transmission System with another control area, (2) has elected to receive Transmission Injection Rights and Transmission Withdrawal Rights associated with such facility pursuant to Tariff, Part IV, section 36, and (3) makes (or will make) the transmission capability of such facilities available for use by third parties under terms and conditions approved by the Commission and stated in the Tariff, consistent with Tariff, Part IV, section 38.

Merger Without Assumption:

“Merger Without Assumption” shall mean when a Market Participant, or any Guarantor or other credit support provider of such Market Participant, merges with or transfers all or substantially all of its assets to, or consolidates, amalgamates, reorganizes, reincorporates or reconstitutes into or as, another entity and, at the time of such consolidation, amalgamation, merger, transfer, reorganization, reincorporation or reconstitution (a) the resulting, surviving or transferee entity does not assume all the obligations of such Market Participant, or any Guarantor or other credit support provider of such Market Participant under the Agreements or any Credit Support Document to which it or its predecessor was a party; or (b) the benefits of any Credit Support Document do not extend (without the consent of the other party) to the performance by such resulting, surviving or transferee entity of its obligations under the Agreements.

Metering Equipment:

“Metering Equipment” shall mean all metering equipment installed at the metering points designated in the appropriate appendix to an Interconnection Service Agreement.

Minimum Annual Resource Requirement:

“Minimum Annual Resource Requirement” shall mean, for Delivery Years through May 31, 2017, the minimum amount of capacity that PJM will seek to procure from Annual Resources for the PJM Region and for each Locational Deliverability Area for which the Office of the Interconnection is required under Tariff, Attachment DD, section 5.10(a) to establish a separate VRR Curve for such Delivery Year. For the PJM Region, the Minimum Annual Resource Requirement shall be equal to the RTO Reliability Requirement minus [the Sub-Annual Resource Reliability Target for the RTO in Unforced Capacity]. For an LDA, the Minimum Annual Resource Requirement shall be equal to the LDA Reliability Requirement minus [the LDA CETL] minus [the Sub-Annual Resource Reliability Target for such LDA in Unforced Capacity]. The LDA CETL may be adjusted pro rata for the amount of load served under the FRR Alternative.

Minimum Down Time:

For all generating units that are not combined cycle units, “Minimum Down Time” shall mean the minimum number of hours under normal operating conditions between unit shutdown and

unit startup, calculated as the shortest time difference between the unit's generator breaker opening and after the unit's generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero. For combined cycle units, "Minimum Down Time" shall mean the minimum number of hours between the last generator breaker opening and after first combustion turbine generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero.

Minimum Extended Summer Resource Requirement:

"Minimum Extended Summer Resource Requirement" shall mean, for Delivery Years through May 31, 2017, the minimum amount of capacity that PJM will seek to procure from Extended Summer Demand Resources and Annual Resources for the PJM Region and for each Locational Deliverability Area for which the Office of the Interconnection is required under Tariff, Attachment DD, section 5.10(a) to establish a separate VRR Curve for such Delivery Year. For the PJM Region, the Minimum Extended Summer Resource Requirement shall be equal to the RTO Reliability Requirement minus [the Limited Demand Resource Reliability Target for the PJM Region in Unforced Capacity]. For an LDA, the Minimum Extended Summer Resource Requirement shall be equal to the LDA Reliability Requirement minus [the LDA CETL] minus [the Limited Demand Resource Reliability Target for such LDA in Unforced Capacity]. The LDA CETL may be adjusted pro rata for the amount of load served under the FRR Alternative.

Minimum Generation Emergency:

"Minimum Generation Emergency" shall mean an Emergency declared by the Office of the Interconnection in which the Office of the Interconnection anticipates requesting one or more generating resources to operate at or below Normal Minimum Generation, in order to manage, alleviate, or end the Emergency.

Minimum Participation Requirements:

"Minimum Participation Requirements" shall mean a set of minimum training, risk management, communication, and capital or collateral requirements required for Participants in the PJM Markets, as set forth in Tariff, Attachment Q and in the Form of Annual Certification set forth as Tariff, Attachment Q, Appendix 1. FTR Participants in certain circumstances will be required to demonstrate additional capital and collateral requirements as set forth in Tariff, Attachment Q, and risk management procedures and controls as further set forth in the Annual Certification found in Tariff, Attachment Q, Appendix 1.

Minimum Run Time:

For all generating units that are not combined cycle units, "Minimum Run Time" shall mean the minimum number of hours a unit must run, in real-time operations, from the time after generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero, to the time of generator breaker opening, as measured by PJM's State Estimator. For combined cycle units, "Minimum Run Time" shall mean the time period after the first combustion turbine generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero, and the last generator breaker opening as measured by PJM's State Estimator.

MISO:

"MISO" shall mean the Midcontinent Independent System Operator, Inc. or any successor thereto.

Multi-Driver Project:

"Multi-Driver Project" shall have the same meaning provided in the Operating Agreement.

Municipalities and Cooperatives; Municipality and Cooperative; Municipality or Cooperative:

"Municipalities and Cooperatives," "Municipality and Cooperative," and "Municipality or Cooperative," as those terms are used in Tariff, Attachment Q or elsewhere regarding credit scoring, shall mean Participants that are not-for-profit municipal electric systems, municipalities, electric cooperatives, generation cooperatives, transmission cooperatives and/or joint municipal agencies, or agents duly authorized to represent one or more of such entities and whose credit quality is directly derived from the credit quality of the entity(ies) represented through the agency relationship.

Nationally Recognized Statistical Rating Organization:

"Nationally Recognized Statistical Rating Organization" or "NRSRO" shall have the meaning as set forth in Securities Exchange Act of 1934, section 3(a)(62), 15 U.S.C. §78(a)(62).

Native Load Customers:

"Native Load Customers" shall mean the wholesale and retail power customers of a Transmission Owner on whose behalf the Transmission Owner, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to construct and operate the Transmission Owner's system to meet the reliable electric needs of such customers.

NERC:

"NERC" shall mean the North American Electric Reliability Corporation or any successor thereto.

NERC Interchange Distribution Calculator:

"NERC Interchange Distribution Calculator" shall mean the NERC mechanism that is in effect and being used to calculate the distribution of energy, over specific transmission interfaces, from energy transactions.

Net Benefits Test:

"Net Benefits Test" shall mean a calculation to determine whether the benefits of a reduction in price resulting from the dispatch of Economic Load Response exceeds the cost to other loads resulting from the billing unit effects of the load reduction, as specified in Operating Agreement, Schedule 1, section 3.3A.4 and the parallel provisions of Tariff, Attachment K-Appendix, section 3.3A.4.

Net Cost of New Entry:

"Net Cost of New Entry" shall mean the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset.

Net Obligation:

"Net Obligation" shall mean the amount owed to PJMSettlement and PJM for purchases from the PJM Markets, Transmission Service, (under Tariff, Parts II and III , and other services pursuant to the Agreements, after applying a deduction for amounts owed to a Participant by PJMSettlement as it pertains to monthly market activity and services. Should other markets be formed such that Participants may incur future Obligations in those markets, then the aggregate amount of those Obligations will also be added to the Net Obligation.

Net Sell Position:

"Net Sell Position" shall mean the amount of Net Obligation when Net Obligation is negative.

Network Customer:

"Network Customer" shall mean an entity receiving transmission service pursuant to the terms of the Transmission Provider's Network Integration Transmission Service under Tariff, Part III.

Network External Designated Transmission Service:

"Network External Designated Transmission Service" shall have the meaning set forth in Reliability Assurance Agreement, Article I.

Network Integration Transmission Service:

"Network Integration Transmission Service" shall mean the transmission service provided under Tariff, Part III.

Network Load:

"Network Load" shall mean the load that a Network Customer designates for Network Integration Transmission Service under Tariff, Part III. The Network Customer's Network Load shall include all load (including losses, Non-Dispatched Charging Energy, and Load Serving

Charging Energy) served by the output of any Network Resources designated by the Network Customer. A Network Customer may elect to designate less than its total load as Network Load but may not designate only part of the load at a discrete Point of Delivery. Where an Eligible Customer has elected not to designate a particular load at discrete points of delivery as Network Load, the Eligible Customer is responsible for making separate arrangements under Tariff, Part II for any Point-To-Point Transmission Service that may be necessary for such non-designated load. Network Load shall not include Dispatched Charging Energy.

Network Operating Agreement:

"Network Operating Agreement" shall mean an executed agreement that contains the terms and conditions under which the Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of Network Integration Transmission Service under Tariff, Part III.

Network Operating Committee:

"Network Operating Committee" shall mean a group made up of representatives from the Network Customer(s) and the Transmission Provider established to coordinate operating criteria and other technical considerations required for implementation of Network Integration Transmission Service under Tariff, Part III.

Network Resource:

"Network Resource" shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis, except for purposes of fulfilling obligations under a reserve sharing program.

Network Service User:

"Network Service User" shall mean an entity using Network Transmission Service.

Network Transmission Service:

"Network Transmission Service" shall mean transmission service provided pursuant to the rates, terms and conditions set forth in Tariff, Part III, or transmission service comparable to such service that is provided to a Load Serving Entity that is also a Transmission Owner.

Network Upgrades:

"Network Upgrades" shall mean modifications or additions to transmission-related facilities that are integrated with and support the Transmission Provider's overall Transmission System for the general benefit of all users of such Transmission System. Network Upgrades shall include:

(i) **Direct Connection Network Upgrades** which are Network Upgrades that are not part of an Affected System; only serve the Customer Interconnection Facility; and have no impact or potential impact on the Transmission System until the final tie-in is complete. Both Transmission Provider and Interconnection Customer must agree as to what constitutes Direct Connection Network Upgrades and identify them in the Interconnection Construction Service Agreement, Schedule D. If the Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Direct Connection Network Upgrade, the Transmission Provider must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider does not consider the Network Upgrade to be a Direcct Connection Network Upgrade within 15 days of its determination.

(ii) **Non-Direct Connection Network Upgrades** which are parallel flow Network Upgrades that are not Direct Connection Network Upgrades.

Neutral Party:

"Neutral Party" shall have the meaning provided in Tariff, Part I, section 9.3(v).

New PJM Zone(s):

"New PJM Zone(s)" shall mean the Zone included in the Tariff, along with applicable Schedules and Attachments, for Commonwealth Edison Company, The Dayton Power and Light Company and the AEP East Operating Companies (Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company and Wheeling Power Company).

New Service Customers:

"New Service Customers" shall mean all customers that submit an Interconnection Request, a Completed Application, or an Upgrade Request that is pending in the New Services Queue.

New Service Request:

"New Service Request" shall mean an Interconnection Request, a Completed Application, or an Upgrade Request.

New Services Queue:

"New Service Queue" shall mean all Interconnection Requests, Completed Applications, and Upgrade Requests that are received within each six-month period ending on April 30 and October 31 of each year shall collectively comprise a New Services Queue.

New Services Queue Closing Date:

“New Services Queue Closing Date” shall mean each April 30 and October 31 shall be the Queue Closing Date for the New Services Queue comprised of Interconnection Requests, Completed Applications, and Upgrade Requests received during the six-month period ending on such date.

New York ISO or NYISO:

“New York ISO” or “NYISO” shall mean the New York Independent System Operator, Inc. or any successor thereto.

Nodal Reference Price:

The “Nodal Reference Price” at each location shall mean the 97th percentile price differential between day-ahead and real-time prices experienced over the corresponding two-month reference period in the prior calendar year. Reference periods will be Jan-Feb, Mar-Apr, May-Jun, Jul-Aug, Sept-Oct, Nov-Dec. For any given current-year month, the reference period months will be the set of two months in the prior calendar year that include the month corresponding to the current month. For example, July and August 2003 would each use July-August 2002 as their reference period.

No-load Cost:

“No-load Cost” shall mean the hourly cost required to create the starting point of a monotonically increasing incremental offer curve for a generating unit.

Nominal Rated Capability:

“Nominal Rated Capability” shall mean the nominal maximum rated capability in megawatts of a Transmission Interconnection Customer’s Customer Facility or the nominal increase in transmission capability in megawatts of the Transmission System resulting from the interconnection or addition of a Transmission Interconnection Customer’s Customer Facility, as determined in accordance with pertinent Applicable Standards and specified in the Interconnection Service Agreement.

Nominated Demand Resource Value:

“Nominated Demand Resource Value” shall mean the amount of load reduction that a Demand Resource commits to provide either through direct load control, firm service level or guaranteed load drop programs. For existing Demand Resources, the maximum Nominated Demand Resource Value is limited, in accordance with the PJM Manuals, to the value appropriate for the method by which the load reduction would be accomplished, at the time the Base Residual Auction or Incremental Auction is being conducted.

Nominated Energy Efficiency Value:

“Nominated Energy Efficiency Value” shall mean the amount of load reduction that an Energy Efficiency Resource commits to provide through installation of more efficient devices or equipment or implementation of more efficient processes or systems.

Non-Dispatched Charging Energy:

“Non-Dispatched Charging Energy” shall mean all Direct Charging Energy that an Energy Storage Resource Model Participant receives from the electric grid that is not otherwise Dispatched Charging Energy.

Non-Firm Point-To-Point Transmission Service:

“Non-Firm Point-To-Point Transmission Service” shall mean Point-To-Point Transmission Service under the Tariff that is reserved and scheduled on an as-available basis and is subject to Curtailment or Interruption as set forth in Tariff, Part II, section 14.7. Non-Firm Point-To-Point Transmission Service is available on a stand-alone basis for periods ranging from one hour to one month.

Non-Firm Sale:

“Non-Firm Sale” shall mean an energy sale for which receipt or delivery may be interrupted for any reason or no reason, without liability on the part of either the buyer or seller.

Non-Firm Transmission Withdrawal Rights:

“No-Firm Transmission Withdrawal Rights” shall mean the rights to schedule energy withdrawals from a specified point on the Transmission System. Non-Firm Transmission Withdrawal Rights may be awarded only to a Merchant D.C. Transmission Facility that connects the Transmission System to another control area. Withdrawals scheduled using Non-Firm Transmission Withdrawal Rights have rights similar to those under Non-Firm Point-to-Point Transmission Service.

Non-Performance Charge:

“Non-Performance Charge” shall mean the charge applicable to Capacity Performance Resources as defined in Tariff, Attachment DD, section 10A(e).

Nonincumbent Developer:

“Nonincumbent Developer” shall have the same meaning provided in the Operating Agreement.

Non-Regulatory Opportunity Cost:

“Non-Regulatory Opportunity Cost” shall mean the difference between (a) the forecasted cost to operate a specific generating unit when the unit only has a limited number of starts or available run hours resulting from (i) the physical equipment limitations of the unit, for up to one year, due to original equipment manufacturer recommendations or insurance carrier restrictions, (ii) a fuel supply limitation, for up to one year, resulting from an event of Catastrophic Force Majeure; and, (b) the forecasted future Locational Marginal Price at which the generating unit could run while not violating such limitations. Non-Regulatory Opportunity Cost therefore is the value associated with a specific generating unit's lost opportunity to produce energy during a higher valued period of time occurring within the same period of time in which the unit is bound by the referenced restrictions, and is reflected in the rules set forth in PJM Manual 15. Non-Regulatory Opportunity Costs shall be limited to those resources which are specifically delineated in Operating Agreement, Schedule 2.

Non-Retail Behind The Meter Generation:

"Non-Retail Behind The Meter Generation" shall mean Behind the Meter Generation that is used by municipal electric systems, electric cooperatives, or electric distribution companies to serve load.

Non-Synchronized Reserve:

"Non-Synchronized Reserve" shall mean the reserve capability of non-emergency generation resources that can be converted fully into energy within ten minutes of a request from the Office of the Interconnection dispatcher, and is provided by equipment that is not electrically synchronized to the Transmission System.

Non-Synchronized Reserve Event:

"Non-Synchronized Reserve Event" shall mean a request from the Office of the Interconnection to generation resources able and assigned to provide Non-Synchronized Reserve in one or more specified Reserve Zones or Reserve Sub-zones, within ten minutes to increase the energy output by the amount of assigned Non-Synchronized Reserve capability.

Non-Variable Loads:

"Non-Variable Loads" shall have the meaning specified in Operating Agreement, Schedule 1, section 1.5A.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.5A.6.

Non-Zone Network Load:

"Non-Zone Network Load shall mean Network Load that is located outside of the PJM Region.

Normal Maximum Generation:

"Normal Maximum Generation" shall mean the highest output level of a generating resource under normal operating conditions.

Normal Minimum Generation:

"Normal Minimum Generation" shall mean the lowest output level of a generating resource under normal operating conditions.

Definitions – O – P - Q

Obligation:

"Obligation" shall mean all amounts owed to PJMSettlement for purchases from the PJM Markets, Transmission Service, (under both Tariff, Part II and Tariff, Part III), and other services or obligations pursuant to the Agreements. In addition, aggregate amounts that will be owed to PJMSettlement in the future for capacity purchases within the PJM capacity markets will be added to this figure. Should other markets be formed such that Participants may incur future Obligations in those markets, then the aggregate amount of those Obligations will also be added to the Net Obligation.

Offer Data:

"Offer Data" shall mean the scheduling, operations planning, dispatch, new resource, and other data and information necessary to schedule and dispatch generation resources and Demand Resource(s) for the provision of energy and other services and the maintenance of the reliability and security of the Transmission System in the PJM Region, and specified for submission to the PJM Interchange Energy Market for such purposes by the Office of the Interconnection.

Office of the Interconnection:

"Office of the Interconnection" shall mean the employees and agents of PJM Interconnection, L.L.C. subject to the supervision and oversight of the PJM Board, acting pursuant to the Operating Agreement.

Office of the Interconnection Control Center:

"Office of the Interconnection Control Center" shall mean the equipment, facilities and personnel used by the Office of the Interconnection to coordinate and direct the operation of the PJM Region and to administer the PJM Interchange Energy Market, including facilities and equipment used to communicate and coordinate with the Market Participants in connection with transactions in the PJM Interchange Energy Market or the operation of the PJM Region.

On-Site Generators:

"On-Site Generators" shall mean generation facilities (including Behind The Meter Generation) that (i) are not Capacity Resources, (ii) are not injecting into the grid, (iii) are either synchronized or non-synchronized to the Transmission System, and (iv) can be used to reduce demand for the purpose of participating in the PJM Interchange Energy Market.

Open Access Same-Time Information System (OASIS) or PJM Open Access Same-Time Information System:

"Open Access Same-Time Information System," "PJM Open Access Same-Time Information System" or "OASIS" shall mean the electronic communication and information system and standards of conduct contained in Part 37 and Part 38 of the Commission's regulations and all additional requirements implemented by subsequent Commission orders dealing with OASIS for the collection and dissemination of information about transmission services in the PJM Region, established and operated by the Office of the Interconnection in accordance with FERC standards and requirements.

Operating Agreement of the PJM Interconnection, L.L.C., Operating Agreement or PJM Operating Agreement:

"Operating Agreement of the PJM Interconnection, L.L.C.," "Operating Agreement" or "PJM Operating Agreement" shall mean the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. dated as of April 1, 1997 and as amended and restated as of June 2, 1997, including all Schedules, Exhibits, Appendices, addenda or supplements hereto, as amended from time to time thereafter, among the Members of the PJM Interconnection, L.L.C., on file with the Commission.

Operating Day:

"Operating Day" shall mean the daily 24 hour period beginning at midnight for which transactions on the PJM Interchange Energy Market are scheduled.

Operating Margin:

"Operating Margin" shall mean the incremental adjustments, measured in megawatts, required in PJM Region operations in order to accommodate, on a first contingency basis, an operating contingency in the PJM Region resulting from operations in an interconnected Control Area. Such adjustments may result in constraints causing Transmission Congestion Charges, or may result in Ancillary Services charges pursuant to the PJM Tariff.

Operating Margin Customer:

"Operating Margin Customer" shall mean a Control Area purchasing Operating Margin pursuant to an agreement between such other Control Area and the LLC.

Operationally Deliverable:

"Operationally Deliverable" shall mean, as determined by the Office of the Interconnection, that there are no operational conditions, arrangements or limitations experienced or required that threaten, impair or degrade effectuation or maintenance of deliverability of capacity or energy from the external Generation Capacity Resource to loads in the PJM Region in a manner comparable to the deliverability of capacity or energy to such loads from Generation Capacity Resources located inside the metered boundaries of the PJM Region, including, without limitation, an identified need by an external Balancing Authority Area for a remedial action scheme or manual generation trip protocol, transmission facility switching arrangements that would have the effect of radializing load, or excessive or unacceptable frequency of regional reliability limit violations or (outside an interregional agreed congestion management process) of local reliability dispatch instructions and commitments.

Opportunity Cost:

"Opportunity Cost" shall mean a component of the Market Seller Offer Cap calculated in accordance with Tariff, Attachment DD, section 6.

OPSI Advisory Committee:

"OPSI Advisory Committee" shall mean the committee established under Tariff, Attachment M, section III.G.

Option to Build:

"Option to Build" shall mean the option of the New Service Customer to build certain Customer-Funded Upgrades, as set forth in, and subject to the terms of, the Construction Service Agreement.

Optional Interconnection Study:

"Optional Interconnection Study" shall mean a sensitivity analysis of an Interconnection Request based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

Optional Interconnection Study Agreement:

"Optional Interconnection Study Agreement" shall mean the form of agreement for preparation of an Optional Interconnection Study, as set forth in Tariff, Attachment N-3.

Part I:

"Part I" shall mean the Tariff Definitions and Common Service Provisions contained in Tariff, Part I, sections 1 through 12A.

Part II:

"Part II" shall mean Tariff, Part II, sections 13 through 27A pertaining to Point-To-Point Transmission Service in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Part III:

"Part III" shall mean Tariff, Part III, sections 28 through 35 pertaining to Network Integration Transmission Service in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Part IV:

"Part IV" shall mean Tariff, Part IV, sections 36 through 112C pertaining to generation or merchant transmission interconnection to the Transmission System in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Part V:

"Part V" shall mean Tariff, Part V, sections 113 through 122 pertaining to the deactivation of generating units in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Part VI:

"Part VI" shall mean Tariff, Part VI, sections 200 through 237 pertaining to the queuing, study, and agreements relating to New Service Requests, and the rights associated with Customer-Funded Upgrades in conjunction with the applicable Common Service Provisions of Tariff, Part I and appropriate Schedules and Attachments.

Participant:

"Participant" shall mean a Market Participant and/or Transmission Customer and/or Applicant requesting to be an active Market Participant and/or Transmission Customer**.**

Parties:

"Parties" shall mean the Transmission Provider, as administrator of the Tariff, and the Transmission Customer receiving service under the Tariff. PJMSettlement shall be the Counterparty to Transmission Customers.

Peak-Hour Dispatch:

"Peak-Hour Dispatch" shall mean, for purposes of calculating the Energy and Ancillary Services Revenue Offset under Tariff, Attachment DD, section 5, an assumption, as more fully set forth in the PJM Manuals, that the Reference Resource is committed in the Day-ahead Energy Market in four distinct blocks of four hours of continuous output for each block from the peak-hour period beginning with the hour ending 0800 EPT through to the hour ending 2300 EPT for any day when the average day-ahead LMP for the area for which the Net Cost of New Entry is being determined is greater than, or equal to, the cost to generate (including the cost for a complete start and shutdown cycle), plus 10% of such costs, for at least two hours during each four-hour block, where such blocks shall be assumed to be committed independently; provided that, if there are not at least two economic hours in any given four-hour block, then the Reference Resource shall be assumed not to be committed for such block; and to the extent not committed in any such block in the Day-ahead Energy Market under the above conditions based on Day-Ahead LMPs, is dispatched in the Real-time Energy Market for such block if the Real-Time

LMP is greater than or equal to the cost to generate, plus 10% of such costs, under the same conditions as described above for the Day-ahead Energy Market.

Peak Market Activity:
"Peak Market Activity" shall mean a measure of exposure for which credit is required, involving peak exposures in rolling three-week periods over a year timeframe, with two semi-annual reset points, pursuant to provisions of Tariff, Attachment Q, section VII.A. Peak Market Activity shall exclude FTR Net Activity, Virtual Transactions Net Activity, and Export Transactions Net Activity.

Peak Season:

"Peak Season" shall mean the weeks containing the 24th through 36th Wednesdays of the calendar year. Each such week shall begin on a Monday and end on the following Sunday, except for the week containing the 36th Wednesday, which shall end on the following Friday.

Percentage Internal Resources Required:

"Percentage Internal Resources Required" shall have the meaning specified in the Reliability Assurance Agreement.

Performance Assessment Interval:

"Performance Assessment Interval" shall mean each Real-time Settlement Interval for which an Emergency Action has been declared by the Office of the Interconnection, provided, however, that Performance Assessment Intervals for a Base Capacity Resource shall not include any intervals outside the calendar months of June through September.

Permissible Technological Advancement:

"Permissible Technological Advancement" shall mean a proposed technological change to turbines, inverters, or plant supervisory controls or other similar advancements to the technology proposed in the Interconnection Request that is submitted to the Transmission Provider with an executed System Impact Study Agreement provided such change does not (i) increase the capability of the Generating Facility as specified in the original Interconnection Request; or (ii) represent a different fuel type from the original Interconnection Request. Any proposed technological change submitted after an executed System Impact Study Agreement is submitted to the Transmission Provider shall be considered a Permissible Technological Advancement if it is not deemed to be a Material Modification pursuant to Tariff, Part IV, Subpart A, section 36.2A.3.

PJM:

"PJM" shall mean PJM Interconnection, L.L.C., including the Office of the Interconnection as referenced in the PJM Operating Agreement. When such term is being used in the RAA it shall also include the PJM Board.

PJM Administrative Service:

"PJM Administrative Service" shall mean the services provided by PJM pursuant to Tariff, Schedule 9.

PJM Board:

"PJM Board" shall mean the Board of Managers of the LLC, acting pursuant to the Operating Agreement except when such term is being used in Tariff, Attachment M, in which case PJM Board shall mean the Board of Managers of PJM or its designated representative, exclusive of any members of PJM Management.

PJM Control Area:

"PJM Control Area" shall mean the Control Area recognized by NERC as the PJM Control Area.

PJM Entities:

"PJM Entities" shall mean PJM, including the Market Monitoring Unit, the PJM Board, and PJM's officers, employees, representatives, advisors, contractors, and consultants.

PJM Interchange:

"PJM Interchange" shall mean the following, as determined in accordance with the Operating Agreement and Tariff: (a) for a Market Participant that is a Network Service User, the amount by which its interval Equivalent Load exceeds, or is exceeded by, the sum of the interval outputs of its operating generating resources; or (b) for a Market Participant that is not a Network Service User, the amount of its Spot Market Backup; or (c) the interval scheduled deliveries of Spot Market Energy by a Market Seller from an External Resource; or (d) the interval net metered output of any other Market Seller; or (e) the interval scheduled deliveries of Spot Market Energy to an External Market Buyer; or (f) the inteval scheduled deliveries to an Internal Market Buyer that is not a Network Service User.

PJM Interchange Energy Market:

"PJM Interchange Energy Market" shall mean the regional competitive market administered by the Office of the Interconnection for the purchase and sale of spot electric energy at wholesale in interstate commerce and related servicesestablished pursuant to Operating Agreement, Schedule 1, and the parallel provisions of Tariff, Attachment K – Appendix.

PJM Interchange Export:

"PJM Interchange Export" shall mean the following, as determined in accordance with the Operating Agreement and Tariff: (a) for a Market Participant that is a Network Service User, the amount by which its interval Equivalent Load is exceeded by the sum of the inteval outputs of its operating generating resources; or (b) for a Market Participant that is not a Network Service User, the amount of its Spot Market Backup sales; or (c) the interval scheduled deliveries of Spot Market Energy by a Market Seller from an External Resource; or (d) the interval net metered output of any other Market Seller.

PJM Interchange Import:

"PJM Interchange Import" shall mean the following, as determined in accordance with the Operating Agreement and Tariff: (a) for a Market Participant that is a Network Service User, the amount by which its interval Equivalent Load exceeds the sum of the interval outputs of its operating generating resources; or (b) for a Market Participant that is not a Network Service User, the amount of its Spot Market Backup purchases; or (c) the interval scheduled deliveries of Spot Market Energy to an External Market Buyer; or (d) the interval scheduled deliveries to an Internal Market Buyer that is not a Network Service User.

PJM Liaison:

"PJM Liaison" shall mean the liaison established under Tariff, Attachment M, section III.I.

PJM Management:

"PJM Management" shall mean the officers, executives, supervisors and employee managers of PJM.

PJM Manuals:

"PJM Manuals" shall mean the instructions, rules, procedures and guidelines established by the Office of the Interconnection for the operation, planning, and accounting requirements of the PJM Region and the PJM Interchange Energy Market.

PJM Markets:

"PJM Markets" shall mean the PJM Interchange Energy Market, capacity markets, including the RPM auctions, and any other market operated by PJM, together with all bilateral or other wholesale electric power and energy transactions, capacity transactions, ancillary services transactions (including black start service), transmission transactions, Financial Transmission Rights transactions, or transactions in any other market operated under the Agreements within the PJM Region, wherein Market Participants may incur Obligations to PJM and/or PJMSettlement.

PJM Market Rules:

"PJM Market Rules" shall mean the rules, standards, procedures, and practices of the PJM Markets set forth in the PJM Tariff, the PJM Operating Agreement, the PJM Reliability Assurance Agreement, the PJM Consolidated Transmission Owners Agreement, the PJM

Manuals, the PJM Regional Practices Document, the PJM-Midwest Independent Transmission System Operator Joint Operating Agreement or any other document setting forth market rules.

PJM Net Assets:

"PJM Net Assets**"** shall mean the total assets per PJM's consolidated quarterly or year-end financial statements most recently issued as of the date of the receipt of written notice of a claim less amounts for which PJM is acting as a temporary custodian on behalf of its Members, transmission developers/Designated Entities, and generation developers, including, but not limited to, cash deposits related to credit requirement compliance, study and/or interconnection receivables, member prepayments, invoiced amounts collected from Net Buyers but have not yet been paid to Net Sellers, and excess congestion (as described in Operating Agreement, Schedule 1, section 5.2.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.6).

PJM Region:

"PJM Region" shall have the meaning specified in the Operating Agreement.

PJM Regional Practices Document:
"PJM Regional Practices Document" shall mean the document of that title that compiles and describes the practices in the PJM Markets and that is made available in hard copy and on the Internet.

PJM Region Installed Reserve Margin:

"PJM Region Installed Reserve Margin" shall mean the percent installed reserve margin for the PJM Region required pursuant to RAA, Schedule 4.1, as approved by the PJM Board.

PJM Region Peak Load Forecast:

"PJM Region Peak Load Forecast" shall mean the peak load forecast used by the Office of the Interconnection in determining the PJM Region Reliability Requirement, and shall be determined on both a preliminary and final basis as set forth in Tariff, Attachment DD, section 5.

PJM Region Reliability Requirement:

"PJM Region Reliability Requirement" shall mean, for purposes of the Base Residual Auction, the Forecast Pool Requirement multiplied by the Preliminary PJM Region Peak Load Forecast, less the sum of all Preliminary Unforced Capacity Obligations of FRR Entities in the PJM Region; and, for purposes of the Incremental Auctions, the Forecast Pool Requirement multiplied by the updated PJM Region Peak Load Forecast, less the sum of all updated Unforced Capacity Obligations of FRR Entities in the PJM Region.

PJMSettlement:

“PJM Settlement” or “PJM Settlement, Inc.” shall mean PJM Settlement, Inc. (or its successor), established by PJM as set forth in Operaitng Agreement, section 3.3.

PJM Tariff, Tariff, O.A.T.T., OATT or PJM Open Access Transmission Tariff:

“PJM Tariff,” “Tariff,” “O.A.T.T.,” “OATT,” or “PJM Open Access Transmission Tariff” shall mean that certain PJM Open Access Transmission Tariff, including any schedules, appendices or exhibits attached thereto, on file with FERC and as amended from time to time thereafter.

Plan:

“Plan” shall mean the PJM market monitoring plan set forth in Tariff, Attachment M.

Planned Demand Resource:

“Planned Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

Planned External Financed Generation Capacity Resource:

“Planned External Financed Generation Capacity Resource” shall mean a Planned External Generation Capacity Resource that, prior to August 7, 2015, has an effective agreement that is the equivalent of an Interconnection Service Agreement, has submitted to the Office of the Interconnection the appropriate certification attesting achievement of Financial Close, and has secured at least 50 percent of the MWs of firm transmission service required to qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.

Planned External Generation Capacity Resource:

“Planned External Generation Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

Planned Financed Generation Capacity Resource:

“Planned Financed Generation Capacity Resource” shall mean a Planned Generation Capacity Resource that, prior to August 7, 2015, has an effective Interconnection Service Agreement and has submitted to the Office of the Interconnection the appropriate certification attesting achievement of Financial Close.

Planned Generation Capacity Resource:

“Planned Generation Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

Planning Period:

“Planning Period” shall mean the 12 moths beginning June 1 and extending through May 31 of the following year, or such other period approved by the Members Committee.

Planning Period Balance:

“Planning Period Balance” shall mean the entire period of time remaining in the Planning Period following the month that a monthly auction is conducted.

Planning Period Quarter:

“Planning Period Quarter” shall mean any of the following three month periods in the Planning Period: June, July and August; September, October and November; December, January and February; or March, April and May.

Point(s) of Delivery:

“Point(s) of Delivery” shall mean the point(s) on the Transmission Provider’s Transmission System where capacity and energy transmitted by the Transmission Provider will be made available to the Receiving Party under Tariff, Part II. The Point(s) of Delivery shall be specified in the Service Agreement for Long-Term Firm Point-To-Point Transmission Service.

Point of Interconnection:

“Point of Interconnection” shall mean the point or points where the Customer Interconnection Facilities interconnect with the Transmission Owner Interconnection Facilities or the Transmission System.

Point(s) of Receipt:

“Point(s) of Receipt” shall mean point(s) of interconnection on the Transmission Provider’s Transmission System where capacity and energy will be made available to the Transmission Provider by the Delivering Party under Tariff, Part II. The Point(s) of Receipt shall be specified in the Service Agreement for Long-Term Firm Point-To-Point Transmission Service.

Point-To-Point Transmission Service:

“Point-To-Point Transmission Service shall mean the reservation and transmission of capacity and energy on either a firm or non-firm basis from the Point(s) of Receipt to the Point(s) of Delivery under Tariff, Part II.

Power Purchaser:

“Power Purchaser” shall mean the entity that is purchasing the capacity and energy to be transmitted under the Tariff.

PRD Curve:

"PRD Curve" shall have the meaning provided in the Reliability Assurance Agreement.

PRD Provider:

"PRD Provider" shall have the meaning provided in the Reliability Assurance Agreement.

PRD Reservation Price:

"PRD Reservation" Price shall have the meaning provided in the Reliability Assurance Agreement.

PRD Substation:

"PRD Substation" shall have the meaning provided in the Reliability Assurance Agreement.

Pre-Confirmed Application:

"Pre-Confirmed Application" shall be an Application that commits the Eligible Customer to execute a Service Agreement upon receipt of notification that the Transmission Provider can provide the requested Transmission Service.

Pre-Emergency Load Response Program:

"Pre-Emergency Load Response Program" shall be the program by which Curtailment Service Providers may be compensated by PJM for Demand Resources that will reduce load when dispatched by PJM during pre-emergency conditions, and is described in Operating Agreement, Schedule 1, section 8 and the parallel provisions of Tariff, Attachment K-Appendix, section 8.

Pre-Expansion PJM Zones:

"Pre-Expansion PJM Zones" shall be zones included in the Tariff, along with applicable Schedules and Attachments, for certain Transmission Owners – Atlantic City Electric Company, Baltimore Gas and Electric Company, Delmarva Power and Light Company, Jersey Central Power and Light Company, Mid-Atlantic Interstate Transmission, LLC ("MAIT") (MAIT owns and operates the transmission facilities in the Metropolitan Edison Company Zone and the Pennsylvania Electric Company Zone), PECO Energy Company, Pennsylvania Power & Light Group, Potomac Electric Power Company, Public Service Electric and Gas Company, Allegheny Power, and Rockland Electric Company.

Price Responsive Demand:

"Price Responsive Demand" shall have the meaning provided in the Reliability Assurance Agreement.

Primary Reserve:

“Primary Reserve” shall mean the total reserve capability of generation resources that can be converted fully into energy or Demand Resources whose demand can be reduced within ten minutes of a request from the Office of the Interconnection dispatcher, and is comprised of both Synchronized Reserve and Non-Synchronized Reserve.

Primary Reserve Alert

“Primary Reserve Alert” shall mean a notification from PJM to alert Members of an anticipated shortage of Operating Reserve capacity for a future critical period.

Primary Reserve Requirement:

“Primary Reserve Requirement” shall mean the megawatts required to be maintained in a Reserve Zone or Reserve Sub-zone as Primary Reserve, absent any increase to account for additional reserves scheduled to address operational uncertainty. The Primary Reserve Requirement is calculated in accordance with the PJM Manuals.

Principal:

“Principal” shall mean (i) the chief executive officer or senior manager that controls or directs strategy for the Participant, (ii) the chief legal officer or general counsel, (iii) the chief financial officer or senior manager that controls or directs the financial affairs and investments of the Participant, (iv) the chief risk officer or senior manager responsible for managing commodity and derivatives market risks, and (v) the officer or senior manager responsible for or to be responsible for transactions in the applicable PJM Markets. If, due to the Participant’s business enterprise, structure or otherwise, the functions attributed to any of such Principals are performed by an individual or entity separate from the Participant (such as a risk management department in an affiliate, or a director or manager at an entity that controls or invests in the Participant), then for that Participant the term Principal shall mean that individual, or the senior officer or manager of that entity, that performs such function.

Prior CIL Exception External Resource:

“Prior CIL Exception External Resource” shall mean an external Generation Capacity Resource for which (1) a Capacity Market Seller had, prior to May 9, 2017, cleared a Sell Offer in an RPM Auction under the exception provided to the definition of Capacity Import Limit as set forth in RAA, Article I or (2) an FRR Entity committed, prior to May 9, 2017, in an FRR Capacity Plan under the exception provided in the definition of Capacity Import Limit. In the event only a portion (in MW) of an external Generation Capacity Resource has a Pseudo-Tie into the PJM Region, that portion of the external Generation Capacity Resource , which can include up to the maximum megawatt amount cleared in any prior RPM auction or committed in an FRR Capacity Plan (and no other portion thereof) is eligible for treatment as a Prior CIL Exception External Resource if such portion satisfies the requirements of the first sentence of this definition.

Project Financing:

"Project Financing" shall mean: (a) one or more loans, leases, equity and/or debt financings, together with all modifications, renewals, supplements, substitutions and replacements thereof, the proceeds of which are used to finance or refinance the costs of the Customer Facility, any alteration, expansion or improvement to the Customer Facility, the purchase and sale of the Customer Facility or the operation of the Customer Facility; (b) a power purchase agreement pursuant to which Interconnection Customer's obligations are secured by a mortgage or other lien on the Customer Facility; or (c) loans and/or debt issues secured by the Customer Facility.

Project Finance Entity:

"Project Finance Entity" shall mean: (a) a holder, trustee or agent for holders, of any component of Project Financing; or (b) any purchaser of capacity and/or energy produced by the Customer Facility to which Interconnection Customer has granted a mortgage or other lien as security for some or all of Interconnection Customer's obligations under the corresponding power purchase agreement.

Projected PJM Market Revenues:

"Projected PJM Market Revenues" shall mean a component of the Market Seller Offer Cap calculated in accordance with Tariff, Attachment DD, section 6.

Proportional Multi-Driver Project:

"Proportional Multi-Driver Project" shall have the same meaning provided in the Operating Agreement.

Provisional Interconnection Service:

"Provisional Interconnection Service" shall mean interconnection service provided by Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Interconnection Service Agreement and, if applicable, the Tariff.

Pseudo-Tie:

"Pseudo-Tie" shall have the same meaning provided in the Operating Agreement.

Public Policy Objectives:

"Public Policy Objectives" shall have the same meaning provided in the Operating Agreement.

Public Policy Requirements:

“Public Policy Requirements” shall have the same meaning provided in the Operating Agreement.

Qualifying Transmission Upgrade:

“Qualifying Transmission Upgrade” shall mean a proposed enhancement or addition to the Transmission System that: (a) will increase the Capacity Emergency Transfer Limit into an LDA by a megawatt quantity certified by the Office of the Interconnection; (b) the Office of the Interconnection has determined will be in service on or before the commencement of the first Delivery Year for which such upgrade is the subject of a Sell Offer in the Base Residual Auction; (c) is the subject of a Facilities Study Agreement executed before the conduct of the Base Residual Auction for such Delivery Year and (d) a New Service Customer is obligated to fund through a rate or charge specific to such facility or upgrade.

Queue Position:

“Queue Position” shall mean the priority assigned to an Interconnection Request, a Completed Application, or an Upgrade Request pursuant to applicable provisions of Tariff, Part VI.

Definitions – R - S

Ramping Capability:

"Ramping Capability" shall mean the sustained rate of change of generator output, in megawatts per minute.

Rating Agency:

"Rating Agency" shall mean a Nationally Recognized Statistical Rating Organization that assesses the financial condition, strength and stability of companies and governmental entities and their ability to timely make principal and interest payments on their debts and the likelihood of default, and assigns a rating that reflects its assessment of the ability of the company or governmental entity to make the debt payments

Real-time Congestion Price:

"Real-time Congestion Price" shall mean the Congestion Price resulting from the Office of the Interconnection's dispatch of the PJM Interchange Energy Market in the Operating Day.

Real-time Loss Price:

"Real-time Loss Price" shall mean the Loss Price resulting from the Office of the Interconnection's dispatch of the PJM Interchange Energy Market in the Operating Day.

Real-time Energy Market:

"Real-time Energy Market" shall mean the purchase or sale of energy and payment of Transmission Congestion Charges for quantity deviations from the Day-ahead Energy Market in the Operating Day.

Real-time Offer:

"Real-time Offer" shall mean a new offer or an update to a Market Seller's existing cost-based or market-based offer for a clock hour, submitted for use after the close of the Day-ahead Energy Market.

Real-time Prices:

"Real-time Prices" shall mean the Locational Marginal Prices resulting from the Office of the Interconnection's dispatch of the PJM Interchange Energy Market in the Operating Day.

Real-time Settlement Interval:

"Real-time Settlement Interval" shall mean the interval used by settlements, which shall be every five minutes.

Real-time System Energy Price:

"Real-time System Energy Price" shall mean the System Energy Price resulting from the Office of the Interconnection's dispatch of the PJM Interchange Energy Market in the Operating Day.

Reasonable Efforts:

"Reasonable Efforts" shall mean, with respect to any action required to be made, attempted, or taken by an Interconnection Party or by a Construction Party under Tariff, Part IV or Tariff, Part VI, an Interconnection Service Agreement, or a Construction Service Agreement, such efforts as are timely and consistent with Good Utility Practice and with efforts that such party would undertake for the protection of its own interests.

Receiving Party:

"Receiving Party" shall mean the entity receiving the capacity and energy transmitted by the Transmission Provider to Point(s) of Delivery.

Referral:

"Referral" shall mean a formal report of the Market Monitoring Unit to the Commission for investigation of behavior of a Market Participant, of behavior of PJM, or of a market design flaw, pursuant to Tariff, Attachment M, section IV.I.

Reference Resource:

"Reference Resource" shall mean a combustion turbine generating station, configured with a single General Electric Frame 7HA turbine with evaporative cooling, Selective Catalytic Reduction technology all CONE Areas, dual fuel capability, and a heat rate of 9.134 Mmbtu/MWh.

Regional Entity:

"Regional Entity" shall have the same meaning specified in the Operating Agreement.

Regional Transmission Expansion Plan:

"Regional Transmission Expansion Plan" shall mean the plan prepared by the Office of the Interconnection pursuant to Operating Agreement, Schedule 6 for the enhancement and expansion of the Transmission System in order to meet the demands for firm transmission service in the PJM Region.

Regional Transmission Group (RTG):

"Regional Transmission Group" or "RTG" shall mean a voluntary organization of transmission owners, transmission users and other entities approved by the Commission to efficiently coordinate transmission planning (and expansion), operation and use on a regional (and interregional) basis.

Regulation:

"Regulation" shall mean the capability of a specific generation resource or Demand Resource with appropriate telecommunications, control and response capability to separately increase and decrease its output or adjust load in response to a regulating control signal, in accordance with the specifications in the PJM Manuals.

Regulation Zone:

"Regulation Zone" shall mean any of those one or more geographic areas, each consisting of a combination of one or more Control Zone(s) as designated by the Office of the Interconnection in the PJM Manuals, relevant to provision of, and requirements for, regulation service.

Relevant Electric Retail Regulatory Authority:

"Relevant Electric Retail Regulatory Authority" shall mean an entity that has jurisdiction over and establishes prices and policies for competition for providers of retail electric service to end-customers, such as the city council for a municipal utility, the governing board of a cooperative utility, the state public utility commission or any other such entity.

Reliability Assurance Agreement or PJM Reliability Assurance Agreement:

"Reliability Assurance Agreement" or "PJM Reliability Assurance Agreement" shall mean that certain Reliability Assurance Agreement Among Load Serving Entities in the PJM Region, on file with FERC as PJM Interconnection L.L.C. Rate Schedule FERC No. 44, and as amended from time to time thereafter.

Reliability Pricing Model Auction:

"Reliability Pricing Model Auction" or "RPM Auction" shall mean the Base Residual Auction or any Incremental Auction, or, for the 2016/2017 and 2017/2018 Delivery Years, any Capacity Performance Transition Incremental Auction.

Required Transmission Enhancements:

"Regional Transmission Enhancements" shall mean enhancements and expansions of the Transmission System that (1) a Regional Transmission Expansion Plan developed pursuant to Operating Agreement, Schedule 6 or (2) any joint planning or coordination agreement between PJM and another region or transmission planning authority set forth in Tariff, Schedule 12-Appendix B ("Appendix B Agreement") designates one or more of the Transmission Owner(s) to construct and own or finance. Required Transmission Enhancements shall also include enhancements and expansions of facilities in another region or planning authority that meet the definition of transmission facilities pursuant to FERC's Uniform System of Accounts or have been classified as transmission facilities in a ruling by FERC addressing such facilities constructed pursuant to an Appendix B Agreement cost responsibility for which has been assigned at least in part to PJM pursuant to such Appendix B Agreement.

Reserved Capacity:

"Reserved Capacity" shall mean the maximum amount of capacity and energy that the Transmission Provider agrees to transmit for the Transmission Customer over the Transmission Provider's Transmission System between the Point(s) of Receipt and the Point(s) of Delivery under Tariff, Part II. Reserved Capacity shall be expressed in terms of whole megawatts on a sixty (60) minute interval (commencing on the clock hour) basis.

Reserve Penalty Factor:

"Reserve Penalty Factor" shall mean the cost, in $/MWh, associated with being unable to meet a specific reserve requirement in a Reserve Zone or Reserve Sub-zone. A Reserve Penalty Factor will be defined for each reserve requirement in a Reserve Zone or Reserve Sub-zone.

Reserve Sub-zone:

"Reserve Sub-zone" shall mean any of those geographic areas wholly contained within a Reserve Zone, consisting of a combination of a portion of one or more Control Zone(s) as designated by the Office of the Interconnection in the PJM Manuals, relevant to provision of, and requirements for, reserve service.

Reserve Zone:

"Reserve Zone" shall mean any of those geographic areas consisting of a combination of one or more Control Zone(s), as designated by the Office of the Interconnection in the PJM Manuals, relevant to provision of, and requirements for, reserve service.

Residual Auction Revenue Rights:

"Residual Auction Revenue Rights" shall mean incremental stage 1 Auction Revenue Rights created within a Planning Period by an increase in transmission system capability, including the return to service of existing transmission capability, that was not modeled pursuant to Operating Agreement, Schedule 1, section 7.5 and the parallel provisions of Tariff, Attachment K-Appendix, section 7.5 in compliance with Operating Agreement, Schedule 1, section 7.4.2 (h) and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.2(h), and, if modeled, would have increased the amount of stage 1 Auction Revenue Rights allocated pursuant to Operating Agreement, Schedule 1, section 7.4.2 and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.2; provided that, the foregoing notwithstanding, Residual Auction Revenue Rights shall exclude: 1) Incremental Auction Revenue Rights allocated pursuant to Tariff, Part VI; and 2) Auction Revenue Rights allocated to entities that are assigned cost responsibility pursuant to Operating Agreement, Schedule 6 for transmission upgrades that create such rights.

Residual Metered Load:

"Residual Metered Load" shall mean all load remaining in an electric distribution company's fully metered franchise area(s) or service territory(ies) after all nodally priced load of entities serving load in such area(s) or territory(ies) has been carved out.

Resource Substitution Charge:

"Resource Substitution Charge" shall mean a charge assessed on Capacity Market Buyers in an Incremental Auction to recover the cost of replacement Capacity Resources.

Restricted Collateral:

"Restricted Collateral" shall mean Collateral, held by PJM or PJMSettlement, which cannot be used, netted, credited or spent by the Participant to satisfy any other obligations.

Revenue Data for Settlements:

"Revenue Data for Settlements" shall mean energy quantities used in accounting and billing as determined pursuant to Tariff, Attachment K-Appendix and the corresponding provisions of Operating Agreement, Schedule 1.

RPM Seller Credit:

"RPM Seller Credit" shall mean an additional form of Unsecured Credit defined in Tariff, Attachment Q, section VI.

Scheduled Incremental Auctions:

"Scheduled Incremental Auctions" shall refer to the First, Second, or Third Incremental Auction.

Schedule of Work:

"Schedule of Work" shall mean that schedule attached to the Interconnection Construction Service Agreement setting forth the timing of work to be performed by the Constructing Entity pursuant to the Interconnection Construction Service Agreement, based upon the Facilities Study 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 attached as a schedule to the Interconnection Construction Service Agreement and to be performed by the Constructing Entity(ies) pursuant to the Interconnection Construction Service Agreement, 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.

Seasonal Capacity Performance Resource:

"Seasonal Capacity Performance Resource" shall have the same meaning specified in Tariff, Attachment DD, section 5.5A.

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.

Second Incremental Auction:

"Second Incremental Auction" shall mean an Incremental Auction conducted ten months before the Delivery Year to which it relates**.**

Security:

"Security" shall mean the security provided by the New Service Customer pursuant to Tariff, section 212.4 or Tariff, Part VI, section 213.4 to secure the New Service Customer's responsibility for Costs under the Interconnection Service Agreement or Upgrade Construction Service Agreement and Tariff, Part VI, section 217.

Segment:
"Segment" shall have the same meaning as described in Operating Agreement, Schedule 1, section 3.2.3(e), and the parallel provisions of Tariff, Attachment K-Appendix, section 3.2.3(e).

Self-Supply:

"Self-Supply" shall mean Capacity Resources secured by a Load-Serving Entity, by ownership or contract, outside a Reliability Pricing Model Auction, and used to meet obligations under this Attachment or the Reliability Assurance Agreement through submission in a Base Residual Auction or an Incremental Auction of a Sell Offer indicating such Market Seller's intent that such Capacity Resource be Self-Supply. Self-Supply may be either committed regardless of clearing price or submitted as a Sell Offer with a price bid. A Load Serving Entity's Sell Offer with a price bid for an owned or contracted Capacity Resource shall not be deemed "Self-Supply," unless it is designated as Self-Supply and used by the LSE to meet obligations under this Attachment or the Reliability Assurance Agreement.

Sell Offer:

"Sell Offer" shall mean an offer to sell Capacity Resources in a Base Residual Auction, Incremental Auction, or Reliability Backstop Auction.

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.

Service Commencement Date:

"Service Commencement Date" shall mean the date the Transmission Provider begins to provide service pursuant to the terms of an executed Service Agreement, or the date the Transmission Provider begins to provide service in accordance with Tariff, Part II, section 15.3 or Tariff, Part III, section 29.1.

Short-Term Firm Point-To-Point Transmission Service:

"Short-Term Firm Point-To-Point Transmission Service" shall mean Firm Point-To-Point Transmission Service under Tariff, Part II with a term of less than one year.

Short-term Project:

"Short-term Project" shall have the same meaning provided in the Operating Agreement.

Short-Term Resource Procurement Target:

"Short-Term Resource Procurement Target" shall mean, for Delivery Years through May 31, 2018, as to the PJM Region, for purposes of the Base Residual Auction, 2.5% of the PJM Region Reliability Requirement determined for such Base Residual Auction, for purposes of the First Incremental Auction, 2% of the of the PJM Region Reliability Requirement as calculated at the time of the Base Residual Auction; and, for purposes of the Second Incremental Auction, 1.5% of the of the PJM Region Reliability Requirement as calculated at the time of the Base Residual Auction; and, as to any Zone, an allocation of the PJM Region Short-Term Resource Procurement Target based on the Preliminary Zonal Forecast Peak Load, reduced by the amount of load served under the FRR Alternative. For any LDA, the LDA Short-Term Resource Procurement Target shall be the sum of the Short-Term Resource Procurement Targets of all Zones in the LDA.

Short-Term Resource Procurement Target Applicable Share:

"Short-Term Resource Procurement Target Applicable Share" shall mean, for Delivery Years through May 31, 2018: (i) for the PJM Region, as to the First and Second Incremental Auctions, 0.2 times the Short-Term Resource Procurement Target used in the Base Residual Auction and, as to the Third Incremental Auction for the PJM Region, 0.6 times such target; and (ii) for an LDA, as to the First and Second Incremental Auctions, 0.2 times the Short-Term Resource

Procurement Target used in the Base Residual Auction for such LDA and, as to the Third Incremental Auction, 0.6 times such target.

Site:

"Site" shall mean all of the real property, including but not limited to any leased real property and easements, on which the Customer Facility is situated and/or on which the Customer Interconnection Facilities are to be located.

Small Commercial Customer:

"Small Commercial Customer," as used in RAA, Schedule 6 and Tariff, Attachment DD-1, shall mean a commercial retail electric end-use customer of an electric distribution company that participates in a mass market demand response program under the jurisdiction of a RERRA and satisfies the definition of a "small commercial customer" under the terms of the applicable RERRA's program, provided that the customer has an annual peak demand no greater than 100kW.

Small Generation Resource:

"Small Generation Resource" shall mean an Interconnection Customer's device of 20 MW or less for the production and/or storage for later injection of electricity identified in an Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities. This term shall include Energy Storage Resources and/or other devices for storage for later injection of energy.

Small Inverter Facility:

"Small Inverter Facility" shall mean an Energy Resource that is a certified small inverter-based facility no larger than 10 kW.

Small Inverter ISA:

"Small Inverter ISA" shall mean an agreement among Transmission Provider, Interconnection Customer, and Interconnected Transmission Owner regarding interconnection of a Small Inverter Facility under Tariff, Part IV, section 112B.

Special Member:

"Special Member" shall mean an entity that satisfies the requirements of Operating Agreement, Schedule 1, section 1.5A.02, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.5A.02, or the special membership provisions established under the Emergency Load Response and Pre-Emergency Load Response Programs.

Spot Market Backup:

"Spot Market Backup" shall mean the purchase of energy from, or the delivery of energy to, the PJM Interchange Energy Market in quantities sufficient to complete the delivery or receipt obligations of a bilateral contract that has been curtailed or interrupted for any reason.

Spot Market Energy:

"Spot Market Energy" shall mean energy bought or sold by Market Participants through the PJM Interchange Energy Market at System Energy Prices determined as specified in Operating Agreement, Schedule 1, section 2, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

Start Additional Labor Costs:

"Start Additional Labor Costs" shall mean additional labor costs for startup required above normal station manning levels.

Start-Up Costs:

"Start-Up Costs" shall mean the unit costs to bring the boiler, turbine and generator from shutdown conditions to the point after breaker closure which is typically indicated by telemetered or aggregated state estimator megawatts greater than zero and is determined based on the cost of start fuel, total fuel-related cost, performance factor, electrical costs (station service), start maintenance adder, and additional labor cost if required above normal station manning. Start-Up Costs can vary with the unit offline time being categorized in three unit temperature conditions: hot, intermediate and cold.

State:

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

State Commission:

"State Commission**"** shall mean any state regulatory agency having jurisdiction over retail electricity sales in any State in the PJM Region.

State Estimator:

"State Estimator" shall mean the computer model of power flows specified in Operating Agreement, Schedule 1, section 2.3 and the parallel provisions of Tariff, Attachment K-Appendix, section 2.3.

State of Charge:

"State of Charge" shall mean the quantity of physical energy stored in an Energy Storage Resource Model Participant in proportion to its maximum State of Charge capability. State of Charge is quantified as defined in the PJM Manuals.

State of Charge Management:

"State of Charge Management" shall mean the control of State of Charge of an Energy Storage Resource Market Participant using minimum and maximum charge and discharge limits, changes in operating mode, charging and discharging offer curves, and self-scheduling of non-dispatchable purchases and sales of energy in the PJM markets. State of Charge Management shall not interfere with an Energy Storage Resource Model Participant's obligation to follow PJM dispatch, consistent with all other resources.

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.

Sub-Annual Resource Constraint:

"Sub-Annual Resource Constraint" shall mean, for the 2017/2018 Delivery Year and for FRR Capacity Plans the 2017/2018 and 2018/2019 Delivery Years, for the PJM Region or for each LDA for which the Office of the Interconnection is required under Tariff, Attachment DD, section 5.10(a) to establish a separate VRR Curve for a Delivery Year, a limit on the total amount of Unforced Capacity that can be committed as Limited Demand Resources and Extended Summer Demand Resources for the 2017/2018 Delivery Year in the PJM Region or in such LDA, calculated as the Sub-Annual Resource Reliability Target for the PJM Region or for such LDA, respectively, minus the Short-Term Resource Procurement Target for the PJM Region or for such LDA, respectively.

Sub-Annual Resource Price Decrement:

"Sub-Annual Resource Price Decrement" shall mean, for the 2017/2018 Delivery Year, a difference between the clearing price for Extended Summer Demand Resources and the clearing price for Annual Resources, representing the cost to procure additional Annual Resources out of merit order when the Sub-Annual Resource Constraint is binding.

Sub-Annual Resource Reliability Target:

"Sub-Annual Reliability Target" for the PJM Region or an LDA, shall mean the maximum amount of the combination of Extended Summer Demand Resources and Limited Demand Resources in Unforced Capacity determined by PJM to be consistent with the maintenance of reliability, stated in Unforced Capacity, that shall be used to calculate the Minimum Annual Resource Requirement for Delivery Years through May 31, 2017 and the Sub-Annual Resource Constraint for the 2017/2018 and 2018/2019 Delivery Years. As more fully set forth in the PJM Manuals, PJM calculates the Sub-Annual Resource Reliability Target, by first determining a reference annual loss of load expectation ("LOLE") assuming no Demand Resources. The calculation for the unconstrained portion of the PJM Region uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast and iteratively shifting the load distributions to result in the Installed Reserve Margin established for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). The calculation for each relevant LDA uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Capacity Emergency Transfer Objective study for the Delivery Year in question). For the relevant LDA calculation, the weekly capacity distributions are adjusted to reflect the Capacity Emergency Transfer Limit for the Delivery Year in question.

For both the PJM Region and LDA analyses, PJM then models the commitment of varying amounts of DR (displacing otherwise committed generation) as interruptible from May 1 through October 31 and unavailable from November 1 through April 30 and calculates the LOLE at each DR level. The Extended Summer DR Reliability Target is the DR amount, stated as a percentage of the unrestricted peak load, that produces no more than a ten percent increase in the LOLE, compared to the reference value. The Sub-Annual Resource Reliability Target shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the DR Factor] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

Sub-meter:

"Sub-meter" shall mean a metering point for electricity consumption that does not include all electricity consumption for the end-use customer as defined by the electric distribution company account number. PJM shall only accept sub-meter load data from end-use customers for measurement and verification of Regulation service as set forth in the Economic Load Response rules and PJM Manuals.

Summer-Period Capacity Performance Resource:

"Summer-Period Capacity Performance Resource" shall have the same meaning specified in Tariff, Attachment DD, section 5.5A.

Surplus Interconnection Customer:

"Surplus Interconnection Customer" shall mean either an Interconnection Customer whose Generating Facility is already interconnected 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. A Surplus Interconnection Customer is not a New Service Customer.

Surplus Interconnection Request:

"Surplus Interconnection Request" shall mean a request submitted by a Surplus Interconnection Customer, pursuant to Tariff, Attachment RR, 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, such that if Surplus Interconnection Service is utilized, the total amount of Interconnection Service at the Point of Interconnection would remain the same.

Switching and Tagging Rules:

"Switching and Tagging Rules" shall mean the switching and tagging procedures of Interconnected Transmission Owners and Interconnection Customer as they may be amended from time to time.

Synchronized Reserve:

"Synchronized Reserve" shall mean the reserve capability of generation resources that can be converted fully into energy or Demand Resources whose demand can be reduced within ten minutes from the request of the Office of the Interconnection dispatcher, and is provided by equipment that is electrically synchronized to the Transmission System.

Synchronized Reserve Event:

"Synchronized Reserve Event" shall mean a request from the Office of the Interconnection to generation resources and/or Demand Resources able, assigned or self-scheduled to provide Synchronized Reserve in one or more specified Reserve Zones or Reserve Sub-zones, within ten minutes, to increase the energy output or reduce load by the amount of assigned or self-scheduled Synchronized Reserve capability.

Synchronized Reserve Requirement:

"Synchronized Reserve Requirement" shall mean the megawatts required to be maintained in a Reserve Zone or Reserve Sub-zone as Synchronized Reserve, absent any increase to account for additional reserves scheduled to address operational uncertainty. The Synchronized Reserve Requirement is calculated in accordance with the PJM Manuals.

System Condition:

"System Condition" shall mean a specified condition on the Transmission Provider's system or on a neighboring system, such as a constrained transmission element or flowgate, that may trigger Curtailment of Long-Term Firm Point-to-Point Transmission Service using the curtailment priority pursuant to Tariff, Part II, section 13.6. Such conditions must be identified in the Transmission Customer's Service Agreement.

System Energy Price:

"System Energy Price" shall mean the energy component of the Locational Marginal Price, which is the price at which the Market Seller has offered to supply an additional increment of energy from a resource, calculated as specified in Operating Agreement, Schedule 1, section 2 and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

System Impact Study:

"System Impact Study" shall mean an assessment by the Transmission Provider of (i) the adequacy of the Transmission System to accommodate a Completed Application, an Interconnection Request or an Upgrade Request, (ii) whether any additional costs may be incurred in order to provide such transmission service or to accommodate an Interconnection Request, and (iii) with respect to an Interconnection Request, an estimated date that an Interconnection Customer's Customer Facility can be interconnected with the Transmission System and an estimate of the Interconnection Customer's cost responsibility for the interconnection; 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 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 Customer Facility, and (ii) the Customer 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 Customer Facility.

Definitions – T – U - V

Tangible Net Worth:

"Tangible Net Worth" shall mean total assets less goodwill and other intangible assets, minus total liabilities.

Target Allocation:

"Target Allocation" shall mean the allocation of Transmission Congestion Credits as set forth in Operating Agreement, Schedule 1, section 5.2.3, and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.3, or the allocation of Auction Revenue Rights Credits as set forth in Operating Agreement, Schedule 1, section 7.4.3, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.3.

Third Incremental Auction:

"Third Incremental Auction" shall mean an Incremental Auction conducted three months before the Delivery Year to which it relates.

Third-Party Sale:

"Third-Party Sale" shall mean any sale for resale in interstate commerce to a Power Purchaser that is not designated as part of Network Load under the Network Integration Transmission Service but not including a sale of energy through the PJM Interchange Energy Market established under the PJM Operating Agreement.

Tie Line:

"Tie Line" shall mean a circuit connecting two balancing authority areas, Control Areas or fully metered electric system regions. Tie Lines may be classified as external or internal as set forth in the PJM Manuals.

Total Lost Opportunity Cost Offer:

"Total Lost Opportunity Cost Offer" shall mean the applicable offer used to calculate lost opportunity cost credits. For pool-scheduled resources specified in PJM Operating Agreement, Schedule 1, section 3.2.3(f-1), and the parallel provisions of Tariff, Attachment K-Appendix, section 3.2.3(f-1), the Total Lost Opportunity Cost Offer shall equal the Real-time Settlement Interval offer integrated under the applicable offer curve for the LOC Deviation, as determined by the greater of the Committed Offer or last Real-Time Offer submitted for the offer on which the resource was committed in the Day-ahead Energy Market for each hour in an Operating Day. For all other pool-scheduled resources, the Total Lost Opportunity Cost Offer shall equal the Real-time Settlement Interval offer integrated under the applicable offer curve for the LOC Deviation, as determined by the offer curve associated with the greater of the Committed Offer or Final Offer for each hour in an Operating Day. For self-scheduled generation resources, the

Total Lost Opportunity Cost Offer shall equal the Real-time Settlement Interval offer integrated under the applicable offer curve for the LOC Deviation, where for self-scheduled generation resources (a) operating pursuant to a cost-based offer, the applicable offer curve shall be the greater of the originally submitted cost-based offer or the cost-based offer that the resource was dispatched on in real-time; or (b) operating pursuant to a market-based offer, the applicable offer curve shall be determined in accordance with the following process: (1) select the greater of the cost-based day-ahead offer and updated cost-based Real-time Offer; (2) for resources with multiple cost-based offers, first, for each cost-based offer select the greater of the day-ahead offer and updated Real-time Offer, and then select the lesser of the resulting cost-based offers; and (3) compare the offer selected in (1), or for resources with multiple cost-based offers the offer selected in (2), with the market-based day-ahead offer and the market-based Real-time Offer and select the highest offer.

Total Net Obligation:

"Total Net Obligation" shall mean all unpaid billed Net Obligations plus any unbilled Net Obligation incurred to date, as determined by PJMSettlement on a daily basis, plus any other Obligations owed to PJMSettlement at the time.

Total Net Sell Position:

"Total Net Sell Position" shall mean all unpaid billed Net Sell Positions plus any unbilled Net Sell Positions accrued to date, as determined by PJMSettlement on a daily basis.

Total Operating Reserve Offer:

"Total Operating Reserve Offer" shall mean the applicable offer used to calculate Operating Reserve credits. The Total Operating Reserve Offer shall equal the sum of all individual Real-time Settlement Interval energy offers, inclusive of Start-Up Costs (shut-down costs for Demand Resources) and No-load Costs, for every Real-time Settlement Interval in a Segment, integrated under the applicable offer curve up to the applicable megawatt output as further described in the PJM Manuals. The applicable offer used to calculate day-ahead Operating Reserve credits shall be the Committed Offer, and the applicable offer used to calculate balancing Operating Reserve credits shall be lesser of the Committed Offer or Final Offer for each hour in an Operating Day.

Trade Reference:

"Trade Reference" shall mean a reference from a contact or firm that had or has a material business relationship with a Participant.

Transmission Congestion Charge:

"Transmission Congestion Charge" shall mean a charge attributable to the increased cost of energy delivered at a given load bus when the transmission system serving that load bus is operating under constrained conditions, or as necessary to provide energy for third-party transmission losses which shall be calculated and allocated as specified in Operating Agreement, Schedule 1, section 5.1 and the parallel provisions of Tariff, Attachment K-Appendix, section 5.1.

Transmission Congestion Credit:

"Transmission Congestion Credit" shall mean the allocated share of total Transmission Congestion Charges credited to each FTR Holder, calculated and allocated as specified in Operating Agreement, Schedule 1, section 5.2, and the parallel provisions of Tariff, Attachment K-Appendix, section 5.2.

Transmission Constraint Penalty Factor:

"Transmission Constraint Penalty Factor" shall mean the maximum cost of the re-dispatch incurred to control the flows across a transmission constraint and establishes the maximum limit on the Marginal Value.

Transmission Customer:

"Transmission Customer" shall mean any Eligible Customer (or its Designated Agent) that (i) executes a Service Agreement, or (ii) requests in writing that the Transmission Provider file with the Commission a proposed unexecuted Service Agreement, to receive transmission service under Tariff, Part II. This term is used in Tariff, Part I and Tariff, Part VI to include customers receiving transmission service under Tariff, Part II and Tariff, Part III.

Where used in Tariff, Attachment K-Appendix and the parallel provisions of Operating Agreement, Schedule 1, Transmission Customer shall mean an entity using Point-to-Point Transmission Service.

Transmission Facilities:

"Transmission Facilities" shall have the meaning set forth in the Operating Agreement.

Transmission Forced Outage:

"Transmission Forced Outage" shall mean an immediate removal from service of a transmission facility by reason of an Emergency or threatened Emergency, unanticipated failure, or other cause beyond the control of the owner or operator of the transmission facility, as specified in the relevant portions of the PJM Manuals. A removal from service of a transmission facility at the request of the Office of the Interconnection to improve transmission capability shall not constitute a Forced Transmission Outage.

Transmission Injection Rights:

"Transmission Injection Rights" shall mean Capacity Transmission Injection Rights and Energy Transmission Injection Rights.

Transmission Interconnection Customer:

"Transmission Interconnection Customer" shall mean an entity that submits an Interconnection Request to interconnect or add Merchant Transmission Facilities to the Transmission System or to increase the capacity of Merchant Transmission Facilities interconnected with the Transmission System in the PJM Region or an entity that submits an Upgrade Request for Merchant Network Upgrades (including accelerating the construction of any transmission enhancement or expansion, other than Merchant Transmission Facilities, that is included in the Regional Transmission Expansion Plan prepared pursuant to Operating Agreement, Schedule 6).

Transmission Interconnection Facilities Study:

"Transmission Interconnection Facilities Study" shall mean a Facilities Study related to a Transmission Interconnection Request.

Transmission Interconnection Feasibility Study:

"Transmission Interconnection Feasibility Study" shall mean a study conducted by the Transmission Provider in accordance with Tariff, Part IV, section 36.2.

Transmission Interconnection Request:

"Transmission Interconnection Request" shall mean a request by a Transmission Interconnection Customer pursuant to Tariff, Part IV to interconnect or add Merchant Transmission Facilities to the Transmission System or to increase the capacity of existing Merchant Transmission Facilities interconnected with the Transmission System in the PJM Region.

Transmission Loading Relief:

"Transmission Loading Relief" shall mean NERC's procedures for preventing operating security limit violations, as implemented by PJM as the security coordinator responsible for maintaining transmission security for the PJM Region.

Transmission Loading Relief Customer:

"Transmission Loading Relief Customer" shall mean an entity that, in accordance with Operating Agreement, Schedule 1, section 1.10.6A and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.6A, has elected to pay Transmission Congestion Charges during Transmission Loading Relief in order to continue energy schedules over contract paths outside the PJM Region that are increasing the cost of energy in the PJM Region.

Transmission Loss Charge:

"Transmission Loss Charge" shall mean the charges to each Market Participant, Network Customer, or Transmission Customer for the cost of energy lost in the transmission of electricity from a generation resource to load as specified in Operating Agreement, Schedule 1, section 5, and the parallel provisions of Tariff, Attachment K-Appendix, section 5.

Transmission Owner:

"Transmission Owner" shall mean a Member that owns or leases with rights equivalent to ownership Transmission Facilities and is a signatory to the PJM Transmission Owners Agreement. Taking transmission service shall not be sufficient to qualify a Member as a Transmission Owner.

Transmission Owner Attachment Facilities:

"Transmission Owner Attachment Facilities" shall mean that portion of the Transmission Owner Interconnection Facilities comprised of all Attachment Facilities on the Interconnected Transmission Owner's side of the Point of Interconnection.

Transmission Owner Interconnection Facilities:

"Transmission Owner Interconnection Facilities" shall mean all Interconnection Facilities that are not Customer Interconnection Facilities and that, after the transfer under Tariff, Attachment P, Appendix 2, section 5.5 to the Interconnected Transmission Owner of title to any Transmission Owner Interconnection Facilities that the Interconnection Customer constructed, are owned, controlled, operated and maintained by the Interconnected Transmission Owner on the Interconnected Transmission Owner's side of the Point of Interconnection identified in appendices to the Interconnection Service Agreement and to the Interconnection Construction Service Agreement, including any modifications, additions or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Customer Facility with the Transmission System or interconnected distribution facilities.

Transmission Owner Upgrade:

"Transmission Owner Upgrade" shall have the same meaning provided in the Operating Agreement.

Transmission Planned Outage:

"Transmission Planned Outage" shall mean any transmission outage scheduled in advance for a pre-determined duration and which meets the notification requirements for such outages specified in Operating Agreement, Schedule 1, and the parallel provisions of Tariff, Attachment K-Appendix or the PJM Manuals.

Transmission Provider:

The "Transmission Provider" shall be the Office of the Interconnection for all purposes, provided that the Transmission Owners will have the responsibility for the following specified activities:

(a) The Office of the Interconnection shall direct the operation and coordinate the maintenance of the Transmission System, except that the Transmission Owners will continue to direct the operation and maintenance of those transmission facilities that are not listed in the PJM Designated Facilities List contained in the PJM Manual on Transmission Operations;

(b) Each Transmission Owner shall physically operate and maintain all of the facilities that it owns; and

(c) When studies conducted by the Office of the Interconnection indicate that enhancements or modifications to the Transmission System are necessary, the Transmission Owners shall have the responsibility, in accordance with the applicable terms of the Tariff, Operating Agreement and/or the Consolidated Transmission Owners Agreement to construct, own, and finance the needed facilities or enhancements or modifications to facilities.

Transmission Provider's Monthly Transmission System Peak:

"Transmission Provider's Monthly Transmission System Peak" shall mean the maximum firm usage of the Transmission Provider's Transmission System in a calendar month.

Transmission Service:

"Transmission Service" shall mean Point-To-Point Transmission Service provided under Tariff, Part II on a firm and non-firm basis.

Transmission Service Request:

"Transmission Service Request" shall mean a request for Firm Point-To-Point Transmission Service or a request for Network Integration Transmission Service.

Transmission System:

"Transmission System" shall mean the facilities controlled or operated by the Transmission Provider within the PJM Region that are used to provide transmission service under Tariff, Part II and Part III.

Transmission Withdrawal Rights:

"Transmission Withdrawal Rights" shall mean Firm Transmission Withdrawal Rights and Non-Firm Transmission Withdrawal Rights.

Turn Down Ratio:

"Turn Down Ratio" shall mean the ratio of a generating unit's economic maximum megawatts to its economic minimum megawatts.

Unconstrained LDA Group:

"Unconstrained LDA Group" shall mean a combined group of LDAs that form an electrically contiguous area and for which a separate Variable Resource Requirement Curve has not been established under Tariff, Attachment DD, section 5.10. Any LDA for which a separate Variable Resource Requirement Curve has not been established under Tariff, Attachment DD, section 5.10 shall be combined with all other such LDAs that form an electrically contiguous area.

Unforced Capacity:

"Unforced Capacity" shall have the meaning specified in the Reliability Assurance Agreement.

Unsecured Credit:

"Unsecured Credit" shall mean any credit granted by PJMSettlement to a Participant that is not secured by Collateral.

Unsecured Credit Allowance:

"Unsecured Credit Allowance" shall mean Unsecured Credit extended by PJMSettlement in an amount determined by PJMSettlement's evaluation of the creditworthiness of a Participant. This is also defined as the amount of credit that a Participant qualifies for based on the strength of its own financial condition without having to provide Collateral. See also: "Working Credit Limit."

Updated VRR Curve:

"Updated VRR Curve" shall mean the Variable Resource Requirement Curve for use in the Base Residual Auction of the relevant Delivery Year, updated to reflect any change in the Reliability Requirement from the Base Residual Auction to such Incremental Auction, and for Delivery Years through May 31, 2018, the Short-term Resource Procurement Target applicable to the relevant Incremental Auction.

Updated VRR Curve Decrement:

"Updated VRR Curve Decrement" shall mean the portion of the Updated VRR Curve to the left of a vertical line at the level of Unforced Capacity on the x-axis of such curve equal to the net Unforced Capacity committed to the PJM Region as a result of all prior auctions conducted for such Delivery Year and adjusted, if applicable, by a change in Unforced Capacity commitments associated with the transition provision of Tariff, Attachment DD, section 5.14C, Tariff, Attachment DD, section 5.14D (as related to the 2016/2017 Delivery Year), Tariff, Attachment DD, section 5.14E, and Tariff, Attachment DD, section 5.5A(c)(i)(B), and RAA, Schedule 6, section L.9.

Updated VRR Curve Increment:

"Updated VRR Curve Increment" shall mean the portion of the Updated VRR Curve to the right of a vertical line at the level of Unforced Capacity on the x-axis of such curve equal to the net

Unforced Capacity committed to the PJM Region as a result of all prior auctions conducted for such Delivery Year and adjusted, if applicable, by a change in Unforced Capacity commitments associated with the transition provision of Tariff, Attachment DD, section 5.14C, Tariff, Attachment DD, section 5.14D (as related to the 2016/2017 Delivery Year), Tariff, Attachment DD, section 5.14E and Tariff, Attachment DD, section 5.5A(c)(i)(B), and RAA, Schedule 6, section L.9.

Upgrade Construction Service Agreement:

"Upgrade Construction Service Agreement" shall mean that agreement entered into by an Eligible Customer, Upgrade Customer or Interconnection Customer proposing Merchant Network Upgrades, a Transmission Owner, and the Transmission Provider, pursuant to Tariff, Part VI, Subpart B, and in the form set forth in Tariff, Attachment GG.

Upgrade Customer:

"Upgrade Customer" shall mean a customer that submits an Upgrade Request pursuant to Operating Agreement, Schedule 1, section 7.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.8.

Upgrade Feasibility Study:

"Upgrade Feasibility Study" shall mean a study conducted by the Transmission Provider in accordance with Tariff, Part IV, section 36.3.

Upgrade-Related Rights:

"Upgrade-Related Rights" shall mean Incremental Auction Revenue Rights, Incremental Available Transfer Capability Revenue Rights, Incremental Deliverability Rights, and Incremental Capacity Transfer Rights.

Upgrade Request:

"Upgrade Request" shall mean a request submitted in the form prescribed in Tariff, Attachment EE, for evaluation by the Transmission Provider of the feasibility and estimated costs of (a) a Merchant Network Upgrade or (b) the Customer-Funded Upgrades that would be needed to provide Incremental Auction Revenue Rights specified in a request pursuant to Operating Agreement, Schedule 1, section 7.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.8.

Up-to Congestion Counterflow Transaction:

"Up-to Congestion Counterflow Transaction" shall mean an Up-to Congestion Transaction will be deemed an Up-to Congestion Counterflow Transaction if the following value is negative: (a) when bidding, the lower of the bid price and the prior Up-to Congestion Historical Month's average real-time value for the transaction; or (b) for cleared Virtual Transactions, the cleared day-ahead price of the Virtual Transactions.

Up-to Congestion Historical Month:

"Up-to Congestion Historical Month" shall mean a consistently-defined historical period nominally one month long that is as close to a calendar month as PJM determines is practical.

Up-to Congestion Prevailing Flow Transaction:

An Up-to Congestion Transaction shall mean an "Up-to Congestion Prevailing Flow Transaction" if it is not an Up-to Congestion Counterflow Transaction.

Up-to Congestion Reference Price:

"Up-to Congestion Reference Price" for an Up-to Congestion Transaction, shall be the specified percentile price differential between source and sink (defined as sink price minus source price) for real-time prices experienced over the prior Up-to Congestion Historical Month, averaged with the same percentile value calculated for the second prior Up-to Congestion Historical Month. Up-to Congestion Reference Prices shall be calculated using the following historical percentiles:

For Up-to Congestion Prevailing Flow Transactions: 30th percentile
For Up-to Congestion Counterflow Transactions when bid: 20th percentile
For Up-to Congestion Counterflow Transactions when cleared: 5th percentile

Up-to Congestion Transaction:

"Up-to Congestion Transaction" shall have the meaning specified in Operating Agreement, Schedule 1, section 1.10.1A, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1A.

Variable Loads:

"Variable Loads" shall have the meaning specified in Operating Agreement, Schedule 1, section 1.5A.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.5A.6.

Variable Resource Requirement Curve:

"Variable Resource Requirement Curve" shall mean a series of maximum prices that can be cleared in a Base Residual Auction for Unforced Capacity, corresponding to a series of varying resource requirements based on varying installed reserve margins, as determined by the Office of the Interconnection for the PJM Region and for certain Locational Deliverability Areas in accordance with the methodology provided in Tariff, Attachment DD, section 5.

Virtual Credit Exposure:

“Virtual Credit Exposure” shall mean the amount of potential credit exposure created by a market participant’s bid submitted into the Day-ahead market, as defined in Tariff, Attachment Q.

Virtual Transaction:

“Virtual Transaction” shall mean a Decrement Bid, Increment Offer and/or Up-to Congestion Transaction.

Virtual Transaction Screening:

“Virtual Transaction Screening” shall be the process of reviewing the Virtual Credit Exposure of submitted Virtual Transactions against the Credit Available for Virtual Transactions. If the credit required is greater than credit available, then the Virtual Transactions will not be accepted.

Virtual Transactions Net Activity:

“Virtual Transactions Net Activity” shall mean the aggregate net total, resulting from Virtual Transactions, of (i) Spot Market Energy charges, (ii) Transmission Congestion Charges, and (iii) Transmission Loss Charges, calculated as set forth in Tariff, Attachment K-Appendix, and the parallel provisions of Operating Agreement, Schedule 1. Virtual Transactions Net Activity may be positive or negative.

Voltage Reduction Action:

“Voltage Reduction Action” shall mean a notification during capacity deficient conditions in which PJM notifies Members to reduce voltage on the distribution system in order to reduce demand and therefore provide a sufficient amount of reserves, maintain tie flow schedules and preserve limited energy sources.

Voltage Reduction Alert:

“Voltage Reduction Alert” shall mean a notification from PJM to alert Members that a voltage reduction may be required during a future critical period.

Voltage Reduction Warning:

“Voltage Reduction Warning” shall mean a notification from PJM to warn Members that PJM’s available Synchronized Reserve is less than the Synchronized Reserve Requirement and that present operations have deteriorated such that a voltage reduction may be required.

Definitions – W – X – Y - Z

Wholesale Transaction:

As used in Tariff, Part IV, "Wholesale Transaction" shall mean any transaction involving the transmission or sale for resale of electricity in interstate commerce that utilizes any portion of the Transmission System.

Winter-Period Capacity Performance Resource:

"Winter-Period Capacity Performance Resource" shall have the same meaning specified in Tariff, Attachment DD, section 5.5A.

Working Credit Limit:

"Working Credit Limit" shall mean an amount that is 75% of the Participant's Unsecured Credit Allowance and/or 75% of the Collateral provided by the Participant to PJMSettlement. The Working Credit Limit establishes the maximum amount of Total Net Obligation that a Participant may have outstanding at any time. The calculation of Working Credit Limit shall take into account applicable reductions for Minimum Participation Requirements, FTR participation (for which there is no Unsecured Credit Allowance available), or other credit requirement determinants as defined in Tariff, Attachment Q.

Working Credit Limit for Virtual Transactions:

The "Working Credit Limit for Virtual Transactions" shall be calculated as 75% of the Market Participant's Unsecured Credit Allowance and/or 75% of the Collateral provided by the Market Participant to PJMSettlement when the Market Participant is at or below its Peak Market Activity credit requirements as specified in Tariff, Attachment Q, section VII.A. When the Market Participant has available Unsecured Credit Allowance and/or has provided Collateral in excess of its Peak Market Activity credit requirements, such additional Unsecured Credit Allowance and/or Financial Security shall not be discounted by 25% when calculating the Working Credit Limit for Virtual Transactions. The Working Credit Limit for Virtual Transactions is a component in the calculation of Credit Available for Virtual Transactions. The calculation of Working Credit Limit for Virtual Transactions shall take into account applicable reductions for Minimum Participation Requirements, FTR, or other credit requirement determinants as defined in Tariff, Attachment Q.

Zonal Base Load:

"Zonal Base Load" shall mean the lowest daily zonal peak load from the twelve month period ending October 21 of the calendar year immediately preceding the calendar year in which an annual Auction Revenue Right allocation is conducted, increased by the projected load growth rate for the relevant Zone, when non-extraordinary conditions exist for the applicable twelve month period, as determined by PJM. If the lowest daily zonal peak load from the applicable twelve month period is abnormally low due to extraordinary conditions, as determined by PJM, Zonal Base Load shall mean the next lowest daily zonal peak load that was not affected by extraordinary conditions during the applicable twelve month period, increased by the projected load growth rate for the relevant Zone. For the purposes of this definition, extraordinary conditions shall mean a significant event, or combination of events, that affect the operation of the bulk power system in an atypical manner and results in an abnormal reduction in the consumption of energy within a Zone.

Zonal Capacity Price:

"Zonal Capacity Price" shall mean the clearing price required in each Zone to meet the demand for Unforced Capacity and satisfy Locational Deliverability Requirements for the LDA or LDAs associated with such Zone. If the Zone contains multiple LDAs with different Capacity Resource Clearing Prices, the Zonal Capacity Price shall be a weighted average of the Capacity Resource Clearing Prices for such LDAs, weighted by the Unforced Capacity of Capacity Resources cleared in each such LDA.

Zone or Zonal:

"Zone" or "Zonal" shall mean an area within the PJM Region, as set forth in Tariff, Attachment J and RAA, Schedule 15, or as such areas may be (i) combined as a result of mergers or acquisitions or (ii) added as a result of the expansion of the boundaries of the PJM Region. A Zone shall include any Non-Zone Network Load located outside the PJM Region that is served from such Zone under Tariff, Attachment H-A.

Zone Network Load:

"Zone Network Load" shall mean Network Load that is located inside of the area comprised of the PJM Region.

1.4 Market Participant.

1.4.1 Qualification.

(a) To become a Market Participant, an Applicant shall submit an application to the Office of the Interconnection, in such form as shall be established by the Office of the Interconnection, and such further information detailed in Tariff, Attachment Q.

(b) An Applicant that is a Load Serving Entity or that will purchase on behalf of or for ultimate delivery to a Load Serving Entity shall establish to the satisfaction of the Office of the Interconnection that the end-users that will be served through energy and related services purchased in the PJM Interchange Energy Market, are located electrically within the PJM Region, or will be brought within the PJM Region prior to any purchases from the PJM Interchange Energy Market. Such Applicant shall further demonstrate that:

i) The Load Serving Entity for the end users is obligated to meet the requirements of the Reliability Assurance Agreement, as applicable; and

ii) The Load Serving Entity for the end users has arrangements in place for Network Transmission Service or Point-To-Point Transmission Service for all PJM Interchange Energy Market purchases.

(c) An Applicant that is not a Load Serving Entity or purchasing on behalf of or for ultimate delivery to a Load Serving Entity shall demonstrate that:

i) The Applicant has obtained or will obtain Network Transmission Service or Point-to-Point Transmission Service for all PJM Interchange Energy Market purchases; and

ii) The Applicant's PJM Interchange Energy Market purchases will ultimately be delivered to a load in another Control Area that is recognized by NERC and that complies with NERC's standards for operating and planning reliable bulk electric systems.

(d) An Applicant shall not be required to obtain transmission service for purchases from the PJM Interchange Energy Market to cover quantity deviations from its sales in the Day-ahead Energy Market.

(e) An Applicant applying to become a Market Participant shall demonstrate that it:

i) is capable of complying with all applicable metering, data storage and transmission, and other reliability, operation, planning and accounting standards and requirements for the operation of the PJM Region and the PJM Markets, as applicable;

ii) meets the creditworthiness standards established by the Office of the Interconnection and/or PJMSettlement, or has provided cash or a Credit Support Document acceptable to the Office of the Interconnection and/or PJMSettlement; and

iii) has paid all applicable fees and reimbursed the Office of the Interconnection and/or PJMSettlement for all unusual or extraordinary costs of processing and evaluating its application to become a Market Participant, and has agreed in its application to subject any disputes arising from its application to the PJM Dispute Resolution Procedures.

(f) The Applicant shall become a Market Participant upon a final favorable determination on its application by the Office of the Interconnection as specified below, which determination shall be made by the Office of the Interconnection in conjunction with input from PJMSettlement, and execution by the Applicant of counterparts of this Agreement.

1.4.2 Submission of Information.

The Applicant shall furnish all information reasonably requested by the Office of the Interconnection and/or PJMSettlement in order to determine the Applicant's qualification to be a Market Participant and whether the entity should be allowed to remain a Market Participant. The Office of the Interconnection and/or PJMSettlement may waive the submission of information relating to any of the foregoing criteria, to the extent the information in the Office of the Interconnection's and/or PJMSettlement's possession is sufficient to evaluate the application against such criteria.

1.4.3 Fees and Costs.

The Office of the Interconnection shall require all Applicants seeking to become a Market Participant to pay a uniform application fee, initially in the amount of $2,000, to defray the ordinary costs of processing such applications. The application fee shall be revised from time to time as the Office of the Interconnection shall determine to be necessary to recover its ordinary costs of processing applications. Any unusual or extraordinary costs incurred by the Office of the Interconnection in processing an application shall be reimbursed by the Applicant.

1.4.4 Office of the Interconnection Determination.

Upon submission of the information specified above, and such other information as shall reasonably be requested by the Office of the Interconnection and/or PJMSettlement, the Office of the Interconnection and/or PJMSettlement shall undertake an evaluation to determine whether the Applicant meets the criteria specified above, and in accordance with Tariff, Attachment Q.

As soon as practicable, but in any event not later than sixty (60) calendar days after submission of the foregoing information, or such later date as may be necessary to satisfy the requirements of the Agreements, the Office of the Interconnection shall notify the Applicant and the Members Committee of its determination, along with a written summary of the basis for the determination, and whether there are any actions the Applicant can take that might cause the Office of the Interconnection to change its determination, including but not limited to providing even further supplemental information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes. The Office of the Interconnection and/or PJMSettlement shall respond promptly to any reasonable and timely request by an Applicant or a Member for additional information regarding the basis for the Office of the Interconnection's determination, and shall take such action as it shall deem appropriate in response to any request for reconsideration or other action submitted to the Office of the Interconnection not later than thirty (30) calendar days from the initial notification to the Members Committee. Notifications to the Members Committee shall be in compliance with Operating Agreement, section 18.17.1.

1.4.5 Existing Participants.

A Member that was previously qualified to participate as a Market Participant shall not automatically continue to be qualified to participate as a Market Participant under the Agreements. Rather, in order to retain its eligibility to continue to participate as a Market Participant in the PJM Markets, a Market Participant shall be subject to the requirements and ongoing risk evaluation in accordance with Tariff, Attachment Q.

1.4.6 Withdrawal.

(a) An Internal Market Buyer that is a Load Serving Entity may withdraw from this Agreement by giving written notice to the Office of the Interconnection specifying an effective date of withdrawal not earlier than the effective date of (i) its withdrawal from the Reliability Assurance Agreement, or (ii) the assumption of its obligations under the Reliability Assurance Agreement by an agent that is a Market Buyer.

(b) An External Market Buyer or an Internal Market Buyer that is not a Load Serving Entity may withdraw from this Agreement by giving written notice to the Office of the Interconnection specifying an effective date of withdrawal at least one day after the date of the notice.

(c) Withdrawal from this Agreement shall not relieve a Market Participant of any obligation to pay for electric energy or related services purchased from the PJM Markets prior to such withdrawal, to pay its share of any fees and charges incurred or assessed by the Office of the Interconnection and/or PJMSettlement prior to the date of such withdrawal, maintain and/or provide sufficient credit support until all of its transactions in the PJM Markets have been satisfied, or to fulfill any obligation to provide indemnification for the consequences of acts, omissions or events occurring prior to such withdrawal; and provided, further, that withdrawal from this Agreement shall not relieve any Market Participant of any obligations it may have under, or constitute withdrawal from, any other Related PJM Agreement.

(d) A Market Participant that has withdrawn from this Agreement may reapply to become a Market Participant in accordance with the provisions of this section 1.4, provided it is not in default of any obligation incurred under the Agreements.

1.4.7 Limitation, Suspension, and Termination.

The Office of the Interconnection requires that Market Participants certify and provide information required and requested by the Office of the Interconnection and/or PJMSettlement at least annually as indicated in section 1.4.1, 1.4.2 and 1.4.4 above and Tariff, Attachment Q. If the Office of the Interconnection determines that the entity no longer satisfies its requirements to be a Market Participant, the Office of the Interconnection may limit and/or suspend that entity's activity in the PJM Markets until such time as it can satisfy the requirements, and if the requirements are not satisfied the Office of the Interconnection may terminate that entity's approval to be a Market Participant. As soon as practicable, the Office of the Interconnection shall notify the entity and the Members Committee of its determination, along with a written summary of the basis for the determination, and whether there are any actions the entity can take that might cause the Office of the Interconnection to change its determination, including but not limited to providing even further additional information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes. The Office of the Interconnection shall respond promptly to any reasonable and timely request by a Member for additional information regarding the basis for the Office of the Interconnection's determination, and shall take such action as it shall deem appropriate in response to any request for reconsideration or other action submitted to the Office of the Interconnection not later than thirty (30) calendar days from the initial notification to the Members Committee. Notifications to the Members Committee shall be in compliance with Operating Agreement, section 18.17.1.

1.4.8. Re-entry of Defaulting Market Participant.

An Applicant who previously defaulted on any obligations owed to PJM and/or PJMSettlement that resulted in a loss to any PJM Market which was never cured, or who is not eligible for reinstatement to PJM membership pursuant to Operating Agreement, section 15.1, shall not be allowed to re-enter the PJM Markets. In addition, PJM will evaluate relevant factors to determine if an Applicant seeking to participate in the PJM Markets under a different name, affiliation, or organization should be treated as the same Market Participant that experienced a previous default that resulted in a loss to the PJM Markets under this provision. Such factors may include, but are not limited to, the interconnectedness of the business relationships, overlap in relevant personnel, similarity of business activities, overlap of customer base, and the business engaged in prior to the attempted re-entry.

ATTACHMENT Q

CREDIT RISK MANAGEMENT POLICY

I. INTRODUCTION

It is the policy of PJM that prior to an entity participating in any PJM Markets or in order to take Transmission Service, the entity must demonstrate its ability to meet the requirements in this Attachment Q. This Attachment Q also sets forth PJM's authority to deny, reject, or terminate a Participant's right to participate in any PJM Markets in order to protect the PJM Markets and PJM Members from unreasonable credit risk from any Participant's activities. Given the interconnectedness and overlapping of their responsibilities, PJM Interconnection, L.L.C. and PJM Settlement, Inc. are referred to both individually and collectively herein as "PJM."

PURPOSE

PJMSettlement is the counterparty to transactions in the PJM Markets. As a consequence, if a Participant defaults on its obligations under this Attachment Q, or PJM determines a Participant represents unreasonable credit risk to the PJM Markets, and the Participant does not post Collateral, additional Collateral or Restricted Collateral in response to a Collateral Call, the result is that the Participant represents unsecured credit risk to the PJM Markets. For this reason, PJM must have the authority to monitor and manage credit risk on an ongoing basis, and to act promptly to mitigate or reduce any unsecured credit risk, in order to protect the PJM Markets and PJM Members from losses.

This Attachment Q describes requirements for: (1) eligibility to be a Market Participant, (2) establishment and maintenance of credit by Market Participants, and (3) collateral requirements and forms of credit support that will be deemed as acceptable to mitigate risk to any PJM Markets.

This Attachment Q also sets forth (1) PJM's authority to monitor and manage credit risk that a Participant may represent to the PJM Markets and/or PJM membership in general, (2) the basis for establishing limits that will be imposed on a Market Participant in order to minimize risk, and (3) various obligations and requirements the violation of which will result in an Event of Default pursuant to this Attachment Q and the Agreements.

Attachment Q describes the types of data and information PJM will review in order to determine whether an Applicant or Market Participant presents an unreasonable risk to any PJM Markets and/or PJM membership in general, and the steps PJM may take in order to address that risk.

APPLICABILITY

This Attachment Q applies to all Applicants and Market Participants who take Transmission Service under this Tariff, or participate in any PJM Markets or market activities under the Agreements. Notwithstanding anything to the contrary in this Attachment Q, simply taking transmission service or procuring Ancillary Services via market-based rates does not imply market participation for purposes of applicability of this Attachment Q.

II. RISK EVALUATION PROCESS

PJM will conduct a risk evaluation to determine eligibility to become and/or remain a Market Participant or Guarantor that: (1) assesses the entity's financial strength, risk profile, creditworthiness, and other relevant factors; (2) determines an Unsecured Credit Allowance, if appropriate; (3) determines appropriate levels of Collateral; and (4) evaluates any Credit Support, including Guaranties or Letters of Credit.

A. Initial Risk Evaluation

PJM will perform an initial risk evaluation of each Applicant and/or its Guarantor. As part of the initial risk evaluation, PJM will consider certain Minimum Participation Requirements, assign an Internal Risk Score, establish an Unsecured Credit Allowance if appropriate, and make a determination regarding required levels of Collateral, creditworthiness, credit support, Restricted Collateral and other assurances for participation in certain PJM Markets.

Each Applicant and/or its Guarantor must provide the information set forth below at the time of its initial application pursuant to this Attachment Q and on an ongoing basis in order to remain eligible to participate in any PJM Markets. The same quantitative and qualitative factors will be used to evaluate Participants whether or not they have rated debt.

1. Rating Agency Reports

PJM will review Rating Agency reports from Standard & Poor's, Moody's Investors Service, Fitch Ratings, or other Nationally Recognized Statistical Rating Organization for each Applicant and/or Guarantor. The review will focus on the Applicant's or its Guarantor's senior unsecured debt ratings. If senior unsecured debt ratings are not available, PJM may consider other ratings, including issuer ratings, corporate ratings and/or an implied rating based on an internally derived Internal Credit Score pursuant to section II.A.3 below.

2. Financial Statements and Related Information

Each Applicant and/or its Guarantor must submit, or cause to be submitted, audited financial statements, except as otherwise indicated below, prepared in accordance with United States Generally Accepted Accounting Principles ("US GAAP") or any other format acceptable to PJM for the three (3) fiscal years most recently ended, or the period of existence of the Applicant and/or its Guarantor, if shorter. Applicants and/or their Guarantors must submit, or cause to be submitted, financial statements, which may be unaudited, for each completed fiscal quarter of the current fiscal year. All audited financial statements provided by the Applicant and/or its Guarantor must be audited by an Independent Auditor.

The information should include, but not be limited to, the following:

(a) If the Applicant and/or its Guarantor has publicly traded securities:

(i) Annual reports on Form 10-K, together with any amendments thereto;

(ii) Quarterly reports on Form 10-Q, together with any amendments thereto;

(iii) Form 8-K reports, if any, that have been filed since the most recent Form 10-K;

(iv) A summary provided by the Principal responsible, or to be responsible, for PJM Market activity of: (1) the Participant's primary purpose(s) of activity or anticipated activity in the PJM Markets (investment, trading or "hedging or mitigating commercial risks," as such phrase has meaning in the CFTC's regulations regarding the end-user exception to clearing); (2) the experience of the Participant (and its Principals) in managing risks in similar markets, including other organized RTO/ISO markets or on regulated commodity exchanges; and (3) a high level overview of the Participant's intended participation in the PJM Markets.

(v) All audited financial statements provided by an Applicant with publicly traded securities and/or its Guarantor with publicly traded securities must be audited by an Independent Auditor that satisfies the requirements set forth in the Sarbanes-Oxley Act of 2002.

(b) If the Applicant and/or its Guarantor does not have publicly-traded securities:

(i) Annual Audited Financial Statements or equivalent independently audited financials, and quarterly financial statements, generally found on:
- Balance Sheets
- Income Statements
- Statements of Cash Flows
- Statements of Stockholder's or Member's Equity or Net Worth;

(ii) Notes to Annual Audited Financial Statements, and notes to quarterly financial statements if any, including disclosures of any material changes from the last report;

(iii) Disclosure equivalent to a Management's Discussion & Analysis, including an executive overview of operating results and outlook, and compliance with debt covenants and indentures, and off balance sheet arrangements, if any;

(iv) Auditor's Report with an unqualified opinion or written letter from auditor containing the opinion whether the annual audited financial statements comply with the US GAAP or any other format acceptable to PJM; and

(v) A summary provided by the Principal responsible or to be responsible for PJM Market activity of: (1) the Participant's primary purpose(s) of activity or anticipated activity in the PJM Markets (investment, trading or "hedging or mitigating commercial risks," as such phrase has meaning in the CFTC's regulations regarding the end-user exception to clearing); (2) the experience of the Participant (and its Principals) in managing risks in similar markets, including other organized RTO/ISO markets or on regulated commodity exchanges; and (3) a high level overview of the Participant's intended participation in the PJM Markets.

(c) If Applicant and/or Guarantor is newly formed, does not yet have three (3) years of audited financials, or does not routinely prepare audited financial statements, PJM may specify other information to allow it to assess the entity's creditworthiness, including but not limited to:

(i) Equivalent financial information traditionally found in:

- Balance Sheets
- Income Statements
- Statements of Cash Flows

(ii) Disclosure equivalent to a Management's Discussion & Analysis, including an executive overview of operating results and outlook, and compliance with debt covenants and indentures, and off balance sheet arrangements, if any; and

(iii) A summary provided by the Principal responsible or to be responsible for PJM Market activity of: (1) the Participant's primary purpose(s) of activity or anticipated activity in the PJM Markets (investment, trading or "hedging or mitigating commercial risks," as such phrase has meaning in the CFTC's regulations regarding the end-user exception to clearing); (2) the experience of the Participant (and its Principals) in managing risks in similar markets, including other organized RTO/ISO markets or on regulated commodity exchanges; and (3) a high level overview of the Participant's intended participation in the PJM Markets.

(d) During a two year transition period from June 1, 2020 to May 31, 2022, the Applicant or Guarantor may provide a combination of audited financial statements and/or equivalent financial information.

If any of the above information in this section II.A.2 is available on the internet, the Applicant and/or its Guarantor may provide a letter stating where such statements can be located and retrieved by PJM. If an Applicant and/or its Guarantor files Form 10-K, Form 10-Q, or Form 8-K with the SEC, then the Applicant and/or its Guarantor will be deemed to have satisfied the requirement by indicating to PJM where the information in this section II.A.2 can be located on the internet.

If the Applicant and/or its Guarantor fails, for any reason, to provide the information required above in this section II.A.2, PJM has the right to (1) request Collateral and/or Restricted Collateral to cover the amount of risk reasonably associated with the Applicant and/or its Guarantor's expected activity in any PJM Markets, and/or (2) restrict the Applicant from participating in certain PJM Markets, including but not limited to restricting the positions the Applicant (once it becomes a Market Participant) takes in the market.

For certain Applicants and/or their Guarantors, some of the above submittals may not be applicable and alternate requirements for compliant submittals may be specified by PJM. In the credit evaluation of Municipalities and Cooperatives, PJM may also request additional information as part of the initial and ongoing review process and will consider other qualitative factors in determining financial strength and creditworthiness.

3. Credit Rating and Internal Credit Score

PJM will use credit risk scoring methodologies as a tool in determining an Unsecured Credit Allowance for each Applicant and/or its Guarantor. As its source for calculating the Unsecured Credit Allowance, PJM will rely on the ratings from a Rating Agency, if any, on the Applicant's or Guarantor's senior unsecured debt or their issuer ratings or corporate ratings if senior unsecured debt ratings are not available. If there is a split rating between the Rating Agencies, the lower of the ratings shall apply. If no external credit rating is available PJM will utilize its Internal Credit Score in order to calculate the Unsecured Credit Allowance.

The model used to develop the Internal Credit Score will be quantitative, based on financial data found in the income statement, balance sheet, and cash flow statement, and it will be qualitative based on relevant factors that may be internal or external to a particular Applicant and/or its Guarantor.

PJM will employ a framework, as outlined in Tables 1-5 below, based on metrics internal to the Applicant and/or its Guarantor, including capital and leverage, cash flow coverage of fixed obligations, liquidity, profitability, and other qualitative factors. The particular metrics and scoring rules differ according to the Applicant's or Guarantor's line of business and the PJM Markets in which it anticipates participating, in order to account for varying sources and degrees of risk to the PJM Markets and PJM members.

The formulation of each metric will be consistently applied to all Applicants and Guarantors across industries with slight variations based on identifiable differences in entity type, anticipated market activity, and risks to the PJM Markets and PJM members. In instances where the external credit rating is used to calculate the unsecured credit allowance, PJM may also use the Internal Credit Score as an input into determining the overall risk profile of an Applicant and/or its Guarantor.

Table 1. ***Quantitative Metrics by Line of Business: Leverage and Capital Structure***	**Investor-Owned Utilities**	**Municipal Utilities**	**Co-Operative Utilities**	**Power Transmission**	**Merchant Power**	**Project Developers**	**Exploration & Production**	**Financial Institutions**	**Commodity Trading**	**Private Equity**
Debt / Total Capitalization (%)	■	■	■	■	▒	▒	■		■	■
FFO / Debt (%)	▒	▒	■	▒	■	■	▒		■	
Debt / EBITDA (x)	▒	▒	▒	▒	■	■	▒		■	
Debt / Property, Plant & Equipment (%)	▒	▒	▒	▒						
Retained Earnings / Total Assets (%)	■	■		■			■			
Debt / Avg Daily Production or KwH ($)	▒	▒	▒	▒			■			
Tangible Net Worth ($)						▒		■	▒	▒
Core Capital / Total Assets (%)								■		
Risk-Based Capital / RWA (%)								■		
Tier 1 Capital / RWA (%)								■		
Equity / Investments (%)										■
Debt / Investments (%)										■

■ primary metric *▒ secondary metric* *FFO = Funds From Operations* *RWA = Risk-Weighted Asserts*

Table 2. ***Quantitative Metrics by Line of Business: Fixed Charge Coverage and Funding***	**Investor-Owned Utilities**	**Municipal Utilities**	**Co-Operative Utilities**	**Power Transmission**	**Merchant Power**	**Project Developers**	**Exploration &**	**Financial Institutions**	**Commodity Trading**	**Private Equity**
EBIT / Interest Expense (x)	■	■	■	■	■	■	■		■	■
EBITDA / Interest Expense (x)	■	■	▒	■	■	■	■			
EBITDA / [Interest Exp + CPLTD] (x)	▒	▒	■	▒	▒	▒	▒			
[FFO + Interest Exp] / Interest Exp (x)	▒	▒	■	▒	▒	▒	▒			
Loans / Total Deposits (%)								■		
NPL / Gross Loans (%)								■		
NPL / [Net Worth + LLR] (%)								■		
Market Funding/Tangible Bank Assets (%)								■		

■ primary metric *▒ secondary metric* *CPLTD = Current Portion of Long-Term Debt EBIT = Earnings Before Interest and Taxes EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization LLR = Loan Loss Reserves NPL = Non-Performing Loans*

Table 3. ***Quantitative Metrics by Line of Business: Liquidity***	**Investor-Owned Utilities**	**Municipal Utilities**	**Co-Operative Utilities**	**Power Transmission**	**Merchant Power**	**Project Developers**	**Exploration &**	**Financial Institutions**	**Commodity Trading**	**Private Equity**
CFFO / Total Debt (x)										
Current Assets / Current Liabilities (x)										
Liquid Assets / Tangible Bank Assets (%)										
Sources / Uses of Funds (x)										
Weighted Avg Maturity of Debt (yrs)										
Floating Rate Debt / Total Debt (%)										

primary metric *secondary metric*

CFFO = Cash Flow From Operations

Table 4. ***Quantitative Metrics by Line of Business: Profitability***	**Investor-Owned**	**Municipal Utilities**	**Co-Operativ**	**Power Transmissi**	**Merchant Power**	**Project Developers**	**Exploration & Production**	**Financial Institutions**	**Commodity Trading**	**Private Equity**
Return on Assets (%)										
Return on Equity (%)										
Profit Volatility (%)										
Return on Revenue (%)										
Net Income / Tangible Assets (%)										
Net Profit ($)										
Net Income / Dividends (x)										

primary metric *secondary metric*

Table 5. ***Qualitative Factors: Industry Level***	**Sample Reference Metrics**	**Investor-Owned Utilities**	**Municipal Utilities**	**Co-Operative Utilities**	**Power Transmission**	**Merchant Power**	**Project Developers**	**Exploration & Production**	**Financial Institutions**	**Commodity Trading**	**Private Equity**

Need for PJM Markets to Achieve Business Goals	Rating Agency criteria or other industry analysis	High	High	High	High	Med	Low	Med	Low	Low	N/A
Ability to Grow/Enter Markets other than PJM	Rating Agency criteria or other industry analysis	Very Low	Very Low	Very Low	Very Low	High	High	Med	Med	High	N/A
Other Participants' Ability to Serve Customers	Rating Agency criteria or other industry analysis	Low	Low	Low	Low	Low	Med	Low	Low	High	N/A
Regulation of Participant's Business	RRA regulatory climate scores, S&P BICRA	PUCS	Govt	N/A	FERC PUCs	N/A	N/A	N/A	N/A	N/A	N/A
Primary Purpose of PJM Activity	**Investment ("Inv.")/ Trading ("Trade")/ Hedging or Mitigating Commercial Risk of Operations ("CRH")**	CRH	CRH	CRH	CRH/Trade	CRH/Trade	CRH/Trade	CRH/Trade	Inv./Trade	Inv./Trade	Inv./Trade

RRA = Regulatory Research Associates, a division of S&P Global, Inc. *BICRA = Bank Industry Country Risk Assessment*

The scores developed will range from 1-6, with the following mappings:

1 = Very Low Risk (S&P/Fitch: AAA to AA-; Moody's: Aaa to Aa3)
2 = Low Risk (S&P/Fitch: A+ to BBB+; Moody's: A1 to Baa1)
3 = Low to Medium Risk (S&P/Fitch: BBB; Moody's: Baa2)
4 = Medium Risk (S&P/Fitch: BBB-; Moody's: Baa3)
5 = Medium to High Risk (S&P/Fitch: BB+ to BB; Moody's Ba1 to Ba2)
6 = High Risk (S&P/Fitch: BB- and below; Moody's: Ba3 and below)

4. Trade References

If deemed necessary by PJM, whether because the Applicant is newly or recently formed or for any other reason, each Applicant and/or its Guarantor shall provide at least one (1) bank reference and three (3) Trade References to provide PJM with evidence of Applicant's understanding of the markets in which the Applicant is seeking to participate and the Applicant's experience and ability to manage risk. PJM may contact the bank references and Trade References provided by the Applicant to verify their business experience with the Applicant.

5. Litigation and Contingencies

Unless prohibited by law, each Applicant and Guarantor is also required to disclose and provide information as to the occurrence of, within the five (5) years prior to the submission of the information to PJM (i) any litigation, arbitration, investigation (formal inquiry initiated by a governmental or regulatory entity), or proceeding, pending or, to the knowledge of the involving, Applicant or its Guarantor or any of their Principals that would likely have a material adverse impact on its financial condition and/or would likely materially affect the risk of non-payment by the Applicant or Guarantor, or (ii) any finding of material defalcation, market manipulation or fraud by or involving the Applicant, Guarantor, or any of their Principals, predecessors, subsidiaries, or Credit Affiliates that participate in any United States power markets based upon a final adjudication of regulatory and/or legal proceedings, (iii) any bankruptcy declarations or petitions by or against an Applicant and/or Guarantor, or (iv) any violation by any of the foregoing of any federal or state regulations or laws regarding energy commodities, U.S. Commodity Futures Trading Commission ("CFTC") or FERC requirements, the rules of any exchange monitored by the National Futures Association, any self-regulatory organization or any other governing, regulatory, or standards body responsible for regulating activity in North American markets for electricity, natural gas or electricity-related commodity products. Each Applicant and Guarantor shall take reasonable measures to obtain permission to disclose information related to a non-public investigation. These disclosures shall be made by Applicant and Guarantor upon application, and within ten (10) Business Days of any material change with respect to any of the above matters.

6. History of Defaults in Energy Projects

Each Applicant and Guarantor shall disclose their current default status and default history for any energy related generation or transmission project (e.g. generation, solar, development), and within any wholesale or retail energy market, including but not limited to within PJM, any

Independent System Operator or Regional Transmission Organization, and exchange that has not been cured within the past five (5) years. Defaults of a non-recourse project financed entity may not be included in the default history.

7. Other Disclosures and Additional Information

Each Applicant and Guarantor is required to disclose any Credit Affiliates that are currently Members of PJM, applying for membership with PJM, Transmission Customers, Participants, applying to become Market Participants, or that participate directly or indirectly in any PJM Markets or any other North American markets for electricity, natural gas or electricity-related commodity products. Each Applicant and Guarantor shall also provide a copy of its limited liability company agreement or equivalent agreement, certification of formation, articles of incorporation or other similar organization document, offering memo or equivalent, the names of its five (5) most senior Principals, and information pertaining to any non-compliance with debt covenants and indentures.

Applicants shall provide PJM the credit application referenced in section III.A and any other information or documentation reasonably required for PJM to perform the initial risk evaluation of Applicant's or Guarantor's creditworthiness and ability to comply with the requirements contained in the Agreements related to settlements, billing, credit requirements, and other financial matters.

B. Supplemental Risk Evaluation Process

As described in section VI below, PJM will conduct a supplemental risk evaluation process for Applicants, Participants, and Guarantors applying to conduct virtual and export transactions or participate in any PJM Markets.

C. Unsecured Credit Allowance

A Market Participant may request that PJM consider it for an Unsecured Credit Allowance pursuant to the provisions herein. Notwithstanding the foregoing, an FTR Participant shall not be considered for an Unsecured Credit Allowance for participation in the FTR markets.

1. Unsecured Credit Allowance Evaluation

PJM will perform a credit evaluation on each Participant that has requested an Unsecured Credit Allowance, both initially and at least annually thereafter. PJM shall determine the amount of Unsecured Credit Allowance, if any, that can be provided to the Market Participant in accordance with the creditworthiness and other requirements set forth in this Attachment Q. In completing the credit evaluation, PJM will consider:

(a) Rating Agency Reports

PJM will review Rating Agency reports as for each Market Participant on the same basis as described in section II.A.1 above and section II.E.1 below.

(b) Financial Statements and Related Information

All financial statements and related information considered for an Unsecured Credit Allowance must satisfy all of the same requirements described in section II.A.2 above and section II.E.2 below.

2. Material Adverse Changes

Each Market Participant is responsible for informing PJM, in writing, of any Material Adverse Change in its financial condition (or the financial condition of its Guarantor) since the date of the Market Participant or Guarantor's most recent annual financial statements provided to PJM, pursuant to the requirements reflected in section II.A.2 above and section II.E.3 below.

In the event that PJM determines that a Material Adverse Change in the financial condition of a Market Participant warrants a requirement to provide Collateral, additional Collateral or Restricted Collateral, PJM shall comply with the process and requirements described in section II.A above and section II.E below.

3. Other Disclosures

Each Market Participant desiring an Unsecured Credit Allowance is required to make the disclosures and upon the same requirements reflected in section II.A.7 above and section II.E.7 below.

D. Determination of Unreasonable Credit Risk

Unreasonable credit risk shall be determined by the likelihood that an Applicant will default on a financial obligation arising from its participation in any PJM Markets. Indicators of potentially unreasonable credit risk include, but are not limited to, a history of market manipulation based upon a final adjudication of regulatory and/or legal proceedings, a history of financial defaults, a history of bankruptcy or insolvency within the past five (5) years, or a combination of current market and financial risk factors such as low capitalization, a reasonably likely future material financial liability, a low Internal Credit Score (derived pursuant to section II.A.3 above) and/or a low externally derived credit score. PJM's determination will be based on, but not limited to, information and material provided to PJM during its initial risk evaluation process, information and material provided to PJM in the Officer's Certification, and/or information gleaned by PJM from public and non-public sources.

If PJM determines that an Applicant poses an unreasonable credit risk to the PJM Markets, PJM may require Collateral, additional Collateral, or Restricted Collateral commensurate with the Applicant's risk of financial default, reject an application, and/or limit or deny Applicant's participation in the PJM Markets, to the extent and for the time period it determines is necessary to mitigate the unreasonable credit risk to the PJM Markets. PJM will reject an application if it determines that Collateral, additional Collateral, or Restricted Collateral cannot address the risk.

PJM will communicate its concerns regarding whether the Applicant presents an unreasonable credit risk, if any, in writing to the Applicant and attempt to better understand the circumstances surrounding that Applicant's financial and credit position before making its determination. In the event PJM determines that an Applicant presents an unreasonable credit risk that warrants a requirement to provide Collateral of any type, or some action to mitigate risk, PJM shall provide the Applicant with a written explanation of why such determination was made.

E. Ongoing Risk Evaluation

In addition to the initial risk evaluation set forth in sections II.A through II.D above and the annual certification requirements set forth in section III.A below, each Market Participant and/or its Guarantor has an ongoing obligation to provide PJM with the information required in section IV.A described in more detail below. PJM may also review public information regarding a Market Participant and/or its Guarantor as part of its ongoing risk evaluation. If appropriate, PJM will revise the Market Participant's Unsecured Credit Allowance and/or change its determination of creditworthiness, credit support, Restricted Collateral, required Collateral or other assurances pursuant to PJM's ongoing risk evaluation process.

Each Market Participant and/or its Guarantor must provide the information set forth below on an ongoing basis in order to remain eligible to participate in any PJM Markets. The same quantitative and qualitative factors will be used to evaluate Market Participants whether or not they have rated debt.

1. Rating Agency Reports

PJM will review Rating Agency reports for each Market Participant and/or Guarantor on the same basis as described in section II.A.1 above.

2. Financial Statements and Related Information

On an ongoing basis, Market Participants and/or their Guarantors shall provide the information they are required to provide as described in section II.A.2 above, pursuant to the schedule reflected below, with one exception. With regard to the summary that is required to be provided by the Principal responsible for PJM Market activity, with respect to experience of the Participant or its Principals in managing risks in similar markets, the Principal only needs to provide that information for a new Principal that was not serving in the position when the prior summary was provided. PJM will review financial statements and related information for each Market Participant and/or Guarantor on the same basis as described in section II.A.2 above.

Each Market Participant and/or its Guarantor must submit, or cause to be submitted, annual audited financial statements, except as otherwise indicated below, prepared in accordance with US GAAP or any other format acceptable to PJM for the fiscal year most recently ended within ten (10) calendar days of the financial statements becoming available and no later than one hundred twenty (120) calendar days after its fiscal year end. Market Participants and/or their Guarantors must submit, or cause to be submitted, financial statements, which may be unaudited, for each completed fiscal quarter of the current fiscal year, promptly upon their issuance, but no later than sixty (60) calendar days after the end of each fiscal quarter. All audited financial statements provided by the Market Participant and/or its Guarantor must be audited by an Independent Auditor.

Notwithstanding the foregoing, PJM may upon request, grant a Market Participant or Guarantor an extension of time, if the financials are not available within the time frame stated above.

3. Material Adverse Changes

Each Market Participant and each Guarantor is responsible for informing PJM, in writing, of any Material Adverse Change in its or its Guarantor's financial condition within five (5) Business Days of any Principal becoming aware of the occurrence of a Material Adverse Change since the date of the Market Participant or Guarantor's most recent annual financial statements provided to PJM. However, PJM may also independently establish from available information that a Participant and/or its Guarantor has experienced a Material Adverse Change in its financial condition without regard to whether such Market Participant or Guarantor has informed PJM of the same.

For the purposes of this Attachment Q, a Material Adverse Change in financial condition may include, but is not be limited to, any of the following:

(a) a bankruptcy filing;
(b) insolvency;
(c) a significant decrease in market capitalization;
(d) restatement of prior financial statements unless required due to regulatory changes;
(e) the resignation or removal of a Principal unless there is a new Principal appointed or expected to be appointed, a transition plan in place pending the appointment of a new Principal, or a planned restructuring of such roles;
(f) the filing of a lawsuit or initiation of an arbitration, investigation, or other proceeding that would likely have a material adverse effect on any current or future financial results or financial condition or increase the likelihood of non-payment;
(g) a material financial default in any other organized energy, ancillary service, financial transmission rights and/or capacity markets including but not limited to those of another Regional Transmission Organization or Independent System Operator, or on any commodity exchange, futures exchange or clearing house, that has not been cured or remedied after any required notice has been given and any cure period has elapsed;
(h) a revocation of a license or other authority by any Federal or State regulatory agency; where such license or authority is necessary or important to the Participant's continued business, for example, FERC market-based rate authority, or State license to serve retail load;
(i) a significant change in credit default swap spreads, market capitalization, or other market-based risk measurement criteria, such as a recent increase in Moody's KMV Expected Default Frequency (EDF^{tm}) that is materially greater than the

increase in its peers' EDF^{tm} rates, or a collateral default swap (CDS) premium normally associated with an entity rated lower than investment grade;

(j) a confirmed, undisputed material financial default in a bilateral arrangement with another Participant or counterparty that has not been cured or remedied after any required notice has been given and any cure period has elapsed;

(k) the sale by a Participant of all or substantially all of its bilateral position(s) in the PJM Markets;

(l) any adverse changes in financial condition which, individually, or in the aggregate, are material; and,

(m) any adverse changes, events or occurrences which, individually or in the aggregate, could affect the ability of the entity to pay its debts as they become due or could reasonably be expected to have a material adverse effect on any current or future financial results or financial condition.

Upon identification of a Material Adverse Change, PJM shall evaluate the financial strength and risk profile of the Market Participant and/or its Guarantor at that time and may do so on a more frequent basis going forward. If the result of such evaluation identifies unreasonable credit risk to any PJM Market as further described in section II.E.8 below, PJM will take steps to mitigate the financial exposure to the PJM Markets. These steps include, but are not limited to requiring the Market Participant and/or each Guarantor to provide Collateral, additional Collateral or additional Restricted Collateral that is commensurate with the amount of risk in which the Market Participant wants to engage, and/or limiting the Market Participant's ability to participate in any PJM Market to the extent, and for the time-period necessary to mitigate the unreasonable credit risk. In the event PJM determines that a Material Adverse Change in the financial condition or risk profile of a Market Participant and/or Guarantor, warrants a requirement to provide Collateral of any type, or some action to mitigate risk, PJM shall provide the Market Participant and/or Guarantor, a written explanation of why such determination was made. Conversely, in the event PJM determines there has been an improvement in the financial condition or risk profile of a Market Participant and/or Guarantor such that the amount of Collateral needed for that Market Participant and/or Guarantor can be reduced, PJM shall provide a written explanation why such determination was made, including the amount of the Collateral reduction and indicating when and how the reduction will be made.

4. Litigation and Contingencies

Each Market Participant and/or Guarantor is required to disclose and provide information regarding litigation and contingencies as outlined in section II.A.5 above.

5. History of Defaults in Energy Projects

Each Market Participant and/or Guarantor is required to disclose current default status and default history as outlined in section II.A.6 above.

6. Internal Credit Score

As part of its ongoing risk evaluation, PJM will use credit risk scoring methodologies as a tool in determining an Internal Credit Score for each Market Participant and/or Guarantor, utilizing the same model and framework outlined in section II.A.3 above.

7. Other Disclosures and Additional Information

Each Market Participant and/or Guarantor is required to make other disclosures and provide additional information outlined in section II.A.7 above.

PJM will monitor each Market Participant's use of services and associated financial obligations on a regular basis to determine their total potential financial exposure and for credit monitoring purposes, and may require the Market Participant and/or Guarantor to provide additional information, pursuant to the terms and provisions described herein.

Market Participants shall provide PJM, upon request, any information or documentation reasonably required for PJM to monitor and evaluate a Market Participant's creditworthiness and compliance with the Agreements related to settlements, billing, credit requirements, and other financial matters.

8. Unreasonable Credit Risk

If PJM has reasonable grounds to believe that a Market Participant and/or its Guarantor poses an unreasonable credit risk to any PJM Markets, PJM may immediately notify the Market Participant of such unreasonable credit risk and (1) issue a Collateral Call to demand Collateral, additional Collateral, or Restricted Collateral or other assurances commensurate with the Market Participant's and/or its Guarantor's risk of financial default or other risk posed by the Market Participant's or Guarantor's financial condition or risk profile to the PJM Markets and PJM members, or (2) limit or suspend the Market Participant's participation in any PJM Markets, to the extent and for such time period PJM determines is necessary to mitigate the unreasonable credit risk to any PJM Markets. PJM will only limit or suspend a Market Participant's market participation if Collateral, additional Collateral or Restricted Collateral cannot address the unreasonable credit risk.

PJM's determination will be based on, but not limited to, information and material provided to PJM during its ongoing risk evaluation process or in the Officer's Certification, and/or information gleaned by PJM from public and non-public sources. PJM will communicate its concerns, if any, in writing to the Market Participant and attempt to better understand the circumstances surrounding the Market Participant's financial and credit position before making its determination. At PJM's request or upon its own initiative, the Market Participant or its Guarantor may provide supplemental information to PJM that would allow PJM to consider reducing the additional Collateral requested or reducing the severity of limitations or other restrictions designed to mitigate the Market Participant's credit risk. Such information shall include, but not be limited to: (i) the Market Participant's estimated exposure, (ii) explanations for any recent change in the Market Participant's market activity, (iii) any relevant new load or unit outage information; or (iv) any default or supply contract expiration, termination or suspension.

The Market Participant shall have five (5) Business Days to respond to PJM's request for supplemental information. If the requested information is provided in full to PJM's satisfaction during said period, the additional Collateral requirement shall reflect the Market Participant's anticipated exposure based on the information provided. Notwithstanding the foregoing, any additional Collateral requested by PJM in a Collateral Call must be provided by the Market Participant within the applicable cure period.

In the event PJM determines that an Market Participant and/or its Guarantor presents an unreasonable credit risk, as described above, that warrants a requirement to provide Collateral of any type, or some action to mitigate risk, PJM shall provide the Market Participant with a written explanation of why such final determination was made.

PJM has the right at any time to modify any Unsecured Credit Allowance and/or require additional Collateral as may be deemed reasonably necessary to support current or anticipated market activity as set forth in Tariff, Attachment Q, sections II.A.2 and II.C.1.b. Failure to remit the required amount of additional Collateral within the applicable cure period shall constitute an Event of Default.

F. Collateral and Credit Restrictions

PJM may establish certain restrictions on available credit by requiring that some amounts of credit, i.e. Restricted Collateral, may not be available to satisfy credit requirements. Such designations shall be construed to be applicable to the calculation of credit requirements only, and shall not restrict PJM's ability to apply such designated credit to any obligation(s) in case of a default. Any such Restricted Collateral will be held by PJM, as applicable. Such Restricted Collateral will not be returned to the Participant until PJM has determined that the risk for which such Restricted Collateral is being held has subsided or been resolved.

PJM may post on PJM's web site, and may reference on OASIS, a supplementary document which contains additional business practices (such as algorithms for credit scoring) that are not included in this Attachment Q. Changes to the supplementary document will be subject to stakeholder review and comment prior to implementation. PJM may specify a required compliance date, not less than fifteen (15) calendar days from notification, by which time all Participants and their Guarantors must comply with provisions that have been revised in the supplementary document.

PJM will regularly post each Participant's and/or its Guarantor's credit requirements and credit provisions on the PJM web site in a secure, password-protected location. Each Participant and/or its Guarantor is responsible for monitoring such information, and maintaining sufficient credit to satisfy the credit requirements described herein. Failure to maintain credit sufficient to satisfy the credit requirements of the Attachment Q shall constitute a Credit Breach, and the Participant will be subject to the remedies established herein and in any of the Agreements.

G. Unsecured Credit Allowance Calculation

The external rating from a Rating Agency will be used as the source for calculating the Unsecured Credit Allowance, unless no external credit rating is available in which case PJM will utilize its Internal Credit Score for such purposes. If there is a split rating between the Rating Agencies, the lower of the ratings shall apply.

Where two or more entities, including Participants, are considered Credit Affiliates, Unsecured Credit Allowances will be established for each individual Participant, subject to an aggregate maximum amount for all Credit Affiliates as provided for in Attachment Q, section II.G.3.

In its credit evaluation of Municipalities and Cooperatives, PJM may request additional information as part of the ongoing risk evaluation process and will also consider qualitative factors in determining financial strength and creditworthiness.

1. Credit Rating and Internal Credit Score

As previously described in section II.A.3 above, PJM will determine the Internal Credit Score for an Applicant, Market Participant and/or its Guarantor using the credit risk scoring methodologies contained therein. Internal Credit Scores, ranging from 1-6, for each Applicant, Market Participant and/or its Guarantor, will be determined with the following mappings:

1 = Very Low Risk (S&P/Fitch: AAA to AA-; Moody's: Aaa to Aa3)
2 = Low Risk (S&P/Fitch: A+ to BBB+; Moody's: A1 to Baa1)
3 = Low to Medium Risk (S&P/Fitch: BBB; Moody's: Baa2)
4 = Medium Risk (S&P/Fitch: BBB-; Moody's: Baa3)
5 = Medium to High Risk (S&P/Fitch: BB+ to BB; Moody's Ba1 to Ba2)
6 = High Risk (S&P/Fitch: BB- and below; Moody's: Ba3 and below)

In instances where the external credit rating is used to calculate the unsecured credit allowance, PJM may also use the Internal Credit Score as an input into its determination of the overall risk profile of an Applicant and/or its Guarantor

2. Unsecured Credit Allowance

PJM will determine a Participant's Unsecured Credit Allowance based on its external rating or its Internal Credit Score, as applicable, and the parameters in the table below. The maximum Unsecured Credit Allowance is the lower of:

(a) A percentage of the Participant's Tangible Net Worth, as stated in the table below, with the percentage based on the Participant's external rating or Internal Credit Score, as applicable; and

(b) A dollar cap based on the external rating or Internal Credit Score, as applicable, as stated in the table below:

Internal Credit Score	Risk Ranking	Tangible Net Worth Factor	Maximum Unsecured Credit Allowance ($ Million)
1.00 – 1.99	1 – Very Low (AAA to AA-)	Up to 10.00%	$50
2.00 – 2.99	2 – Low (A+ to BBB+)	Up to 8.00%	$42
3.00 – 3.49	3 – Low to Medium (BBB)	Up to 6.00%	$33
3.50 – 4.49	4 – Medium (BBB-)	Up to 5.00%	$7
4.50 – 5.49	5 – Medium to High (BB+ to BB)	0%	$0
> 5.49	6 – High (BB- and below)	0%	$0

If a Corporate Guaranty is utilized to establish an Unsecured Credit Allowance for a Participant, the value of a Corporate Guaranty will be the lesser of:

(a) The limit imposed in the Corporate Guaranty;

(b) The Unsecured Credit Allowance calculated for the Guarantor; and

(c) A portion of the Unsecured Credit Allowance calculated for the Guarantor in the case of Credit Affiliates.

PJM has the right at any time to modify any Unsecured Credit Allowance and/or require additional Collateral as may be deemed reasonably necessary to support current market activity. Failure to remit the required amount of additional Collateral within the applicable cure period shall be deemed an Event of Default.

PJM will maintain a posting of each Participant's Unsecured Credit Allowance, along with certain other credit related parameters, on the PJM website in a secure, password-protected location. Each Participant will be responsible for monitoring such information and recognizing changes that may occur.

3. Unsecured Credit Limits For Credit Affiliates

If two or more Participants are Credit Affiliates and have requested an Unsecured Credit Allowance, PJM will consider the overall creditworthiness of the Credit Affiliates when determining the Unsecured Credit Allowances in order not to establish more Unsecured Credit for the Credit Affiliates collectively than the overall corporate family could support.

Example: Participants A and B each have a $10.0 million Corporate Guaranty from their common parent, a holding company with an Unsecured Credit Allowance calculation of $12.0 million. PJM may limit the Unsecured Credit Allowance for each Participant to $6.0 million, so the total Unsecured Credit Allowance does not exceed the corporate family total of $12.0 million.

PJM will work with the Credit Affiliates to allocate the total Unsecured Credit Allowance among the Credit Affiliates while assuring that no individual Participant, nor common guarantor, exceeds the Unsecured Credit Allowance appropriate for its credit strength. The aggregate Unsecured Credit for a Participant, including Unsecured Credit Allowance granted based on its own creditworthiness and risk profile, and any Unsecured Credit Allowance conveyed through a Guaranty shall not exceed $50 million. The aggregate Unsecured Credit for a Credit Affiliate~~s~~ corporate family shall not exceed $50 million. A Credit Affiliate corporate family subject to this cap shall request PJM to allocate the maximum Unsecured Credit amongst the corporate family, assuring that no individual Participant or common guarantor, shall exceed the Unsecured Credit level appropriate for its credit strength and activity.

H. Contesting an Unsecured Credit Evaluation

PJM will provide to a Participant, upon request, a written explanation for any determination of or change in Unsecured Credit or credit requirement within ten (10) Business Days of receiving such request.

If a Participant believes that either its level of Unsecured Credit or its credit requirement has been incorrectly determined, according to this Attachment Q, then the Participant may send a request for reconsideration in writing to PJM. Such a request should include:

(1) A citation to the applicable section(s) of this Attachment Q along with an explanation of how the respective provisions of this Attachment Q were not carried out in the determination as made; and

(2) A calculation of what the Participant believes should be the appropriate Unsecured Credit or Collateral requirement, according to terms of this Attachment Q.

PJM will provide a written response as promptly as practical, but no more than ten (10) Business Days after receipt of the request. If the Participant still feels that the determination is incorrect, then the Participant may contest that determination. Such contest should be in written form, addressed to PJM, and should contain:

(1) A complete copy of the Participant’s earlier request for reconsideration, including citations and calculations;

(2) A copy of PJM’s written response to its request for reconsideration; and

(3) An explanation of why it believes that the determination still does not comply with this Attachment Q.

PJM will investigate and will respond to the Participant with a final determination on the matter as promptly as practical, but no more than twenty (20) Business Days after receipt of the request.

Neither requesting reconsideration nor contesting the determination following such request shall relieve or delay Participant's responsibility to comply with all provisions of this Attachment Q, including without limitation posting Collateral, additional Collateral or Restricted Collateral in response to a Collateral Call.

If a Corporate Guaranty is being utilized to establish credit for a Participant, the Guarantor will be evaluated and the Unsecured Credit Allowance granted, if any, based on the financial strength and creditworthiness, and risk profile of the Guarantor. Any utilization of a Corporate Guaranty will only be applicable to non-FTR credit requirements, and will not be applicable to cover FTR credit requirements.

PJM will identify any necessary Collateral requirements and establish a Working Credit Limit for each Participant. Any Unsecured Credit Allowance will only be applicable to non-FTR credit requirements, for positions in PJM Markets other than the FTR market, because all FTR credit requirements must be satisfied by posting Collateral.

III. MINIMUM PARTICIPATION REQUIREMENTS

A Participant seeking to participate in any PJM Markets shall submit to PJM any information or documentation reasonably required for PJM to evaluate its experience and resources. If PJM determines, based on its review of the relevant information and after consultation with the Participant, that the Participant's participation in any PJM Markets presents an unreasonable credit risk, PJM may reject the Participant's application to become a Market Participant, notwithstanding applicant's ability to meet other minimum participation criteria, registration requirements and creditworthiness requirements.

A. Annual Certification

Before they are eligible to transact in any PJM Market, all Applicants shall provide to PJM (i) an executed copy of a credit application and (ii) a copy of the annual certification set forth in Attachment Q, Appendix 1. As a condition to continued eligibility to transact in any PJM Market, Market Participants shall provide to PJM the annual certification set forth in Attachment Q, Appendix 1.

After the initial submission, the annual certification must be submitted each calendar year by all Market Participants between January 1 and April 30. PJM will accept such certifications as a matter of course and the Market Participants will not need further notice from PJM before commencing or maintaining their eligibility to participate in any PJM Markets.

A Market Participant that fails to provide its annual certification by April 30 shall be ineligible to transact in any PJM Markets and PJM will disable the Market Participant's access to any PJM Markets until such time as PJM receives the certification. In addition, failure to provide an executed annual certification in a form acceptable to PJM and by the specified deadlines may result in a default under the Tariff.

Market Participants acknowledge and understand that the annual certification constitutes a representation upon which PJM will rely. Such representation is additionally made under the Tariff, filed with and accepted by FERC, and any false, misleading or incomplete statement knowingly made by the Market Participant and that is material to the Market Participant's ability to perform may be considered a violation of the Tariff and subject the Market Participant to action by FERC. Failure to comply with any of the criteria or requirements listed herein or in the certification may result in suspension or limitation of a Market Participant's transaction rights in any PJM Markets.

Applicants and Market Participants shall submit to PJM, upon request, any information or documentation reasonably and/or legally required to confirm Applicant's or Market Participant's compliance with the Agreements and the annual certification.

B. PJM Market Participation Eligibility Requirements

PJM may conduct periodic verification to confirm that Applicants and Market Participants can demonstrate that they meet the definition of "appropriate person" to further ensure minimum criteria are in place. Such demonstration will consist of the submission of evidence and an executed Annual Officer Certification form as set forth in Attachment Q, Appendix 1 in a form acceptable to PJM. If an Applicant or Market Participant does not provide sufficient evidence for verification to PJM within five (5) Business Days of written request, then such Applicant or Market Participant may result in a default under this Tariff. Demonstration of "appropriate person" status and support of other certifications on the annual certification is one part of the Minimum Participation Requirements for any PJM Markets and does not obviate the need to meet the other Minimum Participation Requirements such as those for minimum capitalization and risk profile as set forth in this Attachment Q.

To be eligible to transact in any PJM Markets, an Applicant or Participant must demonstrate in accordance with the Risk Management and Verification processes set forth below that it qualifies in one of the following ways:

1. an "appropriate person," as that term is defined under Commodity Exchange Act, section 4(c)(3), or successor provision, or;

2. an "eligible contract participant," as that term is defined in Commodity Exchange Act, section 1a(18), or successor provision, or;

3. a business entity or person who is in the business of: (1) generating, transmitting, or distributing electric energy, or (2) providing electric energy services that are necessary to support the reliable operation of the transmission system, or;

4. an Applicant or Market Participant seeking eligibility as an "appropriate person" providing an unlimited Corporate Guaranty in a form acceptable to PJM as described

in section V below from a Guarantor that has demonstrated it is an “appropriate person,” and has at least $1 million of total net worth or $5 million of total assets per Applicant and Market Participant for which the Guarantor has issued an unlimited Corporate Guaranty, or;

5. an Applicant or Market Participant providing a Letter of Credit of at least $5 million to PJM in a form acceptable to PJM as described in section V below, that the Applicant or Market Participant acknowledges is separate from, and cannot be applied to meet, its credit requirements to PJM.

If, at any time, a Market Participant cannot meet the eligibility requirements set forth above, it shall immediately notify PJM and immediately cease conducting transactions in any PJM Markets. PJM may terminate a Market Participant’s transaction rights in any PJM Markets if, at any time, it becomes aware that the Market Participant does not meet the minimum eligibility requirements set forth above.

In the event that a Market Participant is no longer able to demonstrate it meets the minimum eligibility requirements set forth above, and possesses, obtains or has rights to possess or obtain, any open or forward positions in any PJM Markets, PJM may take any such action it deems necessary with respect to such open or forward positions, including, but not limited to, liquidation, transfer, assignment or sale; provided, however, that the Market Participant will, notwithstanding its ineligibility to participate in any PJM Markets, be entitled to any positive market value of those positions, net of any obligations due and owing to PJM.

C. Risk Management and Verification

All Market Participants must maintain current written risk management policies, procedures, or controls to address how market and credit risk is managed, and are required to submit to PJM (at the time they make their annual certification) a copy of their current governing risk control policies, procedures and controls applicable to their market activities. PJM will review such documentation to verify that it appears generally to conform to prudent risk management practices for entities participating in any PJM Markets.

All Market Participants subject to this provision shall make a one-time payment of $1,500.00 to PJM to cover administrative costs. Thereafter, if such Participant’s risk policies, procedures and controls applicable to its market activities change substantively, it shall submit such modified documentation, with applicable administrative charge determined by PJM, to PJM for review and verification at the time it makes its annual certification. All Market Participant’s continued eligibility to participate in any PJM Markets is conditioned on PJM notifying a Participant that its annual certification, including the submission of its risk policies, procedures and controls, has been accepted by PJM. PJM may retain outside expertise to perform the review and verification function described in this section, however, in all circumstances, PJM and any third-party it may retain will treat as confidential the documentation provided by a Participant under this section, consistent with the applicable provisions of the Operating Agreement.

Participants must demonstrate that they have implemented prudent risk management policies and procedures in order to be eligible to participate in any PJM Markets. Participants must demonstrate on at least an annual basis that they have implemented and maintained prudent risk management policies and procedures in order to continue to participate in any PJM Markets. Upon written request, the Participant will have fourteen (14) calendar days to provide to PJM current governing risk management policies, procedures, or controls applicable to Participant's activities in any PJM Markets.

D. Capitalization

In advance of certification, Applicants shall meet the minimum capitalization requirements below. In addition to the annual certification requirements in Attachment Q, Appendix 1, a Market Participant shall satisfy the minimum capitalization requirements on an annual basis thereafter. A Participant must demonstrate that it meets the minimum financial requirements appropriate for the PJM Markets in which it transacts by satisfying either the minimum capitalization or the provision of Collateral requirements listed below:

1. Minimum Capitalization

Minimum capitalization may be met by demonstrating minimum levels of Tangible Net Worth or tangible assets. FTR Participants must demonstrate a Tangible Net Worth in excess of $1 million or tangible assets in excess of $10 million. Other Market Participants must demonstrate a Tangible Net Worth in excess of $500,000 or tangible assets in excess of $5 million.

(a) Consideration of tangible assets and Tangible Net Worth shall exclude assets which PJM reasonably believes to be restricted, highly risky, or potentially unavailable to settle a claim in the event of default. Examples include, but are not limited to, restricted assets, derivative assets, goodwill, and other intangible assets.

(b) Demonstration of "tangible" assets and Tangible Net Worth may be satisfied through presentation of an acceptable Corporate Guaranty, provided that both:

(i) the Guarantor is a Credit Affiliate company that satisfies the Tangible Net Worth or tangible assets requirements herein, and;

(ii) the Corporate Guaranty is either unlimited or at least $500,000.

If the Corporate Guaranty presented by the Participant to satisfy these capitalization requirements is limited in value, then the Participant's resulting Unsecured Credit Allowance shall be the lesser of:

(1) the applicable Unsecured Credit Allowance available to the Participant by the Corporate Guaranty pursuant to the creditworthiness provisions of this Attachment Q, or:

(2) the face value of the Corporate Guaranty, reduced by $500,000 and further reduced by 10%. (For example, a $10.5 million Corporate Guaranty would be reduced first by $500,000 to $10 million and then further reduced 10% more to $9 million. The resulting $9 million would be the Participant's Unsecured Credit Allowance available through the Corporate Guaranty).

In the event that a Participant provides Collateral in addition to a limited Corporate Guaranty to increase its available credit, the value of such Collateral shall be reduced by 10%. This reduced value shall be considered the amount available to satisfy requirements of this Attachment Q.

(c) Demonstrations of minimum capitalization (minimum Tangible Net Worth or tangible assets) must be presented in the form of audited financial statements for the Participant's most recent fiscal year during the initial risk evaluation process and ongoing risk evaluation process.

2. Provision of Collateral

If a Participant does not demonstrate compliance with its applicable minimum capitalization requirements above, it may still qualify to participate in any PJM Markets by posting Collateral, additional Collateral, and/or Restricted Collateral, subject to the terms and conditions set forth herein.

Any Collateral provided by a Participant unable to satisfy the minimum capitalization requirements above will also be restricted in the following manner:

(a) Collateral provided by Market Participants that engage in FTR transactions shall be reduced by an amount of the current risk plus any future risk to any PJM Markets and PJM membership in general, and may coincide with limitations on market participation. The amount of this Restricted Collateral shall not be available to cover any credit requirements from market activity. The remaining value shall be considered the amount available to satisfy requirements of this Attachment Q.

(b) Collateral provided by other Participants that engage in Virtual Transactions or Export Transactions shall be reduced by $200,000 and then further reduced by 10%. The amount of this Restricted Collateral shall not be available to cover any credit requirements from market activity. The remaining value shall be considered the amount available to satisfy requirements of this Attachment Q.

(c) Collateral provided by other Participants that do not engage in Virtual Transactions or Export Transactions shall be reduced by 10%. The amount of this Restricted Collateral shall not be available to cover any credit requirements from market activity. The remaining value shall be considered the amount available to satisfy requirements of this Attachment Q.

In the event a Participant that satisfies the minimum capital requirement through provision of Collateral also provides a Corporate Guaranty to increase its available credit, then the Participant's resulting Unsecured Credit Allowance conveyed through such Corporate Guaranty shall be the lesser of:

(a) the applicable Unsecured Credit Allowance available to the Participant by the Corporate Guaranty pursuant to the creditworthiness provisions of this Attachment Q; or

(b) the face value of the Corporate Guaranty, reduced commensurate with the amount of the current risk plus any anticipated future risk to any PJM Markets and PJM membership in general, and may coincide with limitations on market participation.

IV. ONGOING COVENANTS

A. Ongoing Obligation to Provide Information to PJM

So long as a Participant is eligible to participate, or participates or holds positions, in any PJM Markets, it shall deliver to PJM, in form and detail satisfactory to PJM:

(1) All financial statements and other financial disclosures as required by section II.E.2 by the deadline set forth therein;

(2) Notice, within five (5) Business Days, of any Principal becoming aware that the Participant does not meet the Minimum Participation Requirements set forth in section III;

(3) Notice when any Principal becomes aware of any matter that has resulted or would reasonably be expected to result in a Material Adverse Change in the financial condition of the Participant or its Guarantor, if any, a description of such Material Adverse Change in detail reasonable to allow PJM to determine its potential effect on, or any change in, the Participant's risk profile as a participant in any PJM Markets, by the deadline set forth in section II.E.3 above;

(4) Notice, within the deadline set forth therein, of any Principal becoming aware of a litigation or contingency event described in section II.E.4, or of a Material Adverse Change in any such litigation or contingency event previously disclosed to PJM, information in detail reasonable to allow PJM to determine its potential effect on, or any change in, the Market Participant's risk profile as a participant in any PJM Markets by the deadline set forth therein;

(5) Notice, within two (2) Business Days after any Principal becomes aware of a Credit Breach, Financial Default, or Credit Support Default, that includes a description of such default or event and the Participant's proposals for addressing the default or event;

(6) As soon as available but not later than April 30th of any calendar year, the annual Certification described in section III.A in a form set forth in Attachment Q, Appendix 1;

(7) Concurrently with submission of the annual certification, demonstration that the Participant meets the minimum capitalization requirements set forth in section III.D;

(8) Concurrently with submission of the annual certification and within the applicable deadline of any substantive change, or within the applicable deadline of a request from PJM, a copy of the Participant's written risk management policies, procedures or controls addressing how the Participant manages market and credit risk in the PJM Markets in which it participates, as well as a high level summary by the chief risk officer or other Principal regarding any material violations, breaches, or compliance or disciplinary actions related to the risk management policies, by the Participant under the policies, procedures or controls within the prior 12 months, as set forth in section IV.B below;

(9) Within five (5) Business Days of request by PJM, evidence demonstrating the Participant meets the definition of "appropriate person" or "eligible contract participant," as those terms are defined in the Commodity Exchange Act and the CFTC regulations promulgated thereunder, or of any other certification in the annual Certification; or

(10) Within a reasonable time after PJM requests, any other information or documentation reasonably and/or legally required by PJM to confirm Participant's compliance with the Tariff and its eligibility to participate in any PJM Markets.

Participants acknowledge and understand that the deliveries constitute representations upon which PJM will rely in allowing the Participant to continue to participate in its markets, with the Internal Credit Score and Unsecured Credit Allowance, if any, previously determined by PJM.

B. Risk Management Review

PJM shall also conduct a periodic compliance verification process to review and verify, as applicable, Participants' risk management policies, practices, and procedures pertaining to the Participant's activities in any PJM Markets. PJM shall review such documentation to verify that it appears generally to conform to prudent risk management practices for entities trading in any PJM Markets. Participant shall also provide a high level summary by the chief risk officer or other Principal regarding any material violations, breaches, or compliance or disciplinary actions in connection with such risk management policies, practices and procedures within the prior twelve (12) months.

If a third-party industry association publishes or modifies principles or best practices relating to risk management in North American markets for electricity, natural gas or electricity-related commodity products, PJM may, following stakeholder discussion and with no less than six (6) months prior notice to stakeholders, consider such principles or best practices in evaluating the Participant's risk controls.

PJM will prioritize the verification of risk management policies based on a number of criteria, including but not limited to how long the entity has been in business, the Participant's and its Principals' history of participation in any PJM Markets, and any other information obtained in determining the risk profile of the Participant.

Each Participant's continued eligibility to participate in any PJM Markets is conditioned upon PJM notifying the Participant of successful completion of PJM's verification of the Participant's risk management policies, practices and procedures, as discussed herein. However, if PJM notifies the Participant in writing that it could not successfully complete the verification process, PJM shall allow such Participant fourteen (14) calendar days to provide sufficient evidence for verification prior to declaring the Participant as ineligible to continue to participate in any PJM

Markets, which declaration shall be in writing with an explanation of why PJM could not complete the verification. If the Participant does not provide sufficient evidence for verification to PJM within the required cure period, such Participant will be considered in default under this Tariff. PJM may retain outside expertise to perform the review and verification function described in this paragraph. PJM and any third party it may retain will treat as confidential the documentation provided by a Participant under this paragraph, consistent with the applicable provisions of the Agreements. If PJM retains such outside expertise, a Participant may direct in writing that PJM perform the risk management review and verification for such Participant instead of utilizing a third party, provided however, that employees and contract employees of PJM and PJM shall not be considered to be such outside expertise or third parties.

Participants are solely responsible for the positions they take and the obligations they assume in any PJM Markets. PJM hereby disclaims any and all responsibility to any Participant or PJM Member associated with Participant's submitting or failure to submit its annual certification or PJM's review and verification of a Participant's risk policies, procedures and controls. Such review and verification is limited to demonstrating basic compliance by a Participant showing the existence of written policies, procedures and controls to limit its risk in any PJM Markets and does not constitute an endorsement of the efficacy of such policies, procedures or controls.

V. FORMS OF CREDIT SUPPORT

In order to satisfy their PJM credit requirements Participants may provide credit support in a PJM-approved form and amount pursuant to the guidelines herein, provided that, notwithstanding anything to the contrary in this section, a Market Participant in PJM's FTR markets shall meet its credit support requirements related to those FTR markets with either cash or Letters of Credit.

Unless otherwise restricted by PJM, credit support provided may be used by PJM to secure the payment of Participant's financial obligations under the Agreements.

Collateral which may no longer be required to be maintained under provisions of the Agreements, shall be returned at the request of a Participant, no later than two (2) Business Days following determination by PJM within a commercially reasonable period of time that such Collateral is not required.

Except when an Event of Default has occurred, a Participant may substitute an approved PJM form of Collateral for another PJM approved form of Collateral of equal value.

A. Cash Deposit

Cash provided by a Participant as Collateral will be held in a depository account by PJM. Interest shall accrue to the benefit of the Participant, provided that PJM may require Participants to provide appropriate tax and other information in order to accrue such interest credits.

PJM may establish an array of investment options among which a Participant may choose to invest its cash deposited as Collateral. The depository account shall be held in PJM's name in a banking or financial institution acceptable to PJM. Where practicable, PJM may establish a means for the Participant to communicate directly with the bank or financial institution to permit the Participant to direct certain activity in the PJM account in which its Collateral is held. PJM will establish and publish procedural rules, identifying the investment options and respective discounts in Collateral value that will be taken to reflect any liquidation, market and/or credit risk presented by such investments.

Cash Collateral may not be pledged or in any way encumbered or restricted from full and timely use by PJM in accordance with terms of the Agreements.

PJM has the right to liquidate all or a portion of the Collateral account balance at its discretion to satisfy a Participant's Total Net Obligation to PJM in the Event of Default under this Attachment Q or one or more of the Agreements.

B. Letter of Credit

An unconditional, irrevocable standby Letter of Credit can be utilized to meet the Collateral requirement. As stated below, the form, substance, and provider of the Letter of Credit must all be acceptable to PJM.

(1) The Letter of Credit will only be accepted from U.S.-based financial institutions or U.S. branches of foreign financial institutions ("financial institutions") that have a minimum corporate debt rating of "A" by Standard & Poor's or Fitch Ratings, or "A2" from Moody's Investors Service, or an equivalent short term rating from one of these agencies. PJM will consider the lowest applicable rating to be the rating of the financial institution. If the rating of a financial institution providing a Letter of Credit is lowered below A/A2 by any Rating Agency, then PJM may require the Participant to provide a Letter of Credit from another financial institution that is rated A/A2 or better, or to provide a cash deposit. If a Letter of Credit is provided from a U.S. branch of a foreign institution, the U.S. branch must itself comply with the terms of this Attachment Q, including having its own acceptable credit rating.

(2) The Letter of Credit shall state that it shall renew automatically for successive one-year periods, until terminated upon at least ninety (90) calendar days prior written notice from the issuing financial institution. If PJM or PJM receives notice from the issuing financial institution that the current Letter of Credit is being cancelled or expiring, the Participant will be required to provide evidence, acceptable to PJM, that such Letter of Credit will be replaced with appropriate Collateral, effective as of the cancellation date of the Letter of Credit, no later than thirty (30) calendar days before the cancellation date of the Letter of Credit, and no later than ninety (90) calendar days after the notice of cancellation. Failure to do so will constitute a default under this Attachment Q and one or more of the Agreements.

(3) PJM will post on its web site an acceptable standard form of a Letter of Credit that should be utilized by a Participant choosing to submit a Letter of Credit to establish credit at PJM. If the Letter of Credit varies in any way from the standard format, it must first be

reviewed and approved by PJM. All costs associated with obtaining and maintaining a Letter of Credit and meeting the Attachment Q provisions are the responsibility of the Participant.

(4) PJM may accept a Letter of Credit from a financial institution that does not meet the credit standards of this Attachment Q provided that the Letter of Credit has third-party support, in a form acceptable to PJM, from a financial institution that does meet the credit standards of this Attachment Q.

C. Corporate Guaranty

An irrevocable and unconditional Corporate Guaranty may be utilized to establish an Unsecured Credit Allowance for a Participant. Such credit will be considered a transfer of Unsecured Credit from the Guarantor to the Participant, and will not be considered a form of Collateral.

PJM will post on its web site an acceptable form that should be utilized by a Participant choosing to establish its credit with a Corporate Guaranty. If the Corporate Guaranty varies in any way from the PJM format, it must first be reviewed and approved by PJM before it may be applied to satisfy the Participant's credit requirements.

The Corporate Guaranty must be signed by an officer of the Guarantor, and must demonstrate that it is duly authorized in a manner acceptable to PJM. Such demonstration may include either a corporate seal on the Corporate Guaranty itself, or an accompanying executed and sealed secretary's certificate from the Guarantor's corporate secretary noting that the Guarantor was duly authorized to provide such Corporate Guaranty and that the person signing the Corporate Guaranty is duly authorized, or other manner acceptable to PJM.

PJM will evaluate the creditworthiness of a Guarantor and will establish any Unsecured Credit granted through a Corporate Guaranty using the methodology and requirements established for Participants requesting an Unsecured Credit Allowance as described herein. Foreign Guaranties and Canadian Guaranties shall be subject to additional requirements as established herein.

If PJM determines at any time that a Material Adverse Change in the financial condition of the Guarantor has occurred, or if the Corporate Guaranty comes within thirty (30) calendar days of expiring without renewal, PJM may reduce or eliminate any Unsecured Credit afforded to the Participant through the guaranty. Such reduction or elimination may require the Participant to provide Collateral within the applicable cure period. If the Participant fails to provide the required Collateral, the Participant shall be in default under this Attachment Q.

All costs associated with obtaining and maintaining a Corporate Guaranty and meeting the Attachment Q provisions are the responsibility of the Participant.

1. Foreign Guaranties

A Foreign Guaranty is a Corporate Guaranty that is provided by a Credit Affiliate entity that is domiciled in a country other than the United States or Canada. The entity providing a Foreign Guaranty on behalf of a Participant is a Foreign Guarantor. A Participant may provide a Foreign

Guaranty in satisfaction of part of its credit obligations or voluntary credit provision at PJM provided that all of the following conditions are met:

PJM reserves the right to deny, reject, or terminate acceptance of any Foreign Guaranty at any time, including for material adverse circumstances or occurrences.

(a) A Foreign Guaranty:
  - (i) Must contain provisions equivalent to those contained in PJM's standard form of Foreign Guaranty with any modifications subject to review and approval by PJM counsel.
  - (ii) Must be denominated in US currency.
  - (iii) Must be written and executed solely in English, including any duplicate originals.
  - (iv) Will not be accepted towards a Participant's Unsecured Credit Allowance for more than the following limits, depending on the Foreign Guarantor's credit rating:

Rating of Foreign Guarantor	Maximum Accepted Guaranty if Country Rating is AAA	Maximum Accepted Guaranty if Country Rating is AA+
A- and above	USD50,000,000	USD30,000,000
BBB+	USD30,000,000	USD20,000,000
BBB	USD10,000,000	USD10,000,000
BBB- or below	USD 0	USD 0

  - (v) May not exceed 50% of the Participant's total credit, if the Foreign Grantor is rated less than BBB+.

(b) A Foreign Guarantor:
  - (i) Must satisfy all provisions of this Attachment Q applicable to domestic Guarantors.
  - (ii) Must be a Credit Affiliate of the Participant.
  - (iii) Must maintain an agent for acceptance of service of process in the United States; such agent shall be situated in the Commonwealth of Pennsylvania, absent legal constraint.
  - (iv) Must be rated by at least one Rating Agency acceptable to PJM; the credit strength of a Foreign Guarantor may not be determined based on an evaluation of its audited financial statements without an actual credit rating as well.
  - (v) Must have a senior unsecured (or equivalent, in PJM's sole discretion) rating of BBB (one notch above BBB-) or greater by any and all agencies that provide rating coverage of the entity.
  - (vi) Must provide audited financial statements, in US GAAP format or any other format acceptable to PJM, with clear representation of net worth, intangible assets, and any other information PJM may require in order to determine the entity's Unsecured Credit Allowance.
  - (vii) Must provide a Secretary's Certificate from the Participant's corporate secretary certifying the adoption of Corporate Resolutions:

1. Authorizing and approving the Guaranty; and
2. Authorizing the Officers to execute and deliver the Guaranty on behalf of the Guarantor.

(viii) Must be domiciled in a country with a minimum long-term sovereign (or equivalent) rating of AA+/Aa1, with the following conditions:
1. Sovereign ratings must be available from at least two rating agencies acceptable to PJM (e.g. S&P, Moody's, Fitch, DBRS).
2. Each agency's sovereign rating for the domicile will be considered to be the lowest of: country ceiling, senior unsecured government debt, long-term foreign currency sovereign rating, long-term local currency sovereign rating, or other equivalent measures, at PJM's sole discretion.
3. Whether ratings are available from two or three agencies, the lowest of the two or three will be used.

(ix) Must be domiciled in a country that recognizes and enforces judgments of US courts.

(x) Must demonstrate financial commitment to activity in the United States as evidenced by one of the following:
1. American Depository Receipts (ADR) are traded on the New York Stock Exchange, American Stock Exchange, or NASDAQ.
2. Equity ownership worth over USD 100,000,000 in the wholly-owned or majority owned subsidiaries in the United States.

(xi) Must satisfy all other applicable provisions of the PJM Tariff and/or Operating Agreement, including this Attachment Q.

(xii) Must pay for all expenses incurred by PJM related to reviewing and accepting a foreign guaranty beyond nominal in-house credit and legal review.

(xiii) Must, at its own cost, provide PJM with independent legal opinion from an attorney/solicitor of PJM's choosing and licensed to practice law in the United States and/or Guarantor's domicile, in form and substance acceptable to PJM in its sole discretion, confirming the enforceability of the Foreign Guaranty, the Guarantor's legal authorization to grant the Guaranty, the conformance of the Guaranty, Guarantor, and Guarantor's domicile to all of these requirements, and such other matters as PJM may require in its sole discretion.

2. Canadian Guaranties

The entity providing a Canadian Guaranty on behalf of a Participant is a Canadian Guarantor. A Participant may provide a Canadian Guaranty in satisfaction of part of its credit obligations or voluntary credit provision at PJM provided that all of the following conditions are met.

PJM reserves the right to deny, reject, or terminate acceptance of any Canadian Guaranty at any time for reasonable cause, including material adverse circumstances or occurrences.

(a) A Canadian Guaranty:

(i) Must contain provisions equivalent to those contained in PJM's standard form of Foreign Guaranty with any modifications subject to review and approval by PJM counsel.
(ii) Must be denominated in US currency.
(iii) Must be written and executed solely in English, including any duplicate originals.

(b) A Canadian Guarantor:
(i) Must be a Credit Affiliate of the Participant.
(ii) Must satisfy all provisions of this Attachment Q applicable to domestic Guarantors.
(iii) Must maintain an agent for acceptance of service of process in the United States; such agent shall be situated in the Commonwealth of Pennsylvania, absent legal constraint.
(iv) Must be rated by at least one Rating Agency acceptable to PJM; the credit strength of a Canadian Guarantor may not be determined based on an evaluation of its audited financial statements without an actual credit rating as well.
(v) Must provide audited financial statements, in US GAAP format or any other format acceptable to PJM with clear representation of net worth, intangible assets, and any other information PJM may require in order to determine the entity's Unsecured Credit Allowance.
(vi) Must satisfy all other applicable provisions of the PJM Tariff and/or Operating Agreement, including this Attachment Q.

D. PJM Administrative Charges

Collateral or credit support held by PJM shall also secure obligations to PJM for PJM administrative charges, and may be liquidated to satisfy all such obligations in an Event of Default.

E. Collateral and Credit Support Held by PJM

Collateral or credit support submitted by Participants and held by PJM shall be held by PJM for the benefit of PJM.

VI. SUPPLEMENTAL CREDIT REQUIREMENTS FOR SCREENED TRANSACTIONS

A. Virtual and Export Transaction Screening

1. Credit for Virtual and Export Transactions

Export Transactions and Virtual Transactions both utilize Credit Available for Virtual Transactions to support their credit requirements.

PJM does not require a Market Participant to establish separate or additional credit for submitting Virtual or Export Transactions; however, once transactions are submitted and accepted by PJM, PJM may require credit supporting those transactions to be held until the transactions are completed and their financial impact incorporated into the Market Participant's Obligations. If a Market Participant chooses to establish additional Collateral and/or Unsecured Credit Allowance in order to increase its Credit Available for Virtual Transactions, the Market Participant's Working Credit Limit for Virtual Transactions shall be increased in accordance with the definition thereof. The Collateral and/or Unsecured Credit Allowance available to increase a Market Participant's Credit Available for Virtual Transactions shall be the amount of Collateral and/or Unsecured Credit Allowance available after subtracting any credit required for Minimum Participation Requirements, FTR, RPM or other credit requirement determinants defined in this Attachment Q, as applicable.

If a Market Participant chooses to provide additional Collateral in order to increase its Credit Available for Virtual Transactions PJM may establish a reasonable timeframe, not to exceed three months, for which such Collateral must be maintained. PJM will not impose such restriction on a deposit unless a Market Participant is notified prior to making the deposit. Such restriction, if applied, shall be applied to all future deposits by all Market Participants engaging in Virtual Transactions.

A Market Participant may increase its Credit Available for Virtual Transactions by providing additional Collateral to PJM. PJM will make a good faith effort to make new Collateral available as Credit Available for Virtual Transactions as soon as practicable after confirmation of receipt. In any event, however, Collateral received and confirmed by noon on a Business Day will be applied (as provided under this Attachment Q) to Credit Available for Virtual Transactions no later than 10:00 am on the following Business Day. Receipt and acceptance of wired funds for cash deposit shall mean actual receipt by PJM's bank, deposit into PJM's customer deposit account, confirmation by PJM that such wire has been received and deposited, and entry into PJM's credit system. Receipt and acceptance of letters of credit shall mean receipt of the original Letter of Credit or amendment thereto, confirmation from PJM's credit and legal staffs that such Letter of Credit or amendment thereto conforms to PJM's requirements, which confirmation shall be made in a reasonable and practicable timeframe, and entry into PJM's credit system. To facilitate this process, bidders submitting additional Collateral for the purpose of increasing their Credit Available for Virtual Transactions are advised to submit such Collateral well in advance of the desired time, and to specifically notify PJM of such submission.

A Market Participant wishing to submit Virtual or Export Transactions must allocate within PJM's credit system the appropriate amount of Credit Available for Virtual Transactions to the virtual and export allocation sections within each customer account in which it wishes to submit such transactions.

2. Virtual Transaction Screening

All Virtual Transactions submitted to PJM shall be subject to a credit screen prior to acceptance in the Day-ahead Energy Market. The credit screen is applied separately for each of a Market Participant's customer accounts. The credit screen process will automatically reject Virtual Transactions submitted by the Market Participant in a customer account if the Market Participant's Credit Available for Virtual Transactions, allocated on a customer account basis, is exceeded by the Virtual Credit Exposure that is calculated based on the Market Participant's Virtual Transactions submitted, as described below.

A Market Participant's Virtual Credit Exposure will be calculated separately for each customer account on a daily basis for all Virtual Transactions submitted by the Market Participant for the next Operating Day using the following equation:

Virtual Credit Exposure = INC and DEC Exposure + Up-to Congestion Exposure
Where:

(a) INC and DEC Exposure for each customer account is calculated as:

(i) ((the total MWh bid or offered, whichever is greater, hourly at each node) x the Nodal Reference Price x 1 day) summed over all nodes and all hours; plus (ii) ((the difference between the total bid MWh cleared and total offered MWh cleared hourly at each node) x Nodal Reference Price) summed over all nodes and all hours for the previous cleared Day-ahead Energy Market.

(b) Up-to Congestion Exposure for each customer account is calculated as:

(i) Total MWh bid hourly for each Up-to Congestion Transaction x (price bid – Up-to Congestion Reference Price) summed over all Up-to Congestion Transactions and all hours; plus (ii) Total MWh cleared hourly for each Up-to Congestion Transaction x (cleared price – Up-to Congestion Reference Price) summed over all Up-to Congestion Transactions and all hours for the previous cleared Day-ahead Energy Market, provided that hours for which the calculation for an Up-to Congestion Transaction is negative, it shall be deemed to have a zero contribution to the sum.

3. Export Transaction Screening

Export Transactions in the Real-time Energy Market shall be subject to Export Transaction Screening. Export Transaction Screening may be performed either for the duration of the entire Export Transaction, or separately for each time interval comprising an Export Transaction. PJM will deny or curtail all or a portion (based on the relevant time interval) of an Export Transaction if that Export Transaction, or portion thereof, would otherwise cause the Market Participant's Export Credit Exposure to exceed its Credit Available for Export Transactions. Export Transaction Screening shall be applied separately for each Operating Day and shall also be applied to each Export Transaction one or more times prior to the market clearing process for each relevant time interval. Export Transaction Screening shall not apply to transactions established directly by and between PJM and a neighboring Balancing Authority for the purpose of maintaining reliability.

A Market Participant's credit exposure for an individual Export Transaction shall be the MWh volume of the Export Transaction for each relevant time interval multiplied by each relevant Export Transaction Price Factor and summed over all relevant time intervals of the Export Transaction.

B. RPM Auction and Price Responsive Demand Credit Requirements

Settlement during any Delivery Year of cleared positions resulting or expected to result from any RPM Auction shall be included as appropriate in Peak Market Activity, and the provisions of this Attachment Q shall apply to any such activity and obligations arising therefrom. In addition, the provisions of this section shall apply to any entity seeking to participate in any RPM Auction, to address credit risks unique to such auctions. The provisions of this section also shall apply under certain circumstances to PRD Providers that seek to commit Price Responsive Demand pursuant to the provisions of the Reliability Assurance Agreement.
Credit requirements described herein for RPM Auctions and RPM bilateral transactions are applied separately for each customer account of a Market Participant. Market Participants wishing to participate in an RPM Auction or enter into RPM bilateral transactions must designate the appropriate amount of credit to each account in which their offers are submitted.

1. Applicability

A Market Participant seeking to submit a Sell Offer in any RPM Auction based on any Capacity Resource for which there is a materially increased risk of nonperformance must satisfy the credit requirement specified herein before submitting such Sell Offer. A PRD Provider seeking to commit Price Responsive Demand for which there is a materially increased risk of non-performance must satisfy the credit requirement specified herein before it may commit the Price Responsive Demand. Credit must be maintained until such risk of non-performance is substantially eliminated, but may be reduced commensurate with the reduction in such risk, as set forth in section IV.B.3 below.

For purposes of this provision, a resource for which there is a materially increased risk of nonperformance shall mean: (i) a Planned Generation Capacity Resource; (ii) a Planned Demand Resource or an Energy Efficiency Resource; (iii) a Qualifying Transmission Upgrade; (iv) an existing or Planned Generation Capacity Resource located outside the PJM Region that at the time it is submitted in a Sell Offer has not secured firm transmission service to the border of the PJM Region sufficient to satisfy the deliverability requirements of the Reliability Assurance Agreement; or (v) Price Responsive Demand to the extent the responsible PRD Provider has not registered PRD-eligible load at a PRD Substation level to satisfy its Nominal PRD Value commitment, in accordance with Reliability Assurance Agreement, Schedule 6.1.

2. Reliability Pricing Model Auction and Price Responsive Demand Credit Requirement

Except as provided for Credit-Limited Offers below, for any resource specified in section IV.B.1 above, other than Price Responsive Demand, the credit requirement shall be the RPM Auction Credit Rate, as provided in section IV.B.4 below, times the megawatts to be offered for sale from such resource in an RPM Auction. For Qualified Transmission Upgrades, the credit requirements shall be based on the Locational Deliverability Area in which such upgrade was to increase the Capacity Emergency Transfer Limit. However, the credit requirement for Planned Financed Generation Capacity Resources and Planned External Financed Generation Capacity

Resources shall be one half of the product of the RPM Auction Credit Rate, as provided in section IV.B.4 below, times the megawatts to be offered for sale from such resource in a Reliability Pricing Model Auction. The RPM Auction Credit Requirement for each Market Participant shall be determined on a customer account basis, separately for each customer account of a Market Participant, and shall be the sum of the credit requirements for all such resources to be offered by such Market Participant in the auction or, as applicable, cleared by such Market Participant in the relevant auctions. For Price Responsive Demand, the credit requirement shall be based on the Nominal PRD Value (stated in Unforced Capacity terms) times the Price Responsive Demand Credit Rate as set forth in section IV.B.5 below. Except for Credit-Limited Offers, the RPM Auction Credit requirement for a Market Participant will be reduced for any Delivery Year to the extent less than all of such Market Participant's offers clear in the Base Residual Auction or any Incremental Auction for such Delivery Year. Such reduction shall be proportional to the quantity, in megawatts, that failed to clear in such Delivery Year.

A Sell Offer based on a Planned Generation Capacity Resource, Planned Demand Resource, or Energy Efficiency Resource may be submitted as a Credit-Limited Offer. A Market Participant electing this option shall specify a maximum amount of Unforced Capacity, in megawatts, and a maximum credit requirement, in dollars, applicable to the Sell Offer. A Credit-Limited Offer shall clear the RPM Auction in which it is submitted (to the extent it otherwise would clear based on the other offer parameters and the system's need for the offered capacity) only to the extent of the lesser of: (i) the quantity of Unforced Capacity that is the quotient of the division of the specified maximum credit requirement by the Auction Credit Rate resulting from section IV.B.4.b. below; and (ii) the maximum amount of Unforced Capacity specified in the Sell Offer. For a Market Participant electing this alternative, the RPM Auction Credit requirement applicable prior to the posting of results of the auction shall be the maximum credit requirement specified in its Credit-Limited Offer, and the RPM Auction Credit requirement subsequent to posting of the results will be the Auction Credit Rate, as provided in section IV.B.4.b, c. or d. of this Attachment Q, as applicable, times the amount of Unforced Capacity from such Sell Offer that cleared in the auction. The availability and operational details of Credit-Limited Offers shall be as described in the PJM Manuals.

As set forth in section IV.B.4 below, a Market Participant's Auction Credit requirement shall be determined separately for each Delivery Year.

3. Reduction in Credit Requirement

As specified below, the RPM Auction Credit Rate may be reduced under certain circumstances after the auction has closed.

The Price Responsive Demand credit requirement shall be reduced as and to the extent the PRD Provider registers PRD-eligible load at a PRD Substation level to satisfy its Nominal PRD Value commitment, in accordance with Reliability Assurance Agreement, Schedule 6.1.

In addition, the RPM Auction Credit requirement for a Market Participant for any given Delivery Year shall be reduced periodically, after the Market Participant has provided PJM a written request for each reduction, accompanied by documentation sufficient for PJM to verify attainment of required milestones or satisfaction of other requirements, and PJM has verified that the Market Participant has successfully met progress milestones for its Capacity Resource that reduce the risk of non-performance, as follows:

(a) For Planned Demand Resources and Energy Efficiency Resources, the RPM Auction Credit requirement will be reduced in direct proportion to the megawatts of such Demand Resource that the Resource Provider qualifies as a Capacity Resource, in accordance with the procedures established under the Reliability Assurance Agreement.

(b) For Existing Generation Capacity Resources located outside the PJM Region that have not secured sufficient firm transmission to the border of the PJM Region prior to the auction in which such resource is first offered, the RPM Auction Credit requirement shall be reduced in direct proportion to the megawatts of firm transmission service secured by the Market Participant that qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.

(c) For Planned Generation Capacity Resources located in the PJM Region, the RPM Auction Credit requirement shall be reduced as the Capacity Resource attains the milestones stated in the following table and as further described in the PJM Manuals.

Milestones	**Increment of reduction from initial RPM Auction Credit requirement**
Effective Date of Interconnection Service Agreement	50%
Financial Close	15%
Full Notice to Proceed and Commencement of Construction (e.g., footers poured)	5%
Main Power Generating Equipment Delivered	5%
Commencement of Interconnection Service	25%

For externally financed projects, the Market Participant must submit with its request for reduction a sworn, notarized certification of a duly authorized independent engineer for the Financial Close, Full Notice to Proceed and Commencement of Construction, and Main Power Generating Equipment Delivered milestones.

For internally financed projects, the Market Participant must submit with its request for reduction a sworn, notarized certification of a duly authorized officer of the Market Participant for the Financial Close milestone and either a duly authorized independent engineer or Professional Engineer for the Full Notice to Proceed and Commencement of Construction and the Main Power Generating Equipment Delivered milestones.

The required certifications must be in a form acceptable to PJM, certifying that the engineer or officer, as applicable, has personal knowledge, or has engaged in a diligent inquiry to determine, that the milestone has been achieved and that, based on its review of the relevant project information, the engineer or officer, as applicable, is not aware of any information that could reasonably cause it to believe that the Capacity Resource will not be in-service by the beginning of the applicable Delivery Year. The Market Participant shall, if requested by PJM, supply to PJM on a confidential basis all records and documents relating to the engineer's and/or officer's certifications.

(d) For Planned External Generation Capacity Resources, the RPM Auction Credit requirement shall be reduced as the Capacity Resource attains the milestones stated in the following table and as further described in the PJM Manuals; provided, however, that the total percentage reduction in the RPM Auction Credit requirement shall be no greater than the quotient of (i) the MWs of firm transmission service that the Market Participant has secured for the complete transmission path divided by (ii) the MWs of firm transmission service required to qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.

Credit Reduction Milestones for Planned External Generation Capacity Resources	
Milestones	**Increment of reduction from initial RPM Auction Credit requirement**
Effective Date of the equivalent of an Interconnection Service Agreement	50%
Financial Close	15%
Full Notice to Proceed and Commencement of Construction (e.g., footers poured)	5%
Main Power Generating Equipment Delivered	5%
Commencement of Interconnection Service	25%

To obtain a reduction in its RPM Auction Credit requirement, the Market Participant must demonstrate satisfaction of the applicable milestone in the same manner as set forth for Planned Generation Capacity Resources in subsection (c) above.

(e) For Planned Financed Generation Capacity Resources located in the PJM Region, the RPM Auction Credit requirement shall be reduced as the Capacity Resource attains the milestones stated in the following table and as further described in the PJM Manuals.

Credit Reduction Milestones for Planned Financed Generation Capacity Resources	
Milestones	**Increment of reduction from initial RPM Auction Credit requirement**
Full Notice to Proceed	50%
Commencement of Construction (e.g., footers poured)	15%
Main Power Generating Equipment Delivered	10%
Commencement of Interconnection Service	25%

To obtain a reduction in its RPM Auction Credit requirement, the Market Participant must demonstrate satisfaction of the applicable milestone in the same manner as set forth for Planned Generation Capacity Resources in subsection (c) above.

(f) For Planned External Financed Generation Capacity Resources, the RPM Auction Credit Requirement shall be reduced as the Capacity Resource attains the milestones stated in the following table and as further described in the PJM Manuals; provided, however, that the total percentage reduction in the RPM Auction Credit requirement, including the initial 50% reduction for being a Planned External Financed Generation Capacity Resources, shall be no greater than the quotient of (i) the MWs of firm transmission service that the Market Participant has secured for the complete transmission path divided by (ii) the MWs of firm transmission service required to qualify such resource under the deliverability requirements of the Reliability Assurance Agreement.

Credit Reduction Milestones for Planned External Financed Generation Capacity	
Milestones	**Increment of reduction from initial RPM Auction Credit requirement**
Full Notice to Proceed	50%
Commencement of Construction (e.g., footers poured)	15%
Main Power Generating Equipment Delivered	10%
Commencement of Interconnection Service	25%

To obtain a reduction in its RPM Auction Credit requirement, the Market Participant must demonstrate satisfaction of the applicable milestone in the same manner as set forth for Planned Generation Capacity Resources in subsection (c) above.

(g) For Qualifying Transmission Upgrades, the RPM Auction Credit requirement shall be reduced to 50% of the amount calculated under section IV.B.2 above beginning as of the effective date of the latest associated Interconnection Service Agreement (or, when a project will have no such agreement, an Upgrade Construction Service Agreement), and shall be reduced to zero on the date the Qualifying Transmission Upgrade is placed in service.

4. RPM Auction Credit Rate

As set forth in the PJM Manuals, a separate Auction Credit Rate shall be calculated for each Delivery Year prior to each RPM Auction for such Delivery Year, as follows:

(a) Prior to the posting of the results of a Base Residual Auction for a Delivery Year, the Auction Credit Rate shall be:

(i) For all Capacity Resources other than Capacity Performance Resources, (the greater of (A) 0.3 times the Net Cost of New Entry for the PJM Region for such Delivery Year, in MW-day or (B) $20 per MW-day) times the number of calendar days in such Delivery Year; and

(ii) For Capacity Performance Resources, the greater of ((A) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in MW-day or (B) $20 per MW-day) times the number of calendar days in such Delivery Year.

(iii) For Seasonal Capacity Performance Resources, the same as the Auction Credit Rate for Capacity Performance Resources, but reduced to be proportional to the number of calendar days in the relevant season.

(b) Subsequent to the posting of the results from a Base Residual Auction, the Auction Credit Rate used for ongoing credit requirements for supply committed in such auction shall be:

(i) For all Capacity Resources other than Capacity Performance Resources, (the greater of (A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located) times the number of calendar days in such Delivery Year; and

(ii) For Capacity Performance Resources, the (greater of [(A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located) or (C) the lesser of (1) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (2) 1.5 times the Net Cost of New Entry (stated on an installed capacity basis) for the PJM Region for such Delivery year or for the Relevant LDA, in $/MW-day minus (the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located)] times the number of calendar days in such Delivery Year).

(iii) For Seasonal Capacity Performance Resources, the same as the Auction Credit Rate for Capacity Performance Resources, but reduced to be proportional to the number of calendar days in the relevant season.

(c) For any resource not previously committed for a Delivery Year that seeks to participate in an Incremental Auction, the Auction Credit Rate shall be:

(i) For all Capacity Resources other than Capacity Performance Resources, (the greater of (A) 0.3 times the Net Cost of New Entry for the PJM Region for such Delivery Year, in MW-day or (B) 0.24 times the Capacity Resource Clearing Price in the Base Residual Auction for such Delivery Year for the Locational Deliverability Area within which the resource is located or (C) $20 per MW-day) times the number of calendar days in such Delivery Year; and

(ii) For Capacity Performance Resources, the (greater of (A) 0.5 times Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA or (B) $20/MW-day) times the number of calendar days in such Delivery Year.

(d) Subsequent to the posting of the results of an Incremental Auction, the Auction Credit Rate used for ongoing credit requirements for supply committed in such auction shall be:

(i) For Base Capacity Resources: (the greater of (A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located) times the number of calendar days in such Delivery Year, but no greater than the Auction Credit Rate previously established for such resource's participation in such Incremental Auction pursuant to subsection (c) above) times the number of calendar days in such Delivery Year;

(ii) For Capacity Performance Resources, the greater of [(A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located or (C) the lesser of (1) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (2) 1.5 times the Net Cost of New Entry (stated on an installed capacity basis) for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day minus (the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located)] times the number of calendar days in such Delivery Year); and

(iii) For Seasonal Capacity Performance Resources, the same as the Auction Credit Rate for Capacity Performance Resources, but reduced to be proportional to the number of calendar days in the relevant season.

(e) For the purposes of this section IV.B.4 and section IV.B.5 below, "Relevant LDA" means the Locational Deliverability Area in which the Capacity Performance Resource is located if a separate Variable Resource Requirement Curve has been established for that Locational Deliverability Area for the Base Residual Auction for such Delivery Year.

5. Price Responsive Demand Credit Rate

(a) For the 2018/2019 through 2022/2023 Delivery Years:

(i) Prior to the posting of the results of a Base Residual Auction for a Delivery Year, the Price Responsive Demand Credit Rate shall be (the greater of (A) 0.3 times the Net Cost of New Entry for the PJM Region for such Delivery Year, in MW-day or (B) $20 per MW-day) times the number of calendar days in such Delivery Year;

(ii) Subsequent to the posting of the results from a Base Residual Auction, the Price Responsive Demand Credit Rate used for ongoing credit requirements for Price Responsive Demand committed in such auction shall be (the greater of (A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the Price Responsive

Demand load is located, in $/MW-day) times the number of calendar days in such Delivery Year times a final price uncertainty factor of 1.05;

(iii) For any additional Price Responsive Demand that seeks to commit in a Third Incremental Auction in response to a qualifying change in the final LDA load forecast, the Price Responsive Demand Credit Rate shall be the same as the rate for Price Responsive Demand that had cleared in the Base Residual Auction; and

(iv) Subsequent to the posting of the results of the Third Incremental Auction, the Price Responsive Demand Credit Rate used for ongoing credit requirements for all Price Responsive Demand, shall be (the greater of (i) $20/MW-day or (ii) 0.2 times the Final Zonal Capacity Price for the Locational Deliverability Area within which the Price Responsive Demand is located) times the number of calendar days in such Delivery Year, but no greater than the Price Responsive Demand Credit Rate previously established under subsections (a)(i), (a)(ii), or (a)(iii) of this section for such Delivery Year.

(b) For the 2022/2023 Delivery Year and Subsequent Delivery Years:

(i) Prior to the posting of the results of a Base Residual Auction for a Delivery Year, the Price Responsive Demand Credit Rate shall be (the greater of (A) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (B) $20 per MW-day) times the number of calendar days in such Delivery Year;

(ii) Subsequent to the posting of the results from a Base Residual Auction, the Price Responsive Demand Credit Rate used for ongoing credit requirements for Price Responsive Demand committed in such auction shall be (the greater of [(A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the Price Responsive Demand is located, in $/MW-day or (C) the lesser of (1) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (2) 1.5 times the Net Cost of New Entry (stated on an installed capacity basis) for the PJM Region for such Delivery year or for the Relevant LDA, in $/MW-day minus (the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the Price Responsive Demand is located)] times the number of calendar days in such Delivery Year;

(iii) For any additional Price Responsive Demand that seeks to commit in a Third Incremental Auction in response to a qualifying change in the final LDA load forecast, the Price Responsive Demand Credit Rate shall be (the greater of (A) 0.5 times Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (B) $20/MW-day) times the number of calendar days in such Delivery Year; and

(iv) Subsequent to the posting of the results of the Third Incremental Auction, the Price Responsive Demand Credit Rate used for ongoing credit requirements for all Price Responsive Demand committed in such auction shall be the greater of [(A) $20/MW-day or (B) 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the Price Responsive Demand is located or (C) the lesser of (1) 0.5 times the Net Cost of New Entry for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day or (2) 1.5 times the Net Cost of New Entry (stated on an installed capacity basis) for the PJM Region for such Delivery Year or for the Relevant LDA, in $/MW-day minus (the Capacity Performance Resource Clearing Price in such Incremental Auction for the Locational Deliverability Areas within which the Price Responsive Demand is located)] times the number of calendar days in such Delivery Year.

6. RPM Seller Credit - Additional Form of Unsecured Credit for RPM

In addition to the forms of credit specified elsewhere in this Attachment Q, RPM Seller Credit shall be available to Market Participants, but solely for purposes of satisfying RPM Auction Credit requirements. If a supplier has a history of being a net seller into PJM Markets, on average, over the past 12 months, then PJM will count as available Unsecured Credit twice the average of that Market Participant's total net monthly PJM bills over the past 12 months. This RPM Seller Credit shall be subject to the cap on available Unsecured Credit as established in section II.G.3 above.

RPM Seller Credit is calculated as a single value for each Market Participant, not separately by account, and must be designated to specific customer accounts in order to be available to satisfy RPM Auction Credit requirements that are calculated in each such customer account.

7. Credit Responsibility for Traded Planned RPM Capacity Resources

PJM may require that credit and financial responsibility for planned Capacity Resources that are traded remain with the original party (which for these purposes, means the party bearing credit responsibility for the planned Capacity Resource immediately prior to trade) unless the receiving party independently establishes consistent with this Attachment Q, that it has sufficient credit with PJM and agrees by providing written notice to PJM that it will fully assume the credit responsibility associated with the traded planned Capacity Resource.

C. Financial Transmission Right Auctions

Credit requirements described herein for FTR activity are applied separately for each customer account of a Market Participant, unless specified otherwise in this section C. FTR Participants must designate the appropriate amount of credit to each separate customer account in which any activity occurs or will occur.

1. FTR Credit Limit.

Participants must maintain their FTR Credit Limit at a level equal to or greater than their FTR Credit Requirement for each applicable account. FTR Credit Limits will be established only by a Participant providing Collateral and designating the available credit to specific accounts.

2. FTR Credit Requirement.

For each Market Participant with FTR activity, PJM shall calculate an FTR Credit Requirement. The FTR Credit Requirement shall be based on FTR cost, FTR Historical Value and MWh volume, anticipated FTR activity for new Market Participants, and anticipated change in exposure for existing Market Participants newly participating in the FTR market, and may be increased to reflect any change in exposure based on the most recent applicable FTR auction prices, as further described below.

FTR Historical Values shall be calculated separately for on-peak, off-peak, and 24-hour FTRs for each month of the year. FTR Historical Values shall be adjusted by plus or minus ten percent for cleared counter flow or prevailing flow FTRs, respectively, in order to mitigate exposure due to uncertainty and fluctuations in actual FTR value. Historical values used in the calculation of FTR Historical Values shall be adjusted when the network simulation model utilized in PJM's economic planning process indicates that transmission congestion will decrease due to certain transmission upgrades that are in effect or planned to go into effect for the following Planning Period. The transmission upgrades to be modeled for this purpose shall only include those upgrades that, individually, or together, have 10% or more impact on the transmission congestion on an individual constraint or constraints with congestion of $5 million or more affecting a common congestion path. The adjustments to historical values shall be the dollar amount of the adjustment shown in the network simulation model.

If FTR cost less the FTR Historical Value, plus any applicable increase related to portfolio diversification as described in section C.6 below, results in a value that is less than ten cents (10¢) per MWh, the FTR Credit Requirement shall be increased to ten cents (10¢) per MWh. When calculating the portfolio MWh for this comparison, for cleared “Sell” FTRs, the MWh shall be subtracted from the portfolio total; prior to clearing, the MWh for “Sell” FTRs shall not be included in the portfolio total. FTR Credit Requirements shall be further adjusted by ARR credits available and by an amount based on portfolio diversification, if applicable. The requirement will be based on individual monthly exposures which are then used to derive a total requirement.

The FTR Credit Requirement shall be calculated by first adding for each month the FTR Monthly Credit Requirement Contribution for each submitted, accepted, and cleared FTR and then subtracting the prorated value of any ARRs held by the Market Participant for that month. The resulting twelve monthly subtotals represent the expected value of net payments between PJM and the Market Participant for FTR activity each month during the Planning Period. Subject to later adjustment by an amount based on portfolio diversification, if applicable, and subject to later adjustment for auction prices, the FTR Credit Requirement shall be the sum of the individual positive monthly subtotals, representing months in which net payments to PJM are expected.

3. Rejection of FTR Bids.

Bids submitted into an auction will be rejected if the Market Participant's FTR Credit Requirement including such submitted bids would exceed the Market Participant's FTR Credit Limit, or if the Market Participant fails to provide additional credit support or additional Collateral as required pursuant to provisions related to portfolio diversification and mark-to-auction.

4. FTR Credit Collateral Returns.

A Market Participant may request from PJM the return of any Collateral no longer required for the FTR markets. PJM is permitted to limit the frequency of such requested Collateral returns, provided that Collateral returns shall be made by PJM at least once per calendar quarter, if requested by a Market Participant.

5. Credit Responsibility for Bilateral Transfers of FTRs.

PJM may require that credit responsibility associated with an FTR bilaterally transferred to a new Market Participant remain with the original party (which for these purposes, means the party bearing credit responsibility for the FTR immediately prior to bilateral transfer) unless and until the receiving party independently establishes, consistent with this Attachment Q, sufficient credit with PJM and agrees through confirmation of the bilateral transfer in PJM's FTR reporting tool that it will meet in full the credit requirements associated with the transferred FTR.

6. Portfolio Diversification.

Portfolio diversification shall be calculated, and the appropriate provisions herein applied, separately for each customer account of a Market Participant, and separately for each month.

Subsequent to calculating a tentative cleared solution for an FTR auction (or auction round), PJM shall determine the FTR Portfolio Auction Value for each customer account of a Market Participant, including the tentative cleared solution. Any customer accounts with such FTR Portfolio Auction Values that are negative in one or more months shall be deemed "FTR Flow Undiversified."

For customer accounts that are FTR Flow Undiversified in a month, PJM shall increment the FTR Credit Requirement by an amount equal to three times the absolute value of the FTR Portfolio Auction Value in that month, including the tentative cleared solution. For portfolios that are FTR Flow Undiversified in months subsequent to the current planning year, these incremental amounts, calculated on a monthly basis, shall be reduced (but not below zero) by an amount up to 25% of the monthly value of ARR credits that are held by a Market Participant. Subsequent to the ARR allocation process preceding an annual FTR auction, such ARRs credits shall be reduced to zero for months associated with that ARR allocation process. PJM may recalculate such ARR credits at any time, but at a minimum shall do so subsequent to each annual FTR auction. If a reduction in such ARR credits at any time increases an FTR Participant's FTR Credit Requirements beyond its credit available for FTR activity, the FTR

Participant must increase its credit to eliminate the shortfall in the applicable customer account(s).

If the FTR Credit Requirement for any Market Participant's customer account exceeds its credit available for FTRs as a result of these diversification requirements for the tentatively cleared portfolio of FTRs, PJM shall immediately issue a demand for additional credit, and such demand must be fulfilled before 4:00 p.m. on the Business Day following the demand. If any Market Participant does not timely satisfy such demand, PJM shall cause the removal of that Market Participant's entire set of bids in that account for that FTR auction (or auction round) and a new cleared solution shall be calculated for the entire auction (or auction round).

If necessary, PJM shall repeat the auction clearing calculation. PJM shall repeat these portfolio diversification calculations subsequent to any secondary clearing calculation, and PJM shall require affected Market Participants to establish additional credit.

7. FTR Administrative Charge Credit Requirement

In addition to any other credit requirements, PJM may apply a credit requirement to cover the maximum administrative fees that may be charged to a Market Participant for its bids and offers.

8. Long-Term FTR Credit Recalculation

Long-term FTR Credit Requirement calculations shall be updated annually for known history, consistent with updating of historical values used for FTR Credit Requirement calculations in the annual auctions. If the historical value update results in an FTR Credit Requirement for any Market Participant's customer account that exceeds its credit available for FTR activity, then PJM shall issue a Collateral Call equal to the lesser of the increase in the FTR Credit Requirement from the historical value adjustment and the credit shortfall after the historical value adjustment.

9. Mark-to-Auction

A Mark-to-Auction Value shall be calculated separately for each customer account of a Market Participant. For each such customer account, the Mark-to-Auction Value shall be a single number equal to the sum, over all months remaining in the applicable FTR period and for all cleared FTRs in the customer account, of the most recently available cleared auction price applicable to the FTR minus the original transaction price of the FTR, multiplied by the transacted quantity.

The FTR Credit Requirement, as otherwise described above, shall be increased when the Mark-to-Auction Value is negative. The increase shall equal the absolute value of the negative Mark-to-Auction Value less the value of ARR credits that are held in the customer account and have not been used to reduce the FTR Credit Requirement prior to application of the Mark-to-Auction Value. PJM shall recalculate ARR credits held by each Market Participant after each annual FTR auction and may also recalculate such ARR credits at any other additional time intervals it deems appropriate. Application of the Mark-to-Auction Value, including the effect from ARR application, shall not decrease the FTR Credit Requirement.

For Market Participant customer accounts for which FTR bids have been submitted into the current FTR auction, if the Market Participant's FTR Credit Requirement exceeds its credit available for FTRs as a result of the mark-to-auction requirements for the Market Participant's portfolio of FTRs in the tentative cleared solution for an FTR auction (or auction round), PJM shall issue a Collateral Call to the Market Participant, and the Market Participant must fulfill such demand before 4:00 p.m. on the following Business Day. If a Market Participant does not timely satisfy such Collateral Call, PJM shall, in coordination with PJM, cause the removal of all of that Market Participant's bids in that FTR auction (or auction round), submitted from such Market Participant's customer account, and a new cleared solution shall be calculated for the FTR auction (or auction round).

If necessary, PJM shall repeat the auction clearing calculation. PJM shall repeat these mark-to-auction calculations subsequent to any secondary clearing calculation, and PJM shall require affected Market Participants to establish additional credit.

Subsequent to final clearing of an FTR auction or an annual FTR auction round, PJM shall recalculate the FTR Credit Requirement for all FTR portfolios, and, as applicable, issue to each Market Participant an MTA Collateral Call for the total amount by which the FTR Credit Requirement exceeds the credit allocated in any of the Market Participant's accounts.

If the MTA Collateral Call is not satisfied within the applicable cure period referenced in Operating Agreement, section 15, then such Market Participant shall be restricted in all of its credit-screened transactions. Specifically, such Market Participant may not engage in any Virtual Transactions or Export Transactions, or participate in RPM Auctions or other RPM activity. Such Market Participant may engage only in the selling of open FTR positions, either in FTR auctions or bilaterally, provided such sales would reduce the Market Participant's FTR Credit Requirements. PJM shall not return any Collateral to such Market Participant, and no payment shall be due or payable to such Market Participant, until its credit shortfall is remedied. Market Participant shall allocate any excess or unallocated Collateral to any of its account in which there is a credit shortfall. Market Participants may remedy their credit shortfall at any time through provision of sufficient Collateral.

If a Market Participant fails to satisfy MTA Collateral Calls for two consecutive auctions of overlapping periods, e.g. two balance of Planning Period auctions, an annual FTR auction and a balance of Planning Period auction, or two long term FTR auctions, (for this purpose the four rounds of an annual FTR auction shall be considered a single auction), the Market Participant shall be declared in default of this Attachment Q.

VII. PEAK MARKET ACTIVITY AND WORKING CREDIT LIMIT

A. Peak Market Activity Credit Requirement

PJM shall calculate a Peak Market Activity credit requirement for each Participant. Each Participant must maintain sufficient Unsecured Credit Allowance and/or Collateral, as applicable, and subject to the provisions herein, to satisfy its Peak Market Activity credit requirement.

Peak Market Activity for Participants will be determined semi-annually, utilizing an initial Peak Market Activity, as explained below, calculated after the first complete billing week in the months of April and October. Peak Market Activity shall be the greater of the initial Peak Market Activity, or the greatest amount invoiced for the Participant's transaction activity for all PJM Markets and services in any rolling one, two, or three week period, ending within a respective semi-annual period. However, Peak Market Activity shall not exceed the greatest amount invoiced for the Participant's transaction activity for all PJM Markets and services in any rolling one, two or three week period in the prior 52 weeks.
Peak Market Activity shall exclude FTR Net Activity, Virtual Transactions Net Activity, and Export Transactions Net Activity.

When calculating Peak Market Activity, PJM may attribute credits for Regulation service to the days on which they were accrued, rather than including them in the month-end invoice.

The initial Peak Market Activity for Applicants will be determined by PJM based on a review of an estimate of their transactional activity for all PJM Markets and services over the next 52 weeks, which the Applicant shall provide to PJM.

The initial Peak Market Activity for Market Participants and Transmission Customers, calculated at the beginning of each semi-annual period, shall be the three-week average of all non-zero invoice totals over the previous 52 weeks. This calculation shall be performed and applied within three (3) Business Days following the day the invoice is issued for the first full billing week in the current semi-annual period.

Prepayments shall not affect Peak Market Activity unless otherwise agreed to in writing pursuant to this Attachment Q.

Peak Market Activity calculations shall take into account reductions of invoice values effectuated by early payments which are applied to reduce a Participant's Peak Market Activity as contemplated by other terms of this Attachment Q; provided that the initial Peak Market Activity shall not be less than the average value calculated using the weeks for which no early payment was made.

A Participant may reduce its Collateral requirement by agreeing in writing (in a form acceptable to PJM) to make additional payments, including prepayments, as and when necessary to ensure that such Participant's Total Net Obligation at no time exceeds such reduced Collateral requirement.

PJM may, at its discretion, adjust a Participant's Peak Market Activity requirement if PJM determines that the Peak Market Activity is not representative of such Participant's expected activity, as a consequence of known, measurable, and sustained changes. Such changes may include the loss (without replacement) of short-term load contracts, when such contracts had terms of three months or more and were acquired through state-sponsored retail load programs, but shall not include short-term buying and selling activities.

PJM may waive the credit requirements for a Participant that has no outstanding transactions and agrees in writing that it shall not, after the date of such agreement, incur obligations under any of the Agreements. Such entity's access to all electronic transaction systems administered by PJM shall be terminated.

A Participant receiving unsecured credit may make early payments up to ten times in a rolling 52-week period in order to reduce its Peak Market Activity for credit requirement purposes. Imputed Peak Market Activity reductions for credit purposes will be applied to the billing period for which the payment was received. Payments used as the basis for such reductions must be received prior to issuance or posting of the invoice for the relevant billing period. The imputed Peak Market Activity reduction attributed to any payment may not exceed the amount of Unsecured Credit for which the Participant is eligible.

B. Working Credit Limit

PJM will establish a Working Credit Limit for each Participant against which its Total Net Obligation will be monitored. The Working Credit Limit is defined as 75% of the Collateral provided to PJM and/or 75% of the Unsecured Credit Allowance determined by PJM, as reduced by any applicable credit requirement allocations for the FTR and RPM markets. A Participant's Total Net Obligation should not exceed its Working Credit Limit.

If a Participant's Total Net Obligation approaches its Working Credit Limit, PJM may require the Participant to make an advance payment or increase its Collateral in order to maintain its Total Net Obligation below its Working Credit Limit. Except as explicitly provided herein, advance payments shall not serve to reduce the Participant's Peak Market Activity for the purpose of calculating credit requirements.

> Example: After ten (10) calendar days, and with five (5) calendar days remaining before the bill is due to be paid, a Participant approaches its $4.0 million Working Credit Limit. PJM may require a prepayment of $2.0 million in order that the Total Net Obligation will not exceed the Working Credit Limit.

If a Participant exceeds its Working Credit Limit or is required to make advance payments more than ten times during a 52-week period, PJM may require Collateral in an amount as may be deemed reasonably necessary to support its Total Net Obligation.

When calculating Total Net Obligation, PJM may attribute credits for Regulation service to the days on which they were accrued, rather than including them in the month-end invoice.

VIII. SUSPENSION OR LIMITATION ON MARKET PARTICIPATION

If PJM determines that a Participant presents an unreasonable credit risk as determined pursuant to initial or ongoing risk evaluations, as described in section II above, or in the case of any other event which, after notice, lapse of time, or both, would result in an Event of Default, PJM will take steps to mitigate the exposure of any PJM Markets, which may include, but is not limited to, requiring Collateral, additional Collateral or Restricted Collateral or suspending or limiting the Market Participant's ability to participate in the PJM Markets commensurate to the risk to any PJM Markets.

If a Participant fails to reduce or eliminate any unreasonable credit risks to PJM's satisfaction within the applicable cure period including without limitation by posting Collateral, additional Collateral or Restricted Collateral, PJM may treat such failure as an Event of Default.

Notwithstanding the foregoing, a Participant that transacts in FTRs will be eligible to request that PJM exempt or exclude FTR transactions of such Participant from the effect of any such limitations on market activity established by PJM, and PJM may but shall not be required to so exempt or exclude, any FTR transactions that the Participant reasonably demonstrates to PJM it has entered into to "hedge or mitigate commercial risk" arising from its transactions in the PJM Interchange Energy Market that are intended to result in the actual flow of physical energy or ancillary services in the PJM Region, as the phrase "hedge or mitigate commercial risks" is defined under the CFTC's regulations defining the end-user exception to clearing set forth in 17 C.F.R. §50.50(c).

IX. REMEDIES FOR CREDIT BREACH, FINANCIAL DEFAULT OR CREDIT SUPPORT DEFAULT; REMEDIES FOR EVENTS OF DEFAULT

If PJM determines that a Market Participant is in Credit Breach, or that a Financial Default or Credit Support Default exists, PJM may issue to the Market Participant a breach notice and/or a Collateral Call or demand for additional documentation or assurances. At such time, PJM may also suspend payments of any amounts due to the Participant and limit, restrict or rescind the Market Participant's privileges to participate in any or all PJM Markets under the Agreements during any such cure period. Failure to remedy the Credit Breach, Financial Default or to satisfy a Collateral Call or demand for additional documentation or assurances within the applicable cure period described in Operating Agreement, section 15.1.5, shall constitute an Event of Default. If a Participant fails to meet the requirements of this Attachment Q, but then remedies the Credit Breach, Financial Default or Credit Support Default, or satisfies a Collateral Call or demand for additional documentation or assurances within the applicable cure period, then the Participant shall be deemed to again be in compliance with this Attachment Q, so long as no other Credit Breach, Financial Default, Credit Support Default or Collateral Call or demand for additional documentation or assurances has occurred and is continuing.

Only one cure period shall apply to a single event giving rise to a Credit Breach, Financial Default or Credit Support Default. Application of Collateral towards a Financial Default, Credit Breach or Credit Support Breach shall not be considered a cure of such Credit Breach, Financial Default or Credit Support Default unless the Participant is determined by PJM to be in full compliance with all requirements of this Attachment Q after such application.

When an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing, PJM may take such actions as may be required or permitted under the Agreements to protect the PJM Markets and the PJM Members, including but not limited to

(a) suspension and/or termination of the Participant's ongoing Transmission Service, (b) limitation, suspension and/or termination of participation in any PJM Markets, (c) close out and liquidation of the Market Participant's market portfolio, exercising judgment in the manner in which this is achieved in any PJM Markets. When an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing, PJM also has the immediate right to liquidate all or a portion of a Participant's Collateral at its discretion to satisfy Total Net Obligations to PJM under this Attachment Q or one or more of the Agreements. No remedy for an Event of Default is or shall be deemed to be exclusive of any other available remedy or remedies by contract or under applicable laws and regulations. Each such remedy shall be distinct, separate and cumulative, shall not be deemed inconsistent with or in exclusion of any other available remedy, and shall be in addition to and separate and distinct from every other remedy.

When an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing, PJM may continue to retain all payments due to a Participant as a cash security for all such Participant's obligations under the Agreements (regardless of any restrictions placed on such Participant's use of Collateral for any account, market activity or capitalization purpose); provided, however, that an Event of Default will not be deemed cured or no longer continuing because PJM is retaining amounts due the Participant, or because PJM has not yet applied Collateral or credit support to any amounts due PJM, unless PJM determines that the Participant has again satisfied all the Collateral requirements and application requirements as a new Applicant for participation in the PJM Markets, and consistent with the requirements and limitations of Operating Agreement, section 15.

In Event of Default by a Participant, PJM may exercise any remedy or action allowed or prescribed by this Attachment Q immediately or following investigation and determination of an orderly exercise of such remedy or action. Delay in exercising any allowed remedy or action shall not preclude PJM from exercising such remedy or action at a later time.

PJM may hold a defaulting Participant's Collateral for as long as such party's positions exist and consistent with this Attachment Q, in order to protect the PJM Markets and PJM's membership, and minimize or mitigate the impacts or potential impacts or risks associated with such Event of Default when an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing.

PJM may apply towards an ongoing Event of Default any amounts that are held or later become available or due to the defaulting Participant through PJM's markets and systems.

In order to cover the Participant's Obligations, PJM may hold a Participant's Collateral indefinitely and specifically through the end of the billing period which includes the 90th day following the last day a Participant had activity, open positions, or accruing obligations (other than reconciliations and true-ups), until such Participant has satisfactorily paid any obligations invoiced through such period and until PJM determines that the Participant's positions represent no risk exposure to the PJM Markets or the PJM Members. Obligations incurred or accrued through such period shall survive any withdrawal from PJM. When an Event of Default under this Attachment Q or one or more of the Agreements has occurred and is continuing, PJM may apply any Collateral to such Participant's Obligations, even if Participant had previously announced and effected its withdrawal from PJM.

X. FTRS UNDER THE COMMODITY EXCHANGE ACT AND THE BANKRUPTCY CODE

Under the terms of the Tariff, PJM Settlement is the counterparty to all transactions in PJM Markets, including but not limited to all FTR transactions, other than (i) any bilateral transactions between Participants, or (ii) with respect to self-supplied or self-scheduled transactions reported to the Office of the Interconnection. Pursuant to the "Final Order in Response to a Petition From Certain Independent System Operators and Regional Transmission Organizations To Exempt Specified Transactions Authorized by a Tariff or Protocol Approved by the Federal Energy Regulatory Commission or the Public Utility Commission of Texas From Certain Provisions of the Commodity Exchange Act Pursuant to the Authority Provided in the Act" 78 Fed. Reg. 19880 (April 2, 2013) (the "CFTC RTO/ISO Order"), the Commodity Futures Trading Commission (the "CFTC") exempts transactions offered or entered into in a market administered by PJM pursuant to the Tariff, including but not limited to FTR transactions, from the provisions of the Commodity Exchange Act and the CFTC's rules applicable to "swaps," with the exception of the CFTC's general anti-fraud and anti-manipulation authority and scienter-based prohibitions.

Notwithstanding the CFTC RTO/ISO Order, for purposes of the United States Bankruptcy Code ("Bankruptcy Code"), all FTR transactions constitute "swap agreements" and/or "forward contracts," and PJM and each FTR Participant is a "forward contract merchant" and/or a "swap participant" within the meaning of the Bankruptcy Code for purposes of FTR transactions.

Pursuant to this Attachment Q and other provisions of the Agreements, PJM already has, and shall continue to have, the following rights (among other rights) with respect to a Market Participant's Event of Default: (a) the right to terminate and/or liquidate any FTR transaction held by that Market Participant; (b) the right to immediately proceed against any Collateral provided by the Market Participant; (c) the right to set-off any obligations due or owing to that Market Participant pursuant to any forward contract, swap agreement, or similar agreement against any amounts due and owing by that Market Participant pursuant to any forward contract, swap agreement, or similar agreement, such arrangement to constitute a "master netting agreement" within the meaning of the Bankruptcy Code; and (d) the right to suspend or limit that Market Participant from entering into further FTR transactions.

For the avoidance of doubt, upon the commencement of a voluntary or involuntary proceeding for a Participant under the Bankruptcy Code, and without limiting any other rights of PJM or obligations of any Participant under the Agreements, PJM may exercise any of its rights against such Participant, including, without limitation (1) the right to terminate and/or liquidate any FTR transaction held by that Participant, (2) the right to immediately proceed against any Collateral provided by that Participant, (3) the right to set off any obligations due and owing to that Participant pursuant to any forward contract, swap agreement and/or master netting agreement against any amounts due and owing by that Participant with respect to an FTR transaction including as a result of the actions taken by PJM pursuant to (a) above, and 4) the right to suspend or limit that Participant from entering into future FTR transactions.

For purposes of the Bankruptcy Code, all transactions, including but not limited to FTR transactions, between PJM, on the one hand, and a Market Participant, on the other hand, are intended to be part of a single integrated agreement, and together with the Agreements constitute a “master netting agreement.”

Attachment Q
Appendix 1

PJM MINIMUM PARTICIPATION CRITERIA
ANNUAL OFFICER CERTIFICATION FORM

Participant Name: ____ ("Participant")

I, ____, a duly authorized officer of Participant, understanding that PJM Interconnection, L.L.C. and PJMSettlement, Inc. ("PJMSettlement") are relying on this certification as evidence that Participant meets the minimum requirements set forth in the PJM Open Access Transmission Tariff ("PJM Tariff"), Attachment Q hereby certify that I have full authority to represent on behalf of Participant and further represent as follows, as evidenced by my initialing each representation in the space provided below:

1. All employees or agents transacting in markets or services provided pursuant to the PJM Tariff or PJM Amended and Restated Operating Agreement ("PJM Operating Agreement") on behalf of the Participant have received appropriate training and are authorized to transact on behalf of Participant. As used in this representation, the term "appropriate" as used with respect to training means training that is (i) comparable to generally accepted practices in the energy trading industry, and (ii) commensurate and proportional in sophistication, scope and frequency to the volume of transactions and the nature and extent of the risk taken by the participant.__________

2. Participant has written risk management policies, procedures, and controls, approved by Participant's independent risk management function and applicable to transactions in any PJM Markets in which it participates and for which employees or agents transacting in markets or services provided pursuant to the PJM Tariff or PJM Operating Agreement have been trained, that provide an appropriate, comprehensive risk management framework that, at a minimum, clearly identifies and documents the range of risks to which Participant is exposed, including, but not limited to credit risks, liquidity risks and market risks. As used in this representation, a Participant's "independent risk management function" can include appropriate corporate persons or bodies that are independent of the Participant's trading functions, such as a risk management committee, a risk officer, a Participant's board or board committee, or a board or committee of the Participant's parent company.

    a. Participant is providing to PJM or PJMSettlement, in accordance with Tariff, Attachment Q, section III, with this Annual Officer Certification Form, a copy of its current governing risk management policies, procedures and controls applicable to its activities in any PJM Markets as part of its initial application pursuant to Attachment Q or because there have been substantive changes made to such policies, procedures and controls applicable to its market activities since they were last provided to PJM.___________

    b. If the risk management policies, procedures and controls applicable to Participant's market activities submitted to PJM or PJMSettlement were submitted prior to the current certification, Participant certifies that no substantive changes have been made to such policies, procedures and controls applicable to its market activities since such submission.__________

3. An FTR Participant must make either the following 3.a. or 3.b. additional representations, evidenced by the undersigned officer initialing either the one 3.a. representation or the four 3.b. representations in the spaces provided below:

    a. Participant transacts in PJM's FTR markets with the sole intent to hedge congestion risk in connection with either obligations Participant has to serve load or rights Participant has to generate electricity in the PJM Region ("physical transactions") and monitors all of the Participant's FTR market activity to endeavor to ensure that its FTR positions, considering both the size and pathways of the positions, are either generally proportionate to or generally do not exceed the Participant's physical transactions, and remain generally consistent with the Participant's intention to hedge its physical transactions.__________

    b. On no less than a weekly basis, Participant values its FTR positions and engages in a probabilistic assessment of the hypothetical risk of such positions using analytically based methodologies, predicated on the use of industry accepted valuation methodologies.__________

    Such valuation and risk assessment functions are performed either by persons within Participant's organization independent from those trading in PJM's FTR markets or by an outside firm qualified and with expertise in this area of risk management.__________

    Having valued its FTR positions and quantified their hypothetical risks, Participant applies its written policies, procedures and controls to limit its risks using industry recognized practices, such as value-at-risk limitations, concentration limits, or other controls designed to prevent Participant from purposefully or unintentionally taking on risk that is not commensurate or proportional to Participant's financial capability to manage such risk.__________

    Exceptions to Participant's written risk policies, procedures and controls applicable to Participant's FTR positions are documented and explain a reasoned basis for the granting of any exception.__________

4. Participant has appropriate personnel resources, operating procedures and technical abilities to promptly and effectively respond to all PJM and PJMSettlement communications and directions.__________

5. Participant has demonstrated compliance with the Minimum Capitalization criteria set forth in Tariff, Attachment Q that are applicable to any PJM Markets in which Participant transacts, and is not aware of any change having occurred or being imminent that would invalidate such compliance.__________

6. All Participants must certify and initial in at least one of the four sections below:

   a. I certify that Participant qualifies as an "appropriate person" as that term is defined under section 4(c)(3), or successor provision, of the Commodity Exchange Act or an "eligible contract participant" as that term is defined under section 1a(18), or successor provision, of the Commodity Exchange Act. I certify that Participant will cease transacting in any PJM Markets and notify PJM and PJMSettlement immediately if Participant no longer qualifies as an "appropriate person" or "eligible contract participant."__________

      If providing audited financial statements, which shall be in US GAAP format or any other format acceptable to PJM, to support Participant's certification of qualification as an "appropriate person:"

         I certify, to the best of my knowledge and belief, that the audited financial statements provided to PJM and/or PJMSettlement present fairly, pursuant to such disclosures in such audited financial statements, the financial position of Participant as of the date of those audited financial statements. Further, I certify that Participant continues to maintain the minimum $1 million total net worth and/or $5 million total asset levels reflected in these audited financial statements as of the date of this certification. I acknowledge that both PJM and PJMSettlement are relying upon my certification to maintain compliance with federal regulatory requirements.__________

      If not providing audited financial statements to support Participant's certification of qualification as an "appropriate person," Participant certifies that they qualify as an "appropriate person" under one of the entities defined in section 4(c)(3)(A)-(J) of the Commodities Exchange Act. __________

      If providing audited financial statements, which shall be in US GAAP format or any other format acceptable to PJM, to support Participant's certification of qualification as an "eligible contract participant:"

         I certify, to the best of my knowledge and belief, that the audited financial statements provided to PJM and/or PJMSettlement present fairly, pursuant to such disclosures in such audited financial statements, the financial position of Participant as of the date of those audited financial statements. Further, I certify that Participant continues to maintain the minimum $1 million total net worth and/or $10 million total asset levels reflected in these audited financial statements as of the date of this certification. I acknowledge that both PJM and PJMSettlement are relying upon my certification to maintain compliance with federal regulatory requirements.__________

         If not providing audited financial statements to support Participant's certification of qualification as an "eligible contract participant," Participant certifies that they qualify as an "eligible contract participant" under one of the entities defined in section 1a(18)(A) of the Commodities Exchange Act. __________

b. I certify that Participant has provided an unlimited Corporate Guaranty in a form acceptable to PJM as described in Tariff, Attachment Q, section III.D from an issuer that has at least $1 million of total net worth or $5 million of total assets per Participant for which the issuer has issued an unlimited Corporate Guaranty. I also certify, to the best of my knowledge and belief, that the audited financial statements provided to PJM and/or PJMSettlement present fairly, pursuant to such disclosures in such audited financial statements, the financial position of the issuer as of the date of those audited financial statements. Further, I certify that Participant will cease transacting PJM's Markets and notify PJM and PJMSettlement immediately if issuer of the unlimited Corporate Guaranty for Participant no longer has at least $1 million of total net worth or $5 million of total assets per Participant for which the issuer has issued an unlimited Corporate Guaranty.__________

   I certify that the issuer of the unlimited Corporate Guaranty to Participant continues to have at least $1 million of total net worth or $5 million of total assets per Participant for which the issuer has issued an unlimited Corporate Guaranty. I acknowledge that PJM and PJMSettlement are relying upon my certifications to maintain compliance with federal regulatory requirements.__________

c. I certify that Participant fulfills the eligibility requirements of the Commodity Futures Trading Commission exemption order (78 F.R. 19880 – April 2, 2013) by being in the business of at least one of the following in the PJM Region as indicated below (initial those applicable):

   1. Generating electric energy, including Participants that resell physical energy acquired from an entity generating electric energy:__________

   2. Transmitting electric energy:__________

   3. Distributing electric energy delivered under Point-to-Point or Network Integration Transmission Service, including scheduled import, export and wheel through transactions:__________

   4. Other electric energy services that are necessary to support the reliable operation of the transmission system:__________

      Description only if c(4) is initialed:

      ____

   Further, I certify that Participant will cease transacting in any PJM Markets and notify PJM and PJMSettlement immediately if Participant no longer performs at least one of the functions noted above in the PJM Region. I acknowledge that PJM and

PJMSettlement are relying on my certification to maintain compliance with federal energy regulatory requirements.__________

d. I certify that Participant has provided a Letter of Credit of $5 million or more to PJM or PJMSettlement in a form acceptable to PJM and/or PJMSettlement as described in Tariff, Attachment Q, section V.B that the Participant acknowledges cannot be utilized to meet its credit requirements to PJM and PJMSettlement. I acknowledge that PJM and PJMSettlement are relying on the provision of this letter of credit and my certification to maintain compliance with federal regulatory requirements.__________

7. I acknowledge that I have read and understood the provisions of Tariff, Attachment Q applicable to Participant's business in any PJM Markets, including those provisions describing PJM's Minimum Participation Requirements and the enforcement actions available to PJM and PJMSettlement of a Participant not satisfying those requirements. I acknowledge that the information provided herein is true and accurate to the best of my belief and knowledge after due investigation. In addition, by signing this certification, I acknowledge the potential consequences of making incomplete or false statements in this Certification.__________

Date: ____________________________ ____________________________________

Participant (Signature)

Print Name: ____________________________________

Title: ____________________________________

4. GENERAL PROVISIONS

4.1 Capacity Market Sellers

Only Capacity Market Sellers shall be eligible to submit Sell Offers into the Base Residual Auction and Incremental Auctions. Capacity Market Sellers shall comply with the terms and conditions of all Sell Offers, as established by the Office of the Interconnection in accordance with this Attachment DD, Tariff, Attachment M, Tariff, Attachment M - Appendix and the Operating Agreement.

4.2 Capacity Market Buyers

Only Capacity Market Buyers shall be eligible to submit Buy Bids into an Incremental Auction. Capacity Market Buyers shall comply with the terms and conditions of all Buy Bids, as established by the Office of the Interconnection in accordance with this Attachment DD, Tariff, Attachment M, Tariff, Attachment M - Appendix and the Operating Agreement.

4.3 Agents

A Capacity Market Seller may participate in a Base Residual Auction or Incremental Auction through an Agent, provided that the Capacity Market Seller informs the Office of the Interconnection in advance in writing of the appointment and authority of such Agent. A Capacity Market Buyer may participate in an Incremental Auction through an Agent, provided that the Capacity Market Buyer informs the Office of the Interconnection in advance in writing of the appointment and authority of such Agent. A Capacity Market Buyer or Capacity Market Seller participating in such an auction through an Agent shall be bound by all of the acts or representations of such Agent with respect to transactions in such auction. Any written instrument establishing the authority of such Agent shall provide that any such Agent shall comply with the requirements of this Attachment DD and the Operating Agreement.

4.4 General Obligations of Capacity Market Buyers and Capacity Market Sellers

Each Capacity Market Buyer and Capacity Market Seller shall comply with all laws and regulations applicable to the operation of the Base Residual and Incremental Auctions and the use of these auctions shall comply with all applicable provisions of this Attachment DD, Tariff, Attachment M, Tariff, Attachment M - Appendix, Tariff, Attachment Q, the Operating Agreement, and the Reliability Assurance Agreement, Tariff, Attachment K-Appendix, section 1.4 and the parallel provisions of Operating Agreement, Schedule 1, section 1.4, and all procedures and requirements for the conduct of the Base Residual and Incremental Auctions and the PJM Region established by the Office of the Interconnection in accordance with the foregoing.

4.5 Confidentiality

The following information submitted to the Office of the Interconnection in connection with any Base Residual Auction, Incremental Auction, Reliability Backstop Auction, or Capacity

Performance Transition Incremental Auction shall be deemed confidential information for purposes of Operating Agreement, section 18.17, Tariff, Attachment M and Tariff, Attachment M - Appendix: (i) the terms and conditions of the Sell Offers and Buy Bids; and (ii) the terms and conditions of any bilateral transactions for Capacity Resources.

4.6 Bilateral Capacity Transactions

(a) Unit-Specific Internal Capacity Bilateral Transaction Transferring All Rights and Obligations ("Section 4.6(a) Bilateral").

(i) Market Participants may enter into unit-specific internal bilateral capacity contracts for the purchase and sale of title and rights to a specified amount of installed capacity from a specific generating unit or units. Such bilateral capacity contracts shall be for the transfer of rights to capacity to and from a Market Participant and shall be reported to the Office of the Interconnection in accordance with this Attachment DD and the Office of the Interconnection's rules related to its eRPM tools.

(ii) For purposes of clarity, with respect to all Section 4.6(a) Bilateral transactions, the rights to, and obligations regarding, the capacity that is the subject of the transaction shall pass to the buyer under the contract at the location of the unit and further transactions and rights and obligations associated with such capacity shall be the responsibility of the buyer under the contract. Such obligations include any charges, including penalty charges, relating to the capacity under this Attachment DD. In no event shall the purchase and sale of the rights to capacity pursuant to a Section 4.6(a) Bilateral constitute a transaction with the Office of the Interconnection or PJMSettlement or a transaction in any auction under this Attachment DD.

(iii) All payments and related charges associated with a Section 4.6(a) Bilateral shall be arranged between the parties to the transaction and shall not be billed or settled by the Office of the Interconnection or PJMSettlement. The Office of the Interconnection, PJMSettlement, and the Members will not assume financial responsibility for the failure of a party to perform obligations owed to the other party under a Section 4.6(a) Bilateral reported to the Office of the Interconnection under this Attachment DD.

(iv) With respect to capacity that is the subject of a Section 4.6(a) Bilateral that has cleared an auction under this Attachment DD prior to a transfer, the buyer of the cleared capacity shall be considered in the Delivery Year the party to a transaction with PJMSettlement as Counterparty for the cleared capacity at the Capacity Resource Clearing Price published for the applicable auction.

(v) A buyer under a Section 4.6(a) Bilateral contract shall pay any penalties or charges associated with the capacity transferred under the contract. To the extent the capacity that is the subject of a Section 4.6(a) Bilateral contract has cleared an auction under this Attachment DD prior to a transfer, then the seller under the contract also shall guarantee and indemnify the Office of the Interconnection, PJMSettlement, and the Members for the buyer's obligation to pay any penalties or charges associated with the capacity and for which payment is not made to PJMSettlement by the buyer as determined by the Office of the Interconnection. All claims regarding a default of a buyer to a seller under a Section 4.6(a) Bilateral contract shall be resolved solely between the buyer and the seller.

(vi) To the extent the capacity that is the subject of the Section 4.6(a) Bilateral transaction already has cleared an auction under this Attachment DD, such bilateral capacity transactions shall be subject to the prior consent of the Office of the Interconnection and its determination that sufficient credit is in place for the buyer with respect to the credit exposure associated with such obligations.

(b) Bilateral Capacity Transaction Transferring Title to Capacity But Not Transferring Performance Obligations ("Section 4.6(b) Bilateral").

(i) Market Participants may enter into bilateral capacity transactions for the purchase and sale of a specified megawatt quantity of capacity that has cleared an auction pursuant to this Attachment DD. The parties to a Section 4.6(b) Bilateral transaction shall identify (1) each unit from which the transferred megawatts are being sold, and (2) the auction in which the transferred megawatts cleared. Such bilateral capacity transactions shall transfer title and all rights with respect to capacity and shall be reported to the Office of the Interconnection on an annual basis prior to each Delivery Year in accordance with this Attachment DD and pursuant to the Office of the Interconnection's rules related to its eRPM tools. Reported transactions with respect to a unit will be accepted by the Office of the Interconnection only to the extent that the total of all bilateral sales from the reported unit (including Section 4.6(a) Bilaterals, Section 4.6(b) Bilaterals, and Locational UCAP bilaterals) do not exceed the unit's cleared unforced capacity.

(ii) For purposes of clarity, with respect to all Section 4.6(b) Bilateral transactions, the rights to the capacity shall pass to the buyer at the location of the unit(s) specified in the reported transaction. In no event shall the purchase and sale of the rights to capacity pursuant to a Section 4.6(b) Bilateral constitute a transaction with PJMSettlement or the Office of the Interconnection or a transaction in any auction under this Attachment DD.

(iii) With respect to a Section 4.6(b) Bilateral, the buyer of the cleared capacity shall be considered in the Delivery Year the party to a transaction with PJMSettlement as Coutnerparty for the cleared capacity at the Capacity Resource Clearing Price published for the applicable auction; provided, however, with respect to all Section 4.6(b) Bilateral transactions, such transactions do not effect a novation of the seller's obligations to make RPM capacity available to PJM pursuant to the terms and conditions originally agreed to by the seller; provided further, however, the buyer shall indemnify PJMSettlement, the LLC, and the Members for any failure by a seller under a Section 4.6(b) Bilateral to meet any resulting obligations, including the obligation to pay deficiency penalties and charges owed to PJMSettlement, associated with the capacity.

(iv) All payments and related charges associated with a Section 4.6(b) Bilateral shall be arranged between the parties to the contract and shall not be billed or settled by the Office of the Interconnection or PJMSettlement. The Office of the Interconnection, PJMSettlement, and the Members will not assume financial responsibility for the failure of a party to perform obligations owed to the other party under a Section 4.6(b) Bilateral capacity contract reported to the Office of the Interconnection under this Attachment DD.

(v) All claims regarding a default of a buyer to a seller under a Section 4.6(b) Bilateral shall be resolved solely between the buyer and the seller.

(c) Locational UCAP Bilateral Transactions Between Capacity Sellers.

(i) Market Participants may enter into Locational UCAP bilateral transactions which shall be reported to the Office of the Interconnection in accordance with this Attachment DD and the LLC's rules related to its eRPM tools.

(ii) For purposes of clarity, with respect to all Locational UCAP bilateral transactions, the rights to the Locational UCAP that are the subject of the Locational UCAP bilateral transaction shall pass to the buyer under the Locational UCAP bilateral contract subject to the provisions of Tariff, Attachment DD, section 5.3A. In no event, shall the purchase and sale of Locational UCAP pursuant to a Locational UCAP bilateral transaction constitute a transaction with the Office of the Interconnection or PJMSettlement, or a transaction in any auction under this Attachment DD.

(iii) A Locational UCAP Seller shall have the obligation to make the capacity available to PJM in the same manner as capacity that has cleared an auction under this Attachment DD and the Locational UCAP Seller shall have all obligations for charges and penalties associated with the capacity that is the subject of the Locational UCAP bilateral contract; provided, however, the buyer shall indemnify PJMSettlement, the LLC, and the Members for any failure by a seller to meet any resulting obligations, including the obligation to pay deficiency penalties and charges owed to PJMSettlement, associated with the capacity. All claims regarding a default of a buyer to a seller under a Locational UCAP bilateral contract shall be resolved solely between the buyer and the seller.

(iv) All payments and related charges for the Locational UCAP associated with a Locational UCAP bilateral contract shall be arranged between the parties to such bilateral contract and shall not be billed or settled by the Office of the Interconnection or PJMSettlement. The LLC, PJMSettlement, and the Members will not assume financial responsibility for the failure of a party to perform obligations owed to the other party under a Locational UCAP bilateral contract reported to the Office of the Interconnection under this Attachment DD.

(d) The bilateral transactions provided for in this section 4.6 shall be for the physical transfer of capacity to or from a Market Participant and shall be reported to and coordinated with the Office of the Interconnection in accordance with this Attachment DD and pursuant to the Office of the Interconnection's rules relating to its eRPM tools. Bilateral transactions that do not contemplate the physical transfer of capacity to and from a Market Participant are not subject to this Attachment DD and shall not be reported to and coordinated with the Office of the Interconnection.

5.5 Eligibility for Participation in RPM Auctions

A Capacity Market Seller may submit a Sell Offer for a Capacity Resource in a Base Residual Auction, Incremental Auction, or Capacity Performance Transition Incremental Auction only if such seller owns or has the contractual authority to control the output or load reduction capability of such resource and has not transferred such authority to another entity prior to submitting such Sell Offer, and has satisfied all of the applicable requirements of Tariff, Attachment Q. Capacity Resources must satisfy the capability and deliverability requirements of Reliability Assurance Agreement, Schedule 9 and Reliability Assurance Agreement, Schedule 10, the requirements for Demand Resources or Energy Efficiency Resources in Tariff, Attachment DD-1 and Reliability Assurance Agreement, Schedule 6, as applicable, and, for the 2018/2019 Delivery Year and subsequent Delivery Years, the criteria in section 5.5A below.

5.6 Sell Offers

Sell Offers shall be submitted or withdrawn via the internet site designated by the Office of the Interconnection, under the procedures and time schedule set forth in the PJM Manuals.

5.6.1 Specifications

A Sell Offer shall state quantities in increments of 0.1 megawatts and shall specify, as appropriate:

a) Identification of the Generation Capacity Resource, Demand Resource, Capacity Storage Resource or Energy Efficiency Resource on which such Sell Offer is based;

b) Minimum and maximum megawatt quantity of installed capacity that the Capacity Market Seller is willing to offer (notwithstanding such specification, the product offered shall be Unforced Capacity), or designate as Self-Supply, from a Generation Capacity Resource;

i) Price, in dollars and cents per megawatt-day, that will be accepted by the Capacity Market Seller for the megawatt quantity of Unforced Capacity offered from such Generation Capacity Resource.

ii) The Sell Offer may take the form of offer segments with varying price-quantity pairs for varying output levels from the underlying resource, but may not take the form of an offer curve with nonzero slope.

c) EFORd of each Generation Capacity Resource offered.

i) If a Capacity Market Seller is offering such resource in a Base Residual Auction, First Incremental Auction, Second Incremental Auction, or Conditional Incremental Auction occurring before the Third Incremental Auction, the Capacity Market Seller shall specify the EFORd to apply to the offer.

ii) If a Capacity Market Seller is committing the resource as Self-Supply, the Capacity Market Seller shall specify the EFORd to apply to the commitment.

iii) The EFORd applied to the Third Incremental Auction will be the final EFORd established by the Office of the Interconnection six (6) months prior to the Delivery Year, based on the actual EFORd in the PJM Region during the 12-month period ending September 30 that last precedes such Delivery Year.

d) The Nominated Demand Resource Value for each Demand Resource offered and the Nominated Energy Efficiency Value for each Energy Efficiency Resource offered. The Office of the Interconnection shall, in both cases, convert such value to an Unforced Capacity basis by multiplying such value by the DR Factor (for Delivery Years through May 31, 2018) times the Forecast Pool Requirement. Demand Resources shall specify the LDA in which the Demand Resource is located, including the location of such resource within any Zone that includes more than one LDA as identified on Reliability Assurance Agreement, Schedule 10.1.

e) For Delivery Years through May 31, 2018, a Demand Resource with the potential to qualify as two or more of a Limited Demand Resource, Extended Summer Demand Resource or Annual Demand Resource may submit separate but coupled Sell Offers for each Demand Resource type for which it qualifies at different prices and the auction clearing algorithm will select the Sell Offer that yields the least-cost solution. For such coupled Demand Resource offers, the offer price of an Annual Demand Resource offer must be at least $.01 per MW-day greater than the offer price of a coupled Extended Summer Demand Resource offer and the offer price of a Extended Summer Demand Resource offer must be at least $.01 per MW-day greater than the offer price of a coupled Limited Demand Resource offer.

f) For a Qualifying Transmission Upgrade, the Sell Offer shall identify such upgrade, and the Office of the Interconnection shall determine and certify the increase in CETL provided by such upgrade. The Capacity Market Seller may offer the upgrade with an associated increase in CETL to an LDA in accordance with such certification, including an offer price that will be accepted by the Capacity Market Seller, stated in dollars and cents per megawatt-day as a price difference between a Capacity Resource located outside such an LDA and a Capacity Resource located inside such LDA; and the increase in CETL into such LDA to be provided by such Qualifying Transmission Upgrade, as certified by the Office of the Interconnection.

g) For the 2018/2019 and 2019/2020 Delivery Years, each Capacity Market Seller owning or controlling a resource that qualifies as both a Base Capacity Resource and a Capacity Performance Resource may submit separate but coupled Sell Offers for such resource as a Base Capacity Resource and as a Capacity Performance Resource, at different prices, and the auction clearing algorithm will select the Sell Offer that yields the least-cost solution. Submission of a coupled Base Capacity Resource Sell Offer shall be mandatory for any Capacity Performance Resource Sell Offer that exceeds a Sell Offer Price equal to the applicable Net Cost of New Entry times the Balancing Ratio as provided for in Tariff, Attachment DD, section 6.4. For such coupled Sell Offers, the offer price of a Capacity Performance Resource offer must be at least $.01 per MW-day greater than the offer price of a coupled Base Capacity Resource offer.

(h) For the 2018/2019 Delivery Year and subsequent Delivery Years, a Capacity Market Seller that owns or controls one or more Capacity Storage Resources, Intermittent Resources, Demand Resources, or Energy Efficiency Resources may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with their average expected output during peak-hour periods. Alternatively, for the 2018/2019 Delivery Year and subsequent Delivery Years, a Capacity Market Seller that owns or controls one or more Capacity Storage Resources, Intermittent Resources, Demand Resources, Energy Efficiency Resources, or Environmentally-Limited Resources may submit a Sell Offer which represents the aggregated Unforced Capacity value of such resources, where such Sell Offer shall be considered to be located in the smallest modeled LDA common to the aggregated resources. Such aggregated resources shall be owned by or under contract to the Capacity Market Seller, including all such resources obtained through bilateral contract and reported to the Office of the Interconnection in accordance with the Office of the Interconnection's rules related to its eRPM tools. For the 2018/2019 and 2019/2020 Delivery Years, any such offer may be submitted as Capacity Performance Resource, Base Capacity Resource, or as a coupled offer for Capacity Performance Resource and Base Capacity Resource, provided that, for any such coupled Sell Offers, the offer price of a Capacity Performance Resource offer must be at least $.01 per MW-day greater than the offer price of a coupled Base Capacity Resource offer. For the 2020/2021 Delivery Year and subsequent Delivery Years, any such offer must be submitted as a Capacity Performance Resource.

(i) For the 2020/2021 Delivery Year and subsequent Delivery Years, a Capacity Market Seller that owns or controls a resource that qualifies as a Summer-Period Capacity Performance Resource may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during peak-hour periods, and may submit a separate Sell Offer as a Summer-Period Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during summer peak-hour periods, provided the total Sell Offer MW quantity submitted as both a Capacity Performance Resource and a Summer-Period Capacity Performance Resource does not exceed the Unforced Capacity value of the resource. For the 2020/2021 Delivery Year and subsequent Delivery Years, a Capacity Market Seller that owns or controls a resource that qualifies as a Winter-Period Capacity Performance Resource may submit a Sell Offer as a Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during peak-hour periods, and may submit a separate Sell Offer as a Winter-Period Capacity Performance Resource in a MW quantity consistent with the average expected output of such resource during winter peak-hour periods, provided the total Sell Offer MW quantity submitted as both a Capacity Performance Resource and a Winter-Period Capacity Performance Resource does not exceed the Unforced Capacity value of the resource. Each segment of a Seasonal Capacity Performance Resource Sell Offer must be submitted as a flexible Sell Offer segment with the minimum MW quantity offered set to zero.

5.6.2 Compliance with PJM Credit Risk Management Policy

Capacity Market Sellers shall comply with the provisions of the PJM Credit Risk Management Policy as set forth in Tariff, Attachment Q, including the provisions specific to the Reliability Pricing Model, prior to submission of Sell Offers in any Reliability Pricing Model Auction. A Capacity Market Seller desiring to submit a Credit-Limited Offer shall specify in its Sell Offer the maximum auction credit requirement, in dollars, and the maximum amount of Unforced Capacity, in megawatts, applicable to its Sell Offer.

5.6.3 [reserved]

5.6.4 Qualifying Transmission Upgrades

A Qualifying Transmission Upgrade may not be the subject of any Sell Offer in a Base Residual Auction unless it has been approved by the Office of the Interconnection, including certification of the increase in Import Capability to be provided by such Qualifying Transmission Upgrade, no later than 45 days prior to such Base Residual Auction. No such approval shall be granted unless, at a minimum, a Facilities Study Agreement has been executed with respect to such upgrade, and such upgrade conforms to all applicable standards of the Regional Transmission Expansion Plan process.

5.6.5 Market-based Sell Offers

Subject to Tariff, Attachment DD, section 6, a Market Seller authorized by FERC to sell electric generating capacity at market-based prices, or that is not required to have such authorization, may submit Sell Offers that specify market-based prices in any Base Residual Auction or Incremental Auction.

5.6.6 Availability of Capacity Resources for Sale

(a) The Office of the Interconnection shall determine the quantity of megawatts of available installed capacity that each Capacity Market Seller must offer in any RPM Auction pursuant to Tariff, Attachment DD, section 6.6, through verification of the availability of megawatts of installed capacity from: (i) all Generation Capacity Resources owned by or under contract to the Capacity Market Seller, including all Generation Capacity Resources obtained through bilateral contract; (ii) the results of prior Reliability Pricing Model Auctions, if any, for such Delivery Year (including consideration of any restriction imposed as a consequence of a prior failure to offer); and (iii) such other information as may be available to the Office of the Interconnection. The Office of the Interconnection shall reject Sell Offers or portions of Sell Offers for Capacity Resources in excess of the quantity of installed capacity from such Capacity Market Seller's Capacity Resource that it determines to be available for sale.

(b) The Office of the Interconnection shall determine the quantity of installed capacity available for sale in a Base Residual Auction or Incremental Auction as of the beginning of the period during which Buy Bids and Sell Offers are accepted for such auction, as applicable, in accordance with the time schedule set forth in the PJM Manuals. Removal of a resource from Capacity Resource status shall not be reflected in the determination of available installed capacity unless the associated unit-specific bilateral transaction is approved, the designation of such resource (or portion thereof) as a network resource for the external load is demonstrated to the Office of the Interconnection, or equivalent evidence of a firm external sale is provided prior to the deadline established therefor. The determination of available installed capacity shall also take into account, as they apply in proportion to the share of each resource owned or controlled by a Capacity Market Seller, any approved capacity modifications, and existing capacity commitments established in a prior RPM Auction, an FRR Capacity Plan, Locational UCAP transactions and/or replacement capacity transactions under this Attachment DD. To enable the Office of the Interconnection to make this determination, no bilateral transactions for Capacity Resources applicable to the period covered by an auction will be processed from the beginning of the period for submission of Sell Offers and Buy Bids, as appropriate, for that auction until completion of the clearing determination for such auction. Processing of such bilateral transactions will reconvene once clearing for that auction is completed. A Generation Capacity Resource located in the PJM Region shall not be removed from Capacity Resource status to the extent the resource is committed to service of PJM loads as a result of an RPM Auction, FRR Capacity Plan, Locational UCAP transaction and/or by designation as a replacement resource under this Attachment DD.

(c) In order for a bilateral transaction for the purchase and sale of a Capacity Resource to be processed by the Office of the Interconnection, both parties to the transaction must notify the Office of the Interconnection of the transfer of the Capacity Resource from the seller to the buyer in accordance with procedures established by the Office of the Interconnection and set forth in the PJM Manuals. If a material change with respect to any of the prerequisites for the application of this section 5.6.6 to the Generation Capacity Resource occurs, the Capacity Resource Owner shall immediately notify the Market Monitoring Unit and the Office of the Interconnection.

Attachment C

Revisions to the
Operating Agreement

(Marked/Redline Format)

Definitions A - B

Acceleration Request:

"Acceleration Request" shall mean a request pursuant to Operating Agreement, Schedule 1, section 1.9.4A and the parallel provisions of Tariff, Attachment K-Appendix, to accelerate or reschedule a transmission outage scheduled pursuant to Operating Agreement, Schedule 1, section 1.9.2 or Operating Agreement, Schedule 1, section 1.9.4 and the parallel provisions of Tariff, Attachment K-Appendix, section 1.9.2 and Tariff, Attachment K-Appendix, section 1.9.4.

Act:

"Act" shall mean the Delaware Limited Liability Company Act, Title 6, §§ 18-101 to 18-1109 of the Delaware Code.

Active and Significant Business Interest:

"Active and Significant Business Interest" is a term that shall be used to assess the scope of a Member's PJM membership and shall be based on a Member's activity in the PJM RTO and/or Interchange Energy Markets. A Member's Active and Significant Business Interest shall: 1) be determined relative to the scope of the Member's PJM membership and activity in the PJM RTO and/or Interchange Energy Markets considering, among other things, the Member's public statements and/or regulatory filings regarding its PJM activities; and 2) reflect a substantial contributor to the Member's recent market activity, revenues, costs, investment, and/or earnings when considering the Member and its corporate affiliates' interests within the PJM footprint.

Additional Day-ahead Scheduling Reserves Requirement:

"Additional Day-ahead Scheduling Reserves Requirement" shall mean the portion of the Day-ahead Scheduling Reserves Requirement that is required in addition to the Base Day-ahead Scheduling Reserves Requirement to ensure adequate resources are procured to meet real-time load and operational needs, as specified in the PJM Manuals.

Affected Member:

"Affected Member" shall mean a Member of PJM which as a result of its participation in PJM's markets or its membership in PJM provided confidential information to PJM, which confidential information is requested by, or is disclosed to an Authorized Person under a Non-Disclosure Agreement.

Affiliate:

"Affiliate" shall mean any two or more entities, one of which C~~c~~ontrols the other or that are under common C~~c~~ontrol. "Control," as that term is used in this definition, shall mean the possession, directly or indirectly, of the power to direct the management or policies of an entity. Ownership of publicly-traded equity securities of another entity shall not result in C~~c~~ontrol or affiliation for purposes of the Tariff or Operating Agreement if the securities are held as an investment, the holder owns (in its name or via intermediaries) less than 10 percent (10%) of the outstanding securities of the entity, the holder does not have representation on the entity's board of directors (or equivalent managing entity) or vice versa, and the holder does not in fact exercise influence over day-to-day management decisions. Unless the contrary is demonstrated to the satisfaction of the Members Committee, C~~c~~ontrol shall be presumed to arise from the ownership of or the power to vote, directly or indirectly, ten percent or more of the voting securities of such entity.

Agreement, Operating Agreement of the PJM Interconnection, L.L.C., Operating Agreement or PJM Operating Agreement:

"Agreement," "Operating Agreement of the PJM Interconnection, L.L.C.," "Operating Agreement" or "PJM Operating Agreement" shall mean this Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. dated as of April 1, 1997 and as amended and restated as of June 2, 1997, including all Schedules, Exhibits, Appendices, addenda or supplements thereto, as amended from time to time thereafter, among the Members of PJM Interconnection L.L.C., on file with the Commission.

Annual Meeting of the Members:

"Annual Meeting of the Members" shall mean the meeting specified in Operating Agreement, section 8.3.1.

Applicable Regional Entity:

"Applicable Regional Entity" shall mean the Regional Entity for the region in which a Network Customer, Transmission Customer, New Service Customer, or Transmission Owner operates.

Associate Member:

"Associate Member" shall mean an entity that satifies the requirements of Operating Agreement, section 11.7.

Auction Revenue Rights:

"Auction Revenue Rights" or "ARRs" shall mean the right to receive the revenue from the Financial Transmission Right auction, as further described in Operating Agreement, Schedule 1, section 7.4 and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.

Auction Revenue Rights Credits:

"Auction Revenue Rights Credits" shall mean the allocated share of total FTR auction revenues or costs credited to each holder of Auction Revenue Rights, calculated and allocated as specified in Operating Agreement, Schedule 1, section 7.4.3, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.3.

Authorized Commission:

"Authorized Commission" shall mean (i) a State public utility commission that regulates the distribution or supply of electricity to retail customers and is legally charged with monitoring the operation of wholesale or retail markets serving retail suppliers or customers within its State or (ii) an association or organization comprised exclusively of State public utility commissions described in the immediately preceding clause (i).

Authorized Person:

"Authorized Person" shall have the meaning set forth in Operating Agreement, section 18.17.4.

Balancing Congestion Charges:

"Balancing Congestion Charges" shall be equal to the sum of congestion charges collected from Market Participants that are purchasing energy in the Real-time Energy Market minus [the sum of congestion charges paid to Market Participants that are selling energy in the Real-time Energy Market plus any congestion charges calculated pursuant to the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 38), plus any congestion charges calculated pursuant to the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45), plus any congestion charges calculated pursuant to agreements between the Office of the Interconnection and other entities, plus any charges or credits calculated pursuant to Operating Agreement, Schedule 1, section 3.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 3.8, as applicable)].

Base Day-ahead Scheduling Reserves Requirement:

"Base Day-ahead Scheduling Reserves Requirement" shall mean the thirty-minute reserve requirement for the PJM Region established consistent with the Applicable Standards, plus any additional thirty-minute reserves scheduled in response to an RTO-wide Hot or Cold Weather Alert or other reasons for conservative operations.

Batch Load Demand Resource:

"Batch Load Demand Resource" shall mean a Demand Resource that has a cyclical production process such that at most times during the process it is consuming energy, but at consistent regular intervals, ordinarily for periods of less than ten minutes, it reduces its consumption of energy for its production processes to minimal or zero megawatts.

Behind The Meter Generation:

"Behind The Meter Generation" shall refer to a generating unit that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities has consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of the Interconnection); provided, however, that Behind The Meter Generation does not include (i) at any time, any portion of such generating unit's capacity that is designated as a Generation Capacity Resource, or (ii) in any hour, any portion of the output of such generating unit that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market.

Board Member:

"Board Member" shall mean a member of the PJM Board.

Definitions C - D

Capacity Resource:

"Capacity Resource" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Storage Resource:

"Capacity Storage Resource" shall mean any Energy Storage Resource that participates in the Reliability Pricing Model or is otherwise treated as capacity in PJM's markets such as through a Fixed Resource Requirement Capacity Plan.

Catastrophic Force Majeure:

"Catastrophic Force Majeure" shall not include any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, or Curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, unless as a consequence of any such action, event, or combination of events, either (i) all, or substantially all, of the Transmission System is unavailable, or (ii) all, or substantially all, of the interstate natural gas pipeline network, interstate rail, interstate highway or federal waterway transportation network serving the PJM Region is unavailable. The Office of the Interconnection shall determine whether an event of Catastrophic Force Majeure has occurred for purposes of this Agreement, the PJM Tariff, and the Reliability Assurance Agreement, based on an examination of available evidence. The Office of the Interconnection's determination is subject to review by the Commission.

Charge Economic Maximum Megawatts:

"Charge Economic Maximum Megawatts" shall mean the greatest magnitude of megawatt power consumption available for charging in economic dispatch by an Energy Storage Resource Model Participant in Continuous Mode or in Charge Mode. Charge Economic Maximum Megawatts shall be the Economic Minimum for an Energy Storage Resource in Charge Mode or in Continuous Mode.

Charge Economic Minimum Megawatts:

"Charge Economic Minimum Megawatts" shall mean the smallest magnitude of megawatt power consumption available for charging in economic dispatch by an Energy Storage Resource Model Participant in Charge Mode. Charge Economic Minimum Megawatts shall be the Economic Maximum for an Energy Storage Resource in Charge Mode.

Charge Mode:

"Charge Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that only includes negative megawatt quantities (i.e., the Energy Storage Resource Model Participant is only withdrawing megawatts from the grid).

Charge Ramp Rate:

"Charge Ramp Rate" shall mean the Ramping Capability of an Energy Storage Resource Model Participant in Charge Mode.

Cold/Warm/Hot Notification Time:

"Cold/Warm/Hot Notification Time" shall mean the time interval between PJM notification and the beginning of the start sequence for a generating unit that is currently in its cold/warm/hot temperature state. The start sequence may include steps such as any valve operation, starting feed water pumps, startup of auxiliary equipment, etc.

Cold/Warm/Hot Start-up Time:

For all generating units that are not combined cycle units, "Cold/Warm/Hot Start-up Time" shall mean the time interval, measured in hours, from the beginning of the start sequence to the point after generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero for a generating unit in its cold/warm/hot temperature state. For combined cycle units, "Cold/Warm/Hot Start-up Time" shall mean the time interval from the beginning of the start sequence to the point after first combustion turbine generator breaker closure in its cold/warm/hot temperature state, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero. For all generating units, the start sequence may include steps such as any valve operation, starting feed water pumps, startup of auxiliary equipment, etc. Other more detailed actions that could signal the beginning of the start sequence could include, but are not limited to, the operation of pumps, condensers, fans, water chemistry evaluations, checklists, valves, fuel systems, combustion turbines, starting engines or systems, maintaining stable fuel/air ratios, and other auxiliary equipment necessary for startup.

Cold Weather Alert:

"Cold Weather Alert" shall mean the notice that PJM provides to PJM Members, Transmission Owners, resource owners and operators, customers, and regulators to prepare personnel and facilities for expected extreme cold weather conditions.

Committed Offer:

The "Committed Offer shall mean 1) for pool-scheduled resources, an offer on which a resource was scheduled by the Office of the Interconnection for a particular clock hour for an Operating Day, and 2) for self-scheduled resources, either the offer on which the Market Seller has elected to schedule the resource or the applicable offer for the resource determined pursuant to Operating Agreement, Schedule 1, section 6.4, and the parallel provisions of Tariff, Attachment K-Appendix, section 6.4, or Operating Agreement, Schedule 1, section 6.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 6.6, for a particular clock hour for an Operating Day.

Compliance Monitoring and Enforcement Program:

"Compliance Monitoring and Enforcement Program" shall mean the program to be used by the NERC and the Regional Entities to monitor, assess and enforce compliance with the NERC Reliability Standards. As part of a Compliance Monitoring and Enforcement Program, NERC and the Regional Entities may, among other things, conduct investigations, determine fault and assess monetary penalties.

Congestion Price:

"Congestion Price" shall mean the congestion component of the Locational Marginal Price, which is the effect on transmission congestion costs (whether positive or negative) associated with increasing the output of a generation resource or decreasing the consumption by a Demand Resource, based on the effect of increased generation from or consumption by the resource on transmission line loadings, calculated as specified in Operating Agreement, Schedule 1, section 2, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

Consolidated Transmission Owners Agreement, PJM Transmission Owners Agreement or Transmission Owners Agreement:

"Consolidated Transmission Owners Agreement," "PJM Transmission Owners Agreement" or Transmission Owners Agreement" shall mean that certain Consolidated Transmission Owners Agreement, dated as of December 15, 2005, by and among the Transmission Owners and by and between the Transmission Owners and PJM Interconnection, L.L.C. on file with the Commission, as amended from time to time.

Continuous Mode:

"Continuous Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that includes both negative and positive megawatt quantities (i.e., the Energy Storage Resource Model Participant is capable of continually and immediately transitioning from withdrawing megawatt quantities from the grid to injecting megawatt quantities onto the grid or injecting megawatts to withdrawing megawatts). Energy Storage Resource Model Participants operating in Continuous Mode are considered to have an unlimited ramp rate. Continuous Mode requires Discharge Economic Maximum Megawatts to be zero or correspond to an injection, and Charge Economic Maximum Megawatts to be zero or correspond to a withdrawal.

Control Area:

"Control Area" shall mean an electric power system or combination of electric power systems bounded by interconnection metering and telemetry to which a common automatic generation control scheme is applied in order to:

(a) match the power output of the generators within the electric power system(s) and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);

(b) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;

(c) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice and the criteria of NERC and each Applicable Regional Entity;

(d) maintain power flows on transmission facilities within appropriate limits to preserve reliability; and

(e) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

Control Zone:

"Control Zone" shall mean one Zone or multiple contiguous Zones, as designated in the PJM Manuals.

Coordinated External Transaction:

"Coordinated External Transaction" shall mean a transaction to simultaneously purchase and sell energy on either side of a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13 and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Coordinated Transaction Scheduling:

"Coordinated Transaction Scheduling" or "CTS" shall mean the scheduling of Coordinated External Transactions at a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Counterparty:

"Counterparty" shall mean PJMSettlement as the contracting party, in its name and own right and not as an agent, to an agreement or transaction with a Market Participant or other entities, including the agreements and transactions with customers regarding transmission service and other transactions under the PJM Tariff and this Operating Agreement. PJMSettlement shall not be a counterparty to (i) any bilateral transactions between Members, or (ii) any Member's self-supply of energy to serve its load, or (iii) any Member's self-schedule of energy reported to the extent that energy serves that Member's own load.

Credit Breach:

“Credit Breach” shall mean (a) ~~is~~ the failure~~status~~ of a Participant to ~~that does not currently~~ perform, observe, meet or comply with any~~the~~ requirements of Tariff, Attachment Q or other provisions of the Agreements, other than a Financial Default, or (b) a determination by PJM and notice to the Participant that a Participant represents an unreasonable credit risk to the PJM Markets; that, in either event, has not been cured or remedied after any required notice has been given and any cure period has elapsed.

CTS Enabled Interface:

“CTS Enabled Interface” shall mean an interface between the PJM Control Area and an adjacent Control Area at which the Office of the Interconnection has authorized the use of Coordinated Transaction Scheduling (“CTS”). The CTS Enabled Interfaces between the PJM Control Area and the New York Independent System Operator, Inc. Control Area shall be designated in ~~Schedule A to the~~ Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45) Schedule A. The CTS Enabled Interfaces between the PJM Control Area and the Midcontinent Independent System Operator, Inc. shall be designated consistent with ~~Attachment 3, section 2 of the~~ Joint Operating Agreement between Midcontinent Independent System Operator, Inc. and PJM Interconnection, L.L.C, Attachment 3, section 2.

CTS Interface Bid:

“CTS Interface Bid” shall mean a unified real-time bid to simultaneously purchase and sell energy on either side of a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Curtailment Service Provider:

“Curtailment Service Provider” or “CSP” shall mean a Member or a Special Member, which action on behalf of itself or one or more other Members or non-Members, participates in the PJM Interchange Energy Market, Ancillary Services markets, and/or Reliability Pricing Model by causing a reduction in demand.

Day-ahead Congestion Price:

“Day-ahead Congestion Price” shall mean the Congestion Price resulting from the Day-ahead Energy Market.

Day-ahead Energy Market:

“Day-ahead Energy Market” shall mean the schedule of commitments for the purchase or sale of energy and payment of Transmission Congestion Charges developed by the Office of the Interconnection as a result of the offers and specifications submitted in accordance with

Operating Agreement, Schedule 1, section 1.10, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.

Day-ahead Energy Market Injection Congestion Credits:

"Day-ahead Energy Market Injection Congestion Credits" shall mean those congestion credits paid to Market Participants for supply transactions in the Day-ahead Energy Market including generation schedules, Increment Offers, Up-to Congestion Transactions, import transactions,and Day-ahead Pseudo-Tie Transactions.

Day-ahead Energy Market Transmission Congestion Charges:

"Day-ahead Energy Market Transmission Congestion Charges" shall be equal to the sum of Day-ahead Energy Market Withdrawal Congestion Charges minus [the sum of Day-ahead Energy Market Injection Congestion Credits plus any congestion charges calculated pursuant to the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 38), plus any congestion charges calculated pursuant to the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45), plus any congestion charges calculated pursuant to agreements between the Office of the Interconnection and other entities, as applicable)].

Day-ahead Energy Market Withdrawal Congestion Charges:

"Day-ahead Energy Market Withdrawal Congestion Charges" shall mean those congestion charges collected from Market Participants for withdrawal transactions in the Day-ahead Energy Market from transactions including Demand Bids, Decrement Bids, Up-to Congestion Transactions, Export Transactions, and Day-ahead Pseudo-Tie Transactions.

Day-ahead Loss Price:

"Day-ahead Loss Price" shall mean the Loss Price resulting from the Day-ahead Energy Market.

Day-ahead Prices:

"Day-ahead Prices" shall mean the Locational Marginal Prices resulting from the Day-ahead Energy Market.

Day-Ahead Pseudo-Tie Transaction:

"Day-Ahead Pseudo-Tie Transaction" shall mean a transaction scheduled in the Day-ahead Energy Market to the PJM-MISO interface from a generator within the PJM balancing authority area that Pseudo-Ties into the MISO balancing authority area.

Day-ahead Scheduling Reserves:

"Day-ahead Scheduling Reserves" shall mean thirty-minute reserves as defined by the Reliability*First* Corporation and SERC.

Day-ahead Scheduling Reserves Market:

"Day-ahead Scheduling Reserves Market" shall mean the schedule of commitments for the purchase or sale of Day-ahead Scheduling Reserves developed by the Office of the Interconnection as a result of the offers and specifications submitted in accordance with Operating Agreement, Schedule 1, section 1.10, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.

Day-ahead Scheduling Reserves Requirement:

"Day-ahead Scheduling Reserves Requirement" shall mean the sum of Base Day-ahead Scheduling Reserves Requirement and Additional Day-ahead Scheduling Reserves Requirement.

Day-ahead Scheduling Reserves Resources:

"Day-ahead Scheduling Reserves Resources" shall mean synchronized and non-synchronized generation resources and Demand Resources electrically located within the PJM Region that are capable of providing Day-ahead Scheduling Reserves.

Day-ahead Settlement Interval:

"Day-ahead Settlement Interval" shall mean the interval used by settlements, which shall be every one clock hour.

Day-ahead System Energy Price:

"Day-ahead System Energy Price" shall mean the System Energy Price resulting from the Day-ahead Energy Market.

Decrement Bid:

"Decrement Bid" shall mean a type of Virtual Transaction that is a bid to purchase energy at a specified location in the Day-ahead Energy Market. A cleared Decrement Bid results in scheduled load at the specified location in the Day-ahead Energy Market.

Default Allocation Assessment:

"Default Allocation Assessment" shall mean the assessment determined pursuant to Operating Agreement, section 15.2.2.

Demand Bid:

"Demand Bid" shall mean a bid, submitted by a Load Serving Entity in the Day-ahead Energy Market, to purchase energy at its contracted load location, for a specified timeframe and megawatt quantity, that if cleared will result in energy being scheduled at the specified location in the Day-ahead Energy Market and in the physical transfer of energy during the relevant Operating Day.

Demand Bid Limit:

"Demand Bid Limit" shall mean the largest MW volume of Demand Bids that may be submitted by a Load Serving Entity for any hour of an Operating Day, as determined pursuant to Operating Agreement, Schedule 1, section 1.10.1B, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1B.

Demand Bid Screening:

"Demand Bid Screening" shall mean the process by which Demand Bids are reviewed against the applicable Demand Bid Limit, and rejected if they would exceed that limit, as determined pursuant to Operating Agreement, Schedule 1, section 1.10.1B, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1B.

Demand Resource:

"Demand Resource" shall have the meaning provided in the Reliability Assurance Agreement.

Designated Entity:

"Designated Entity" shall mean an entity, including an existing Transmission Owner or Nonincumbent Developer, designated by the Office of the Interconnection with the responsibility to construct, own, operate, maintain, and finance Immediate-need Reliability Projects, Short-term Projects, Long-lead Projects, or Economic-based Enhancements or Expansions pursuant to Operating Agreement, Schedule 6, section 1.5.8.

Direct Charging Energy:

"Direct Charging Energy" shall mean the energy that an Energy Storage Resource purchases from the PJM Interchange Energy Market and (i) later resells to the PJM Interchange Energy Market; or (ii) is lost to conversion inefficiencies, provided that such inefficiencies are an unavoidable component of the conversion, storage, and discharge process that is used to resell energy back to the PJM Interchange Energy Market.

Direct Load Control:

"Direct Load Control" shall mean load reduction that is controlled directly by the Curtailment Service Provider's market operations center or its agent, in response to PJM instructions.

Discharge Economic Maximum Megawatts:

"Discharge Economic Maximum Megawatts" shall mean the maximum megawatt power output available for discharge in economic dispatch by an Energy Storage Resource Model Participant in Continuous Mode or in Discharge Mode. Discharge Economic Maximum Megawatts shall be the Economic Maximum for an Energy Storage Resource in Discharge Mode or in Continuous Mode.

Discharge Economic Minimum Megawatts:

"Discharge Economic Minimum Megawatts" shall mean the minimum megawatt power output available for discharge in economic dispatch by an Energy Storage Resource Model Participant in Discharge Mode. Discharge Economic Minimum Megawatts shall be the Economic Minimum for an Energy Storage Resource in Discharge Mode.

Discharge Mode:

"Discharge Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that only includes positive megawatt quantities (i.e., the Energy Storage Resource Model Participant is only injecting megawatts onto the grid).

***Discharge Ramp Rate**:*

"Discharge Ramp Rate" shall mean the Ramping Capability of an Energy Storage Resource Model Participant in Discharge Mode.

Dispatch Rate:

"Dispatch Rate" shall mean the control signal, expressed in dollars per megawatt-hour, calculated and transmitted continuously and dynamically to direct the output level of all generation resources dispatched by the Office of the Interconnection in accordance with the Offer Data.

Dispatched Charging Energy:

"Dispatched Charging Energy" shall mean Direct Charging Energy that an Energy Storage Resource Model Participant receives from the electric grid pursuant to PJM dispatch while providing *one of the following* services in the PJM markets*: Energy Imbalance Service pursuant to Tariff, Schedule 4; Regulation; Tier 2 Synchronized Reserves; or Reactive Service. Energy Storage Resource Model Participants shall be considered to be providing Energy Imbalance Service when they are dispatchable by PJM in real-time.*

Dynamic Schedule:

"Dynamic Schedule" shall have the same meaning set forth in the NERC Glossary of Terms Used in NERC Reliability Standards.

Dynamic Transfer:

“Dynamic Transfer” shall mean a Pseudo-Tie or Dynamic Schedule.

Definitions M - N

M2M Flowgate:

"M2M Flowgate" shall have the meaning provided in the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C.

Maintenance Adder:

"Maintenance Adder" shall mean an adder that may be included to account for variable operation and maintenance expenses in a Market Seller's Fuel Cost Policy. The Maintenance Adder is calculated in accordance with the applicable provisions of PJM Manual 15, and may only include expenses incurred as a result of electric production.

Market Buyer:

"Market Buyer" shall mean a Member that has met reasonable creditworthiness standards established by the Office of the Interconnection and/or PJMSettlement in Tariff, Attachment Q, and that is otherwise able to make purchases in the PJM Interchange Energy Market.

Market Monitoring Unit or MMU:

"Market Monitoring Unit" or "MMU" shall mean the independent Market Monitoring Unit defined in 18 CFR § 35.28(a)(7) and established under the PJM Market Monitoring Plan (Attachment M) to the PJM Tariff that is responsible for implementing the Market Monitoring Plan, including the Market Monitor. The Market Monitoring Unit may also be referred to as the IMM or Independent Market Monitor for PJM.

Market Operations Center:

"Market Operations Center" shall mean the equipment, facilities and personnel used by or on behalf of a Market Participant to communicate and coordinate with the Office of the Interconnection in connection with transactions in the PJM Interchange Energy Market or the operation of the PJM Region.

Market Participant:

"Market Participant" shall mean a Market Buyer, a Market Seller, and/or an Economic Load Response Participant, except when that term is used in or pertaining to Tariff, Attachment M, Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4. "Market Participant,"~~or all three, except~~ when such term is used in Tariff, Attachment M, ~~in which case Market Participant~~ shall mean an entity that generates, transmits, distributes, purchases, or sells electricity, ancillary services, or any other product or service provided under the PJM Tariff or Operating Agreement within, into, out of, or through the PJM Region, but it shall not include an Authorized Government Agency that consumes energy for its own use but does not purchase or sell energy at wholesale. “Market Participant,” when such term is used in or pertaining to Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4, shall mean a Market Buyer, a Market Seller, an Economic Load Response Participant, an FTR Participant, a Capacity Market Buyer, or a Capacity Market Seller.

Market Participant Energy Injection:

“Market Participant Energy Injection” shall mean transactions in the Day-ahead Energy Market and Real-time Energy Market, including but not limited to Day-ahead generation schedules, real-time generation output, Increment Offers, internal bilateral transactions and import transactions, as further described in the PJM Manuals.

Market Participant Energy Withdrawal:

“Market Participant Energy Withdrawal” shall mean transactions in the Day-ahead Energy Market and Real-time Energy Market, including but not limited to Demand Bids, Decrement Bids, real-time load (net of Behind The Meter Generation expected to be operating, but not to be less than zero), internal bilateral transactions and Export Transactions, as further described in the PJM Manuals.

Market Seller:

“Market Seller” shall mean a Member that has met reasonable creditworthiness standards established by the Office of the Interconnection and/or PJMSettlement in Tariff, Attachment Q, and that is otherwise able to make sales in the PJM Interchange Energy Market.

Maximum Emergency:

“Maximum Emergency” shall mean the designation of all or part of the output of a generating unit for which the designated output levels may require extraordinary procedures and therefore are available to the Office of the Interconnection only when the Office of the Interconnection declares a Maximum Generation Emergency and requests generation designated as Maximum Emergency to run. The Office of the Interconnection shall post on the PJM website the aggregate amount of megawatts that are classified as Maximum Emergency.

Maximum Generation Emergency:

“Maximum Generation Emergency” shall mean an Emergency declared by the Office of the Interconnection to address either a generation or transmission emergency in which the Office of the Interconnection anticipates requesting one or more Generation Capacity Resources, or Non-Retail Behind The Meter Generation resources to operate at its maximum net or gross electrical power output, subject to the equipment stress limits for such Generation Capacity Resource or Non-Retail Behind The Meter resource in order to manage, alleviate, or end the Emergency.

Maximum Daily Starts:

"Maximum Daily Starts" shall mean the maximum number of times that a generating unit can be started in an Operating Day under normal operating conditions.

Maximum Generation Emergency Alert:

"Maximum Generation Emergency Alert" shall mean an alert issued by the Office of the Interconnection to notify PJM Members, Transmission Owners, resource owners and operators, customers, and regulators that a Maximum Generation Emergency may be declared, for any Operating Day in either, as applicable, the Day-ahead Energy Market or the Real-time Energy Market, for all or any part of such Operating Day.

Maximum Run Time:

"Maximum Run Time" shall mean the maximum number of hours a generating unit can run over the course of an Operating Day, as measured by PJM's State Estimator.

Maximum Weekly Starts:

"Maximum Weekly Starts" shall mean the maximum number of times that a generating unit can be started in one week, defined as the 168 hour period starting Monday 0001 hour, under normal operating conditions.

Member:

"Member" shall mean an entity that satisfies the requirements of Operating Agreement, section 11.6 and that (i) is a member of the LLC immediately prior to the Effective Date, or (ii) has executed an Additional Member Agreement in the form set forth in Operating Agreement, Schedule 4.

Members Committee:

"Members Committee" shall mean the committee specified in Operating Agreement, section 8, composed of representatives of all the Members.

Minimum Generation Emergency:

"Minimum Generation Emergency" shall mean an Emergency declared by the Office of the Interconnection in which the Office of the Interconnection anticipates requesting one or more generating resources to operate at or below Normal Minimum Generation, in order to manage, alleviate, or end the Emergency.

Minimum Down Time:

For all generating units that are not combined cycle units, "Minimum Down Time" shall mean the minimum number of hours under normal operating conditions between unit shutdown and

unit startup, calculated as the shortest time difference between the unit's generator breaker opening and after the unit's generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero. For combined cycle units, "Minimum Down Time" shall mean the minimum number of hours between the last generator breaker opening and after first combustion turbine generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero.

Minimum Run Time:

For all generating units that are not combined cycle units, "Minimum Run Time" shall mean the minimum number of hours a unit must run, in real-time operations, from the time after generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero, to the time of generator breaker opening, as measured by PJM's State Estimator. For combined cycle units, "Minimum Run Time" shall mean the time period after the first combustion turbine generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero, and the last generator breaker opening as measured by PJM's State Estimator.

MISO:

"MISO" shall mean the Midcontinent Independent System Operator, Inc. or any successor thereto.

Multi-Driver Project:

"Multi-Driver Project" shall mean a transmission enhancement or expansion that addresses more than one of the following: reliability violations, economic constraints or State Agreement Approach initiatives.

NERC:

"NERC" shall mean the North American Electric Reliability Corporation, or any successor thereto.

NERC Functional Model:

"NERC Functional Model" shall be the set of functions that must be performed to ensure the reliability of the electric bulk power system. The NERC Reliability Standards establish the requirements of the responsible entities that perform the functions defined in the Functional Model.

NERC Interchange Distribution Calculator:

"NERC Interchange Distribution Calculator" shall mean the NERC mechanism that is in effect and being used to calculate the distribution of energy, over specific transmission interfaces, from energy transactions.

NERC Reliability Standards:

"NERC Reliability Standards" shall mean those standards that have been developed by NERC and approved by FERC to ensure the reliability of the electric bulk power system.

NERC Rules of Procedure:"NERC Rules of Procedure" shall be the rules and procedures developed by NERC and approved by the FERC. These rules include the process by which a responsible entity, who is to perform a set of functions to ensure the reliability of the electric bulk power system, must register as the Registered Entity.

Net Benefits Test:

"Net Benefits Test" shall mean a calculation to determine whether the benefits of a reduction in price resulting from the dispatch of Economic Load Response exceeds the cost to other loads resulting from the billing unit effects of the load reduction, as specified in Operating Agreement, Schedule 1, section 3.3A.4 and the parallel provisions of Tariff, Attachment K-Appendix, section 3.3A.4.

Network Resource:

"Network Resource" shall have the meaning specified in the PJM Tariff.

Network Service User:

"Network Service User" shall mean an entity using Network Transmission Service.

Network Transmission Service:

"Network Transmission Service" shall mean transmission service provided pursuant to the rates, terms and conditions set forth in Tariff, Part III, or transmission service comparable to such service that is provided to a Load Serving Entity that is also a Transmission Owner.

New York ISO or NYISO:

"New York ISO" or "NYISO" shall mean the New York Independent System Operator, Inc. or any successor thereto.

No-load Cost:

"No-load Cost" shall mean the hourly cost required to create the starting point of a monotonically increasing incremental offer curve for a generating unit.

Non-Disclosure Agreement:

"Non-Disclosure Agreement" shall mean an agreement between an Authorized Person and the Office of the Interconnection, pursuant to Operating Agreement, section, the form of which is appended to this Agreement as Operating Agreement, Schedule 10, wherein the Authorized Person is given access to otherwise restricted confidential information, for the benefit of their respective Authorized Commission.

Non-Dispatched Charging Energy:

"Non-Dispatched Charging Energy" shall mean all Direct Charging Energy that an Energy Storage Resource Model Participant receives from the electric grid that is not otherwise Dispatched Charging Energy.

Nonincumbent Developer:

"Nonincumbent Developer" shall mean: (1) a transmission developer that does not have an existing Zone in the PJM Region as set forth in Tariff, Attachment J; or (2) a Transmission Owner that proposes a transmission project outside of its existing Zone in the PJM Region as set forth in Tariff, Attachment J.

Non-Regulatory Opportunity Cost:

"Non-Regulatory Opportunity Cost" shall mean the difference between (a) the forecasted cost to operate a specific generating unit when the unit only has a limited number of starts or available run hours resulting from (i) the physical equipment limitations of the unit, for up to one year, due to original equipment manufacturer recommendations or insurance carrier restrictions, (ii) a fuel supply limitation, for up to one year, resulting from an event of Catastrophic Force Majeure; and, (b) the forecasted future Locational Marginal Price at which the generating unit could run while not violating such limitations. Non-Regulatory Opportunity Cost therefore is the value associated with a specific generating unit's lost opportunity to produce energy during a higher valued period of time occurring within the same period of time in which the unit is bound by the referenced restrictions, and is reflected in the rules set forth in PJM Manual 15. Non-Regulatory Opportunity Costs shall be limited to those resources which are specifically delineated in Operating Agreement, Schedule 2.

Non-Retail Behind The Meter Generation:

"Non-Retail Behind The Meter Generation" shall mean Behind the Meter Generation that is used by municipal electric systems, electric cooperatives, and electric distribution companies to serve load.

Non-Synchronized Reserve:

"Non-Synchronized Reserve" shall mean the reserve capability of non-emergency generation resources that can be converted fully into energy within ten minutes of a request from the Office of the Interconnection dispatcher, and is provided by equipment that is not electrically synchronized to the Transmission System.

Non-Synchronized Reserve Event:

“Non-Synchronized Reserve Event” shall mean a request from the Office of the Interconnection to generation resources able and assigned to provide Non-Synchronized Reserve in one or more specified Reserve Zones or Reserve Sub-zones, within ten minutes to increase the energy output by the amount of assigned Non-Synchronized Reserve capability.

Non-Variable Loads:

“Non-Variable Loads” shall have the meaning specified in Operating Agreement, Schedule 1, section 1.5A.6, and the parallel provisions of Tariff, Attachment K-Appendix, 1.5A.6.

Normal Maximum Generation:

“Normal Maximum Generation” shall mean the highest output level of a generating resource under normal operating conditions.

Normal Minimum Generation:

“Normal Minimum Generation” shall mean the lowest output level of a generating resource under normal operating conditions.

11.6 Membership Requirements.

(a) To qualify as a Member, an Applicant~~entity~~ shall:

(i) Be a Transmission Owner, a Generation Owner, an Other Supplier, an Electric Distributor, or an End-Use Customer;~~ and~~

(ii) Accept the obligations set forth in this Agreement;

(iii) Cure any default, including but not limited to paying all outstanding and unpaid obligations due to PJM and/or PJMSettlement by any former Member that is an Affiliate of the Applicant, if any, as required by PJM and/or PJMSettlement based on its evaluation of the membership application; and

(iv) Cure any default, including but not limited to paying all outstanding and unpaid obligations due to PJM and/or PJMSettlement by any former Member, and for which Applicant should be treated as the same Member that experienced the outstanding default, pursuant to the factors identified in Operating Agreement, Schedule 1, section 1.4.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.4.8, if any, as required by PJM and/or PJMSettlement based on its evaluation of the membership application.

(b) Certain Members that are Load Serving Entities are parties to the Reliability Assurance Agreement. Upon becoming a Member, any Applicant~~entity~~ that is a Load Serving Entity in the PJM Region and that wishes to become a Market Buyer shall also simultaneously execute the Reliability Assurance Agreement.

(c) An Applicant~~entity~~ that wishes to become a PJM Member and party to this Agreement shall apply, in writing, to the President of PJM setting forth its request, its qualifications for membership, its agreement to supply data and information as specified in this Agreement and any additional data or information reasonably requested by PJM and/or PJMSettlement, its agreement to pay all costs and expenses in accordance with Operating Agreement, Schedule 3, and providing all additional information specified pursuant to the ~~Schedules to this~~ Agreements for entities that wish to become Market Participants. Among other things, PJM will evaluate the application to determine whether the entity seeking to become a Member (i) is qualified for membership, (ii) satisfies the requirements for participation in one of the sectors in accordance with Operating Agreement, section 8.1, and/or (iii) presents any unreasonable, inherent or material risks to PJM, including but not limited to unreasonable credit risk pursuant to Tariff, Attachment Q that cannot be cured by posting Collateral or credit support commensurate with the risk of the anticipated market activity of the Applicant to the PJM Markets and PJM Members. Such review shall include an examination of whether the Applicant should be treated as a former Member that experienced an outstanding default in PJM, including but not limited to the interconnectedness of the business relationships, overlap in relevant personnel, similarity of business activities, overlap of customer base, and the business engaged in prior to the attempted re-entry, and other relevant factors. PJM and PJMSettlement will review~~Any such~~ applications to determine whether they satisfy ~~that meets all~~ applicable requirements. The determination whether an application for membership is approved shall be made within ninety (90) days after receipt of all documentation and information required by the Agreements and/or requested by

PJM and/or PJMSettlement in the consideration of the application for membership. If an application for membership is not approved by the President of PJM, the Applicant will be provided a written notice explaining the basis for non-approval. An Applicant may appeal the non-approval of its application for membership to the Federal Energy Regulatory Commission. ~~shall be approved by the President within sixty (60) days.~~

(d) Nothing in Operating Agreement, section 11 is intended to remove, in any respect, the choice of participation by other utility companies or organizations in the operation of the PJM Region through inclusion in the System of a Member.

(e) An Applicant~~entity~~ whose application is accepted by the President of PJM pursuant to section 11.6(c) above shall execute a supplement to this Agreement in substantially the form prescribed in Operating Agreement, Schedule 4, which supplement shall be countersigned by the President of PJM or the President's authorized designee. The ~~entity~~ Applicant shall become a Member effective on the date the supplement is countersigned by the President of PJM or the President's authorized designee.

(f) Applicants~~Entities~~ whose applications contemplate expansion or rearrangement of the PJM Region may become Members promptly as described in sections 11.6(c) and 11.6(e) above, but the integration of the ~~a~~Applicant's system into all of the operation and accounting provisions of the~~is~~ Agreements~~ and the Reliability Assurance Agreement~~, shall occur only after completion of all required installations and modifications of metering, communications, computer programming, and other necessary and appropriate facilities and procedures, as determined by the Office of the Interconnection. The Office of the Interconnection shall notify the other Members when such integration has occurred.

(g) Applicants~~Entities~~ that become Members will be listed in Operating Agreement, Schedule 12.

~~-~~(h) In accordance with this Agreement, Members agree that PJMSettlement shall be the Counterparty with respect to certain transactions under the PJM Tariff and this Agreement.

15.1 Failure to Meet Obligations.

15.1.1 Suspension and Termination of Market Participant~~Buyer~~ Rights.

~~The Office of the Interconnection~~PJM may limit, suspend or~~shall~~ terminate a Market Participant's~~Buyer's~~ right to ~~make purchases from~~ participate in ~~the PJM Interchange Energy Market, the PJM Capacity Credit Market or~~ any ~~other~~ PJM M~~m~~arket ~~operated by PJM~~ if it determines that the Market ~~Buyer~~ Participant does not continue to meet the obligations set forth in any of th~~is~~e Agreements, including but not limited to the obligation to be in compliance with the terms, or operating characteristics of any of its prior scheduled transactions in any market operated by PJM, ~~PJM's~~ the creditworthiness requirements set forth in Tariff, Attachment Q and/or the obligation to make timely payment, provided that PJM and/or PJMSettlement ~~the Office of the Interconnection~~ has notified the Market ~~Buyer~~ Participant of any such deficiency and afforded the Market ~~Buyer~~ Participant a reasonable opportunity to cure pursuant to section 15.1.3 below, or Tariff, Attachment Q, as applicable. ~~The Office of the Interconnection~~PJM shall reinstate a Market Participant's~~Buyer's~~ right to ~~make purchases from the PJM Interchange Energy Market and PJM Capacity Credit Market~~participate in any PJM Market upon a determination by PJM and/or PJMSettlement that~~demonstration by~~ the Market Participant has satisfied the applicable requirements and is~~Buyer that it has come~~ in~~to~~ compliance with the obligations set forth in the~~is~~ Agreements.

15.1.2 [Reserved for Future Use]~~Termination of Market Seller Rights.~~

~~The Office of the Interconnection shall not accept offers from a Market Seller that has not complied with the prices, terms, or operating characteristics of any of its prior scheduled transactions in the PJM Interchange Energy Market, unless such Market Seller has taken appropriate measures to the satisfaction of the Office of the Interconnection to ensure future compliance.~~

15.1.3 Payment of Bills.

~~A~~ Members and Participants shall make full and timely payment, in accordance with the terms specified by ~~the Office of the Interconnection~~PJM, of all bills rendered in connection with or arising under or from any of th~~is~~e Agreements, any service or rate schedule, any tariff, or any services performed by ~~the Office of the Interconnection~~PJM or transactions with PJMSettlement, notwithstanding any disputed amount, but any such payment shall not be deemed a waiver of any right with respect to such dispute. Any Member or Participant that fails to make full and timely payment to PJMSettlement (of amounts owed either directly to PJMSettlement or PJMSettlement as agent for ~~the LLC~~PJM) or otherwise fails to meet its financial or other obligations to a Member, PJMSettlement, or ~~the LLC~~ PJM under any of the~~is~~ Agreements, shall, in addition to any requirement set forth in Operating Agreement, ~~this~~ section 15.1 and upon expiration of the ~~2-day~~ cure period specified below, be in default.

15.1.4 Breach Notification and Remedy

If PJM or PJMSettlement~~the Office of the Interconnection~~ concludes, upon its own initiative or the recommendation of or complaint by the Members Committee or any Member, that a Member or Participant is in breach of any of its obligation under any of th~~is~~e Agreements, including, but not limited to, the obligation to make timely payment and the obligation to meet PJM's creditworthiness standards and to otherwise comply with PJM's credit policies, PJM and/or PJMSettlement~~the Office of the Interconnection~~ shall so notify such Member or Participant. The notified Member or Participant may remedy such asserted breach by: (i) paying all amounts assertedly due, along with interest on such amounts calculated in accordance with the methodology specified for interest on refunds in FERC's regulations at 18 C.F.R. § 35.19a(a)(2)(iii); and (ii) demonstration to the satisfaction of PJM and/or PJMSettlement~~the Office of the Interconnection~~ that the Member or Participant has taken appropriate measures to meet any other obligation of which it was deemed to be in breach; provided, however, that any such payment or demonstration may be subject to a reservation of rights, if any, to subject such matter to the PJM Dispute Resolution Procedures; and provided, further, that any such determination by PJM and/or PJMSettlement~~the Office of the Interconnection~~ may be subject to review by the PJM Board upon request of the Member or Participant involved or PJM and/or PJMSettlement~~the Office of the Interconnection~~.

15.1.5 Default Notification and Remedy

If a Member or Participant has not remedied a breach, as described in section 15.1.4 above, by 4:00 p.m. Eastern Prevailing Time on the first Business Day following PJM's or PJMSettlement's issuance of a written notice of breach or Collateral Call, the notice of which is issued before 1:00 p.m. Eastern Prevailing Time, or by 4:00 p.m. Eastern Prevailing Time on the ~~2nd~~ second Business Day following PJM's or PJMSettlement's ~~receipt~~ issuance to the Member or Participant of a written ~~the Office of the Interconnection's~~ notice of breach or Collateral Call, the notice of which is issued at or after 1:00 p.m. Eastern Prevailing Time, or receipt of the PJM Board's decision on review, if applicable, then the Member or Participant shall be in default and, in addition to such other remedies as may be available to PJM~~the LLC~~ or PJMSettlement:

i) A defaulting Market Participant shall be precluded from buying or selling in ~~the PJM Interchange Energy Market, the PJM Capacity Credit Market, or~~ any ~~other~~ market operated by PJM until the default is remedied as set forth above;

ii) A defaulting Member shall not be entitled to participate in the activities of any committee or other body established by the Members Committee or PJM~~the Office of the Interconnection~~; and

iii) A defaulting Member shall not be entitled to vote on the Members Committee or any other committee or other body established pursuant to this Agreement.

iv) PJM shall notify all other M~~m~~embers of the default.

15.1.6 Reinstatement of Member Following Default and Remedy

a. A Member that has been declared in default, solely of PJM's creditworthiness standards, or fails to otherwise comply with PJM's credit policies as more fully described in Tariff, Attachment Q, once within any 12 month period may be reinstated in full after remedying such default and satisfying any requirements imposed upon the Member as a result of the default.

b. A Member that has been declared in default of any of th~~is~~e Agreements for failing to: (i) make timely payments when due once during any prior 12 month period, or (ii) adhere to PJM's creditworthiness standards and credit policies, twice during any prior 12 month period, may be subject to the following restrictions:

a) Loss of stakeholder privileges, including voting privileges, for 12 months following such default; and

b) Loss of the allowance of unsecured credit for 12 months following such default

c. A Member that has been declared in default of this Agreement for failing to: (i) make timely payments when due twice during any prior 12 month period, or (ii) adhere to PJM's creditworthiness standards and credit policies, three times during any prior 12 month period, shall, except as provided for in section 15.1.6(d) below, not be eligible to be reinstated as a Member to this Agreement and its membership rights pursuant to this Agreement shall be terminated in accordance with Operating Agreement, section 4.1(c)~~-~~, notwithstanding whether such default has been remedied. Furthermore:

a) ~~-~~PJMSettlement shall close out and liquidate all of the Member's current and forward positions in accordance with the provisions of this Agreement and the PJM Tariff; and

b) ~~-~~A Member terminated in accordance with these provisions shall be precluded from seeking future membership in PJM under this Agreement whether in the name of the Member when it was terminated from PJM membership or as a new Applicant under a different name, affiliation, or organization if the Member or new Applicant experienced a previous default that resulted in a loss to the PJM Markets and was terminated from membership. Whether an Applicant should be considered the same as a Member that previously defaulted will be determined based on the factors identified in Operating Agreement, Schedule 1, section 1.4.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.4.8.~~;~~

d. A Member may appeal a determination made pursuant to the foregoing procedures utilizing PJM's D~~d~~ispute R~~r~~esolution P~~p~~rocedures as set forth in Operating Agreement, Schedule 5, (provided, however, that a Member's decision to utilize these procedures shall not operate to stay the ability of PJM to exercise any and all of its rights under this Agreement and the PJM Tariff) and may be reinstated provided that the Member can demonstrate the following:

a) that it has otherwise consistently complied with its obligations under this Agreement and the PJM Tariff; and

b) the failure to comply was not material; and

c) the failure to comply was due in large part to conditions that were not in the common course of business.

15.2 Enforcement of Obligations.

If ~~the Office of the Interconnection~~PJM sends a notice to the PJM Board that a Member has failed to perform an obligation under any of th~~is~~e Agreements, the PJM Board, on behalf of ~~the LLC~~PJM and PJMSettlement, shall initiate such action against such Member to enforce such obligation as the PJM Board shall deem appropriate. Subject to the procedures specified in s~~S~~ection 15.1 above, a Member's failure to perform such obligation shall be deemed to be a default under this Agreement. In order to remedy a default, but without limiting any rights ~~the LLC~~PJM or PJMSettlement may have against the defaulting Member, the PJM Board may assess against, and collect from, the Members not in default, in proportion to their Default Allocation Assessment, an amount equal to the amount that the defaulting Member has failed to pay to PJMSettlement or ~~the LLC~~PJM (less amounts covered by ~~Financial Security~~Collateral, held by PJMSettlement, on behalf of itself and as agent for ~~the LLC~~PJM, or indemnifications paid to ~~the LLC~~PJM or PJMSettlement), along with appropriate interest. Such assessment shall in no way relieve the defaulting Member of its obligations. In addition to any amounts in default, the defaulting Member shall be liable to ~~the LLC~~PJM and PJMSettlement for all reasonable costs incurred in enforcing the defaulting Member's obligations.

15.2.1 Collection by ~~the Office of the Interconnection~~PJM.

PJM and PJMSettlement are~~is~~ authorized to pursue collection through such actions, legal or otherwise, as it reasonably deems appropriate, including but not limited to the prosecution of legal actions and assertion of claims on behalf of the affected Members in the state and federal courts as well as under the United States Bankruptcy Code. Prior to initiating formal legal action in state or federal court to pursue collection, PJM and PJMSettlement shall provide to the Members Committee an explanation of its intended action. Upon the duly seconded motion of any Member, the Members Committee may conduct a vote to afford PJM and PJMSettlement a sense of the membership as regards to PJM's or PJMSettlement's intended action to pursue collection. PJM and PJMSettlement shall consider any such vote before initiating formal legal action and at all times during the course of any collection effort evaluate the expected benefits in pursuing such effort in light of any changed circumstances. After deducting the costs of collection, any amounts recovered by PJM and PJMSettlement shall be distributed to the Members who have paid their Default Allocation Assessment in proportion to the Default Allocation Assessment paid by each Member.

15.2.2 Default Allocation Assessment.

(a) "Default Allocation Assessment" shall be equal to (0.1(1/N) + 0.9(A/Z)), where:

N = the total number of Members, calculated as of five o'clock p.m. eastern prevailing time on the date PJM declares a Member in default, excluding ex officio Members, State Consumer Advocates, Emergency and Economic Load Response Program Special Members, and municipal electric system Members that have been granted a waiver under Operating Agreement, section 17.2.

A = for Members comprising factor “N” above, the Member's gross activity as determined by summing the absolute values of the charges and credits for each of the Activity Line Items identified in section 15.2.2(b) below as accounted for and billed pursuant to Operating Agreement, Schedule 1, section 3 for the month of default and the two previous months.

Z = the sum of factor A for all Members excluding ex officio Members, State Consumer Advocates, Emergency and Economic Load Response Program Special Members, and municipal electric system Members that have been granted a waiver under Operating Agreement, section 17.2.

The assessment value of (0.1(1/N)) shall not exceed $10,000 per Member per calendar year, cumulative of all defaults, or more than once per Member default if Default Allocation Assessment charges for a single Member default span multiple calendar years. For this purpose, a default by an individual Member that spans multiple billing periods without cure shall be considered a single default. If one or more defaults arise that cause the value to exceed $10,000 per Member, then the excess shall be reallocated through the gross activity factor.

(b) Activity Line Items shall be each of the line items on the PJM monthly bills net of load reconciliation adjustments and adjustments applicable to activity for the current billing month appearing on the same bill.

15.3 Obligations to a Member or Participant in Default.

The Members have no continuing obligation to provide the benefits of interconnected operations to a Member or Participant in default.

15.4 Obligations of a Member or Participant in Default.

A Member or Participant found to be in default shall take all possible measures to mitigate the continued impact of the default on the Members not in default, including, but not limited to, loading its own generation to supply its own load to the maximum extent possible.

15.5 No Implied Waiver.

A failure of a Member, the PJM Board, PJMSettlement, or ~~the LLC~~PJM to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such entity's right to assert or rely upon any such provisions, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.

15.6 Limitation on Claims.

No adjustment in the billing for any service, transaction, or charge under this Agreement may be asserted by ~~the Transmission Provider~~PJM, PJMSettlement, or any Member or Participant with respect to a month, if more than two years has elapsed since the first date upon which the billing for that month occurred. PJMSettlement, on behalf of itself or as agent for PJM, may make no adjustment to a Member's or Participant's bill with respect to a month for any service, transaction, or charge under this Agreement, if more than two years have elapsed since the first date upon which the billing for that month occurred, unless 1) a claim made by a Member or Participant in writing and addressed to the President of PJMSettlement seeking such adjustment has been received by PJMSettlement prior thereto or 2) ~~the Transmission Provider~~PJM and/or PJMSettlement have notified the Member or Participant in writing of the need to make such an adjustment prior thereto.

1.4 Market Participant~~Buyers~~.

1.4.1 Qualification.

(a) To become a Market Participant~~Buyer~~, an Applicant~~entity~~ shall submit an application to the Office of the Interconnection, in such form as shall be established by the Office of the Interconnection, and such further information detailed in Tariff, Attachment Q.

(b) An A~~a~~pplicant that is a Load Serving Entity or that will purchase on behalf of or for ultimate delivery to a Load Serving Entity shall establish to the satisfaction of the Office of the Interconnection that the end-users that will be served through energy and related services purchased in the PJM Interchange Energy Market, are located electrically within the PJM Region, or will be brought within the PJM Region prior to any purchases from the PJM Interchange Energy Market. Such A~~a~~pplicant shall further demonstrate that:

> i) The Load Serving Entity for the end users is obligated to meet the requirements of the Reliability Assurance Agreement, as applicable; and
>
> ii) The Load Serving Entity for the end users has arrangements in place for Network Transmission Service or Point-To-Point Transmission Service for all PJM Interchange Energy Market purchases.

(c) An A~~a~~pplicant that is not a Load Serving Entity or purchasing on behalf of or for ultimate delivery to a Load Serving Entity shall demonstrate that:

> i) The A~~a~~pplicant has obtained or will obtain Network Transmission Service or Point-to-Point Transmission Service for all PJM Interchange Energy Market purchases; and
>
> ii) The A~~a~~pplicant's PJM Interchange Energy Market purchases will ultimately be delivered to a load in another Control Area that is recognized by NERC and that complies with NERC's standards for operating and planning reliable bulk electric systems.

(d) An A~~a~~pplicant shall not be required to obtain transmission service for purchases from the PJM Interchange Energy Market to cover quantity deviations from its sales in the Day-ahead Energy Market.

(e) An~~ll~~ A~~a~~pplicant~~s~~ applying to become a Market Participant shall demonstrate that it:

> i) ~~The applicant~~ is capable of complying with all applicable metering, data storage and transmission, and other reliability, operation, planning and accounting standards and requirements for the operation of the PJM Region and the PJM ~~Interchange Energy~~ Markets, as applicable;
>
> ii) ~~The applicant~~ meets the creditworthiness standards established by the

Office of the Interconnection and/or PJMSettlement, or has provided cash or a Credit Support Document~~a letter of credit or other form of security~~ acceptable to the Office of the Interconnection and/or PJMSettlement; and

iii) ~~The applicant~~ has paid all applicable fees and reimbursed the Office of the Interconnection and/or PJMSettlement for all unusual or extraordinary costs of processing and evaluating its application to become a Market ~~Buyer~~Participant, and has agreed in its application to subject any disputes arising from its application to the PJM Dispute Resolution Procedures.

(f) The A~~a~~pplicant shall become a Market ~~Buyer~~ Participant upon a final favorable determination on its application by the Office of the Interconnection as specified below, which determination shall be made by the Office of the Interconnection in conjunction with input from PJMSettlement, and execution by the ~~a~~Applicant of counterparts of this Agreement.

1.4.2 Submission of Information.

The ~~a~~Applicant shall furnish all information reasonably requested by the Office of the Interconnection and/or PJMSettlement in order to determine the A~~a~~pplicant's qualification to be a Market Participant and whether the entity should be allowed to remain a Market Participant~~Buyer~~. The Office of the Interconnection and/or PJMSettlement may waive the submission of information relating to any of the foregoing criteria, to the extent the information in the Office of the Interconnection's and/or PJMSettlement's possession is sufficient to evaluate the application against such criteria.

1.4.3 Fees and Costs.

The Office of the Interconnection shall require all ~~a~~Applicants seeking to become a Market ~~Buyer~~ Participant to pay a uniform application fee, initially in the amount of $~~1,500~~2,000, to defray the ordinary costs of processing such applications. The application fee shall be revised from time to time as the Office of the Interconnection shall determine to be necessary to recover its ordinary costs of processing applications. Any unusual or extraordinary costs incurred by the Office of the Interconnection in processing an application shall be reimbursed by the ~~a~~Applicant.

1.4.4 Office of the Interconnection Determination.

Upon submission of the information specified above, and such other information as shall reasonably be requested by the Office of the Interconnection and/or PJMSettlement, the Office of the Interconnection and/or PJMSettlement shall undertake an evaluation ~~and investigation~~ to determine whether the ~~applicant~~ Applicant meets the criteria specified above, and in accordance with Tariff, Attachment Q.

As soon as practicable, but in any event not later than sixty (60) calendar days after submission of the foregoing information, or such later date as may be necessary to satisfy the requirements of the ~~Reliability Assurance~~ Agreements, the Office of the Interconnection shall notify the A~~a~~pplicant and ~~the members of~~ the Members Committee of its determination, along with a written summary of the basis for the determination, and whether there are any actions the Applicant can take that might cause the Office of the Interconnection to change its determination, including but not limited to providing even further supplemental information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes. The Office of the Interconnection and/or PJMSettlement shall respond promptly to any reasonable and timely request by an Applicant or a Member for additional information regarding the basis for the Office of the Interconnection's determination, and shall take such action as it shall deem appropriate in response to any request for reconsideration or other action submitted to the Office of the Interconnection not later than thirty (30) calendar days from the initial notification to the Members Committee. Notifications to the Members Committee shall be in compliance with Operating Agreement, section 18.17.1.

1.4.5 Existing Participants.

A~~ny entity~~ Member that was previously qualified to participate as a Market Participant ~~Buyer in the PJM Interchange Energy Market under the Operating Agreement of PJM Interconnection L.L.C. in effect immediately prior to the Effective Date~~ shall not automatically continue to be qualified to participate as a Market Participant~~Buyer in the PJM Interchange Energy Market~~ under the~~is~~ Agreements. Rather, in order to retain its eligibility to continue to participate as a Market Participant in the PJM Markets, a Market Participant shall be subject to the requirements and ongoing risk evaluation in accordance with Tariff, Attachment Q.

1.4.6 Withdrawal.

(a) An Internal Market Buyer that is a Load Serving Entity may withdraw from this Agreement by giving written notice to the Office of the Interconnection specifying an effective date of withdrawal not earlier than the effective date of (i) its withdrawal from the Reliability Assurance Agreement, or (ii) the assumption of its obligations under the Reliability Assurance Agreement by an agent that is a Market Buyer.

(b) An External Market Buyer or an Internal Market Buyer that is not a Load Serving Entity may withdraw from this Agreement by giving written notice to the Office of the Interconnection specifying an effective date of withdrawal at least one day after the date of the notice.

(c) Withdrawal from this Agreement shall not relieve a Market Participant~~Buyer~~ of any obligation to pay for electric energy or related services purchased from the PJM~~ Interchange Energy~~ Markets prior to such withdrawal, to pay its share of any fees and charges incurred or assessed by the Office of the Interconnection and/or PJMSettlement prior to the date of such withdrawal, maintain and/or provide sufficient credit support until all of its transactions in the PJM Markets have been satisfied, or to fulfill any obligation to provide indemnification for the consequences of acts, omissions or events occurring prior to such withdrawal; and provided, further, that withdrawal from this Agreement shall not relieve any Market Participant~~Buyer~~ of any obligations it may have under, or constitute withdrawal from, any other Related PJM Agreement.

(d) A Market Participant~~Buyer~~ that has withdrawn from this Agreement may reapply to become a Market Participant~~Buyer~~ in accordance with the provisions of this s~~S~~ection 1.4, provided it is not in default of any obligation incurred under the~~is~~ Agreements.

1.4.7 Limitation, Suspension, and Termination.

The Office of the Interconnection requires that Market Participants certify and provide information required and requested by the Office of the Interconnection and/or PJMSettlement at least annually as indicated in section 1.4.1, 1.4.2 and 1.4.4 above and Tariff, Attachment Q. If the Office of the Interconnection determines that the entity no longer satisfies its requirements to be a Market Participant, the Office of the Interconnection may limit and/or suspend that entity's activity in the PJM Markets until such time as it can satisfy the requirements, and if the requirements are not satisfied the Office of the Interconnection may terminate that entity's approval to be a Market Participant. As soon as practicable, the Office of the Interconnection shall notify the entity and the Members Committee of its determination, along with a written summary of the basis for the determination, and whether there are any actions the entity can take that might cause the Office of the Interconnection to change its determination, including but not limited to providing even further additional information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes. The Office of the Interconnection shall respond promptly to any reasonable and timely request by a Member for additional information regarding the basis for the Office of the Interconnection's determination, and shall take such action as it shall deem appropriate in response to any request for reconsideration or other action submitted to the Office of the Interconnection not later than thirty (30) calendar days from the initial notification to the Members Committee. Notifications to the Members Committee shall be in compliance with Operating Agreement, section 18.17.1.

1.4.8. Re-entry of Defaulting Market Participant.

An Applicant who previously defaulted on any obligations owed to PJM and/or PJMSettlement that resulted in a loss to any PJM Market which was never cured, or who is not eligible for reinstatement to PJM membership pursuant to Operating Agreement, section 15.1, shall not be allowed to re-enter the PJM Markets. In addition, PJM will evaluate relevant factors to determine if an Applicant seeking to participate in the PJM Markets under a different name, affiliation, or organization should be treated as the same Market Participant that experienced a previous default that resulted in a loss to the PJM Markets under this provision. Such factors may include, but are not limited to, the interconnectedness of the business relationships, overlap in relevant personnel, similarity of business activities, overlap of customer base, and the business engaged in prior to the attempted re-entry.

Attachment D

Revisions to the
Operating Agreement

(Clean Format)

Definitions A - B

Acceleration Request:

"Acceleration Request" shall mean a request pursuant to Operating Agreement, Schedule 1, section 1.9.4A and the parallel provisions of Tariff, Attachment K-Appendix, to accelerate or reschedule a transmission outage scheduled pursuant to Operating Agreement, Schedule 1, section 1.9.2 or Operating Agreement, Schedule 1, section 1.9.4 and the parallel provisions of Tariff, Attachment K-Appendix, section 1.9.2 and Tariff, Attachment K-Appendix, section 1.9.4.

Act:

"Act" shall mean the Delaware Limited Liability Company Act, Title 6, §§ 18-101 to 18-1109 of the Delaware Code.

Active and Significant Business Interest:

"Active and Significant Business Interest" is a term that shall be used to assess the scope of a Member's PJM membership and shall be based on a Member's activity in the PJM RTO and/or Interchange Energy Markets. A Member's Active and Significant Business Interest shall: 1) be determined relative to the scope of the Member's PJM membership and activity in the PJM RTO and/or Interchange Energy Markets considering, among other things, the Member's public statements and/or regulatory filings regarding its PJM activities; and 2) reflect a substantial contributor to the Member's recent market activity, revenues, costs, investment, and/or earnings when considering the Member and its corporate affiliates' interests within the PJM footprint.

Additional Day-ahead Scheduling Reserves Requirement:

"Additional Day-ahead Scheduling Reserves Requirement" shall mean the portion of the Day-ahead Scheduling Reserves Requirement that is required in addition to the Base Day-ahead Scheduling Reserves Requirement to ensure adequate resources are procured to meet real-time load and operational needs, as specified in the PJM Manuals.

Affected Member:

"Affected Member" shall mean a Member of PJM which as a result of its participation in PJM's markets or its membership in PJM provided confidential information to PJM, which confidential information is requested by, or is disclosed to an Authorized Person under a Non-Disclosure Agreement.

Affiliate:

"Affiliate" shall mean any two or more entities, one of which Controls the other or that are under common Control. "Control," as that term is used in this definition, shall mean the possession, directly or indirectly, of the power to direct the management or policies of an entity. Ownership of publicly-traded equity securities of another entity shall not result in Control or affiliation for purposes of the Tariff or Operating Agreement if the securities are held as an investment, the holder owns (in its name or via intermediaries) less than 10 percent (10%) of the outstanding securities of the entity, the holder does not have representation on the entity's board of directors (or equivalent managing entity) or vice versa, and the holder does not in fact exercise influence over day-to-day management decisions. Unless the contrary is demonstrated to the satisfaction of the Members Committee, Control shall be presumed to arise from the ownership of or the power to vote, directly or indirectly, ten percent or more of the voting securities of such entity.

Agreement, Operating Agreement of the PJM Interconnection, L.L.C., Operating Agreement or PJM Operating Agreement:

"Agreement," "Operating Agreement of the PJM Interconnection, L.L.C.," "Operating Agreement" or "PJM Operating Agreement" shall mean this Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. dated as of April 1, 1997 and as amended and restated as of June 2, 1997, including all Schedules, Exhibits, Appendices, addenda or supplements thereto, as amended from time to time thereafter, among the Members of PJM Interconnection L.L.C., on file with the Commission.

Annual Meeting of the Members:

"Annual Meeting of the Members" shall mean the meeting specified in Operating Agreement, section 8.3.1.

Applicable Regional Entity:

"Applicable Regional Entity" shall mean the Regional Entity for the region in which a Network Customer, Transmission Customer, New Service Customer, or Transmission Owner operates.

Associate Member:

"Associate Member" shall mean an entity that satifies the requirements of Operating Agreement, section 11.7.

Auction Revenue Rights:

"Auction Revenue Rights" or "ARRs" shall mean the right to receive the revenue from the Financial Transmission Right auction, as further described in Operating Agreement, Schedule 1, section 7.4 and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.

Auction Revenue Rights Credits:

"Auction Revenue Rights Credits" shall mean the allocated share of total FTR auction revenues or costs credited to each holder of Auction Revenue Rights, calculated and allocated as specified in Operating Agreement, Schedule 1, section 7.4.3, and the parallel provisions of Tariff, Attachment K-Appendix, section 7.4.3.

Authorized Commission:

"Authorized Commission" shall mean (i) a State public utility commission that regulates the distribution or supply of electricity to retail customers and is legally charged with monitoring the operation of wholesale or retail markets serving retail suppliers or customers within its State or (ii) an association or organization comprised exclusively of State public utility commissions described in the immediately preceding clause (i).

Authorized Person:

"Authorized Person" shall have the meaning set forth in Operating Agreement, section 18.17.4.

Balancing Congestion Charges:

"Balancing Congestion Charges" shall be equal to the sum of congestion charges collected from Market Participants that are purchasing energy in the Real-time Energy Market minus [the sum of congestion charges paid to Market Participants that are selling energy in the Real-time Energy Market plus any congestion charges calculated pursuant to the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 38), plus any congestion charges calculated pursuant to the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45), plus any congestion charges calculated pursuant to agreements between the Office of the Interconnection and other entities, plus any charges or credits calculated pursuant to Operating Agreement, Schedule 1, section 3.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 3.8, as applicable)].

Base Day-ahead Scheduling Reserves Requirement:

"Base Day-ahead Scheduling Reserves Requirement" shall mean the thirty-minute reserve requirement for the PJM Region established consistent with the Applicable Standards, plus any additional thirty-minute reserves scheduled in response to an RTO-wide Hot or Cold Weather Alert or other reasons for conservative operations.

Batch Load Demand Resource:

"Batch Load Demand Resource" shall mean a Demand Resource that has a cyclical production process such that at most times during the process it is consuming energy, but at consistent regular intervals, ordinarily for periods of less than ten minutes, it reduces its consumption of energy for its production processes to minimal or zero megawatts.

Behind The Meter Generation:

"Behind The Meter Generation" shall refer to a generating unit that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities has consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of the Interconnection); provided, however, that Behind The Meter Generation does not include (i) at any time, any portion of such generating unit's capacity that is designated as a Generation Capacity Resource, or (ii) in any hour, any portion of the output of such generating unit that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market.

Board Member:

"Board Member" shall mean a member of the PJM Board.

Definitions C - D

Capacity Resource:

"Capacity Resource" shall have the meaning provided in the Reliability Assurance Agreement.

Capacity Storage Resource:

"Capacity Storage Resource" shall mean any Energy Storage Resource that participates in the Reliability Pricing Model or is otherwise treated as capacity in PJM's markets such as through a Fixed Resource Requirement Capacity Plan.

Catastrophic Force Majeure:

"Catastrophic Force Majeure" shall not include any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, or Curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, unless as a consequence of any such action, event, or combination of events, either (i) all, or substantially all, of the Transmission System is unavailable, or (ii) all, or substantially all, of the interstate natural gas pipeline network, interstate rail, interstate highway or federal waterway transportation network serving the PJM Region is unavailable. The Office of the Interconnection shall determine whether an event of Catastrophic Force Majeure has occurred for purposes of this Agreement, the PJM Tariff, and the Reliability Assurance Agreement, based on an examination of available evidence. The Office of the Interconnection's determination is subject to review by the Commission.

Charge Economic Maximum Megawatts:

"Charge Economic Maximum Megawatts" shall mean the greatest magnitude of megawatt power consumption available for charging in economic dispatch by an Energy Storage Resource Model Participant in Continuous Mode or in Charge Mode. Charge Economic Maximum Megawatts shall be the Economic Minimum for an Energy Storage Resource in Charge Mode or in Continuous Mode.

Charge Economic Minimum Megawatts:

"Charge Economic Minimum Megawatts" shall mean the smallest magnitude of megawatt power consumption available for charging in economic dispatch by an Energy Storage Resource Model Participant in Charge Mode. Charge Economic Minimum Megawatts shall be the Economic Maximum for an Energy Storage Resource in Charge Mode.

Charge Mode:

"Charge Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that only includes negative megawatt quantities (i.e., the Energy Storage Resource Model Participant is only withdrawing megawatts from the grid).

Charge Ramp Rate:

"Charge Ramp Rate" shall mean the Ramping Capability of an Energy Storage Resource Model Participant in Charge Mode.

Cold/Warm/Hot Notification Time:

"Cold/Warm/Hot Notification Time" shall mean the time interval between PJM notification and the beginning of the start sequence for a generating unit that is currently in its cold/warm/hot temperature state. The start sequence may include steps such as any valve operation, starting feed water pumps, startup of auxiliary equipment, etc.

Cold/Warm/Hot Start-up Time:

For all generating units that are not combined cycle units, "Cold/Warm/Hot Start-up Time" shall mean the time interval, measured in hours, from the beginning of the start sequence to the point after generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero for a generating unit in its cold/warm/hot temperature state. For combined cycle units, "Cold/Warm/Hot Start-up Time" shall mean the time interval from the beginning of the start sequence to the point after first combustion turbine generator breaker closure in its cold/warm/hot temperature state, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero. For all generating units, the start sequence may include steps such as any valve operation, starting feed water pumps, startup of auxiliary equipment, etc. Other more detailed actions that could signal the beginning of the start sequence could include, but are not limited to, the operation of pumps, condensers, fans, water chemistry evaluations, checklists, valves, fuel systems, combustion turbines, starting engines or systems, maintaining stable fuel/air ratios, and other auxiliary equipment necessary for startup.

Cold Weather Alert:

"Cold Weather Alert" shall mean the notice that PJM provides to PJM Members, Transmission Owners, resource owners and operators, customers, and regulators to prepare personnel and facilities for expected extreme cold weather conditions.

Committed Offer:

The "Committed Offer shall mean 1) for pool-scheduled resources, an offer on which a resource was scheduled by the Office of the Interconnection for a particular clock hour for an Operating Day, and 2) for self-scheduled resources, either the offer on which the Market Seller has elected to schedule the resource or the applicable offer for the resource determined pursuant to Operating Agreement, Schedule 1, section 6.4, and the parallel provisions of Tariff, Attachment K-Appendix, section 6.4, or Operating Agreement, Schedule 1, section 6.6, and the parallel provisions of Tariff, Attachment K-Appendix, section 6.6, for a particular clock hour for an Operating Day.

Compliance Monitoring and Enforcement Program:

"Compliance Monitoring and Enforcement Program" shall mean the program to be used by the NERC and the Regional Entities to monitor, assess and enforce compliance with the NERC Reliability Standards. As part of a Compliance Monitoring and Enforcement Program, NERC and the Regional Entities may, among other things, conduct investigations, determine fault and assess monetary penalties.

Congestion Price:

"Congestion Price" shall mean the congestion component of the Locational Marginal Price, which is the effect on transmission congestion costs (whether positive or negative) associated with increasing the output of a generation resource or decreasing the consumption by a Demand Resource, based on the effect of increased generation from or consumption by the resource on transmission line loadings, calculated as specified in Operating Agreement, Schedule 1, section 2, and the parallel provisions of Tariff, Attachment K-Appendix, section 2.

Consolidated Transmission Owners Agreement, PJM Transmission Owners Agreement or Transmission Owners Agreement:

"Consolidated Transmission Owners Agreement," "PJM Transmission Owners Agreement" or Transmission Owners Agreement" shall mean that certain Consolidated Transmission Owners Agreement, dated as of December 15, 2005, by and among the Transmission Owners and by and between the Transmission Owners and PJM Interconnection, L.L.C. on file with the Commission, as amended from time to time.

Continuous Mode:

"Continuous Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that includes both negative and positive megawatt quantities (i.e., the Energy Storage Resource Model Participant is capable of continually and immediately transitioning from withdrawing megawatt quantities from the grid to injecting megawatt quantities onto the grid or injecting megawatts to withdrawing megawatts). Energy Storage Resource Model Participants operating in Continuous Mode are considered to have an unlimited ramp rate. Continuous Mode requires Discharge Economic Maximum Megawatts to be zero or correspond to an injection, and Charge Economic Maximum Megawatts to be zero or correspond to a withdrawal.

Control Area:

"Control Area" shall mean an electric power system or combination of electric power systems bounded by interconnection metering and telemetry to which a common automatic generation control scheme is applied in order to:

(a) match the power output of the generators within the electric power system(s) and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);

(b) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;

(c) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice and the criteria of NERC and each Applicable Regional Entity;

(d) maintain power flows on transmission facilities within appropriate limits to preserve reliability; and

(e) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

Control Zone:

"Control Zone" shall mean one Zone or multiple contiguous Zones, as designated in the PJM Manuals.

Coordinated External Transaction:

"Coordinated External Transaction" shall mean a transaction to simultaneously purchase and sell energy on either side of a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13 and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Coordinated Transaction Scheduling:

"Coordinated Transaction Scheduling" or "CTS" shall mean the scheduling of Coordinated External Transactions at a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Counterparty:

"Counterparty" shall mean PJMSettlement as the contracting party, in its name and own right and not as an agent, to an agreement or transaction with a Market Participant or other entities, including the agreements and transactions with customers regarding transmission service and other transactions under the PJM Tariff and this Operating Agreement. PJMSettlement shall not be a counterparty to (i) any bilateral transactions between Members, or (ii) any Member's self-supply of energy to serve its load, or (iii) any Member's self-schedule of energy reported to the extent that energy serves that Member's own load.

Credit Breach:

“Credit Breach” shall mean (a) the failure of a Participant to perform, observe, meet or comply with any requirements of Tariff, Attachment Q or other provisions of the Agreements, other than a Financial Default, or (b) a determination by PJM and notice to the Participant that a Participant represents an unreasonable credit risk to the PJM Markets; that, in either event, has not been cured or remedied after any required notice has been given and any cure period has elapsed.

CTS Enabled Interface:

“CTS Enabled Interface” shall mean an interface between the PJM Control Area and an adjacent Control Area at which the Office of the Interconnection has authorized the use of Coordinated Transaction Scheduling (“CTS”). The CTS Enabled Interfaces between the PJM Control Area and the New York Independent System Operator, Inc. Control Area shall be designated in Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45) Schedule A. The CTS Enabled Interfaces between the PJM Control Area and the Midcontinent Independent System Operator, Inc. shall be designated consistent with Joint Operating Agreement between Midcontinent Independent System Operator, Inc. and PJM Interconnection, L.L.C, Attachment 3, section 2.

CTS Interface Bid:

“CTS Interface Bid” shall mean a unified real-time bid to simultaneously purchase and sell energy on either side of a CTS Enabled Interface in accordance with the procedures of Operating Agreement, Schedule 1, section 1.13, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.13.

Curtailment Service Provider:

“Curtailment Service Provider” or “CSP” shall mean a Member or a Special Member, which action on behalf of itself or one or more other Members or non-Members, participates in the PJM Interchange Energy Market, Ancillary Services markets, and/or Reliability Pricing Model by causing a reduction in demand.

Day-ahead Congestion Price:

“Day-ahead Congestion Price” shall mean the Congestion Price resulting from the Day-ahead Energy Market.

Day-ahead Energy Market:

“Day-ahead Energy Market” shall mean the schedule of commitments for the purchase or sale of energy and payment of Transmission Congestion Charges developed by the Office of the Interconnection as a result of the offers and specifications submitted in accordance with Operating Agreement, Schedule 1, section 1.10, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.

Day-ahead Energy Market Injection Congestion Credits:

"Day-ahead Energy Market Injection Congestion Credits" shall mean those congestion credits paid to Market Participants for supply transactions in the Day-ahead Energy Market including generation schedules, Increment Offers, Up-to Congestion Transactions, import transactions,and Day-ahead Pseudo-Tie Transactions.

Day-ahead Energy Market Transmission Congestion Charges:

"Day-ahead Energy Market Transmission Congestion Charges" shall be equal to the sum of Day-ahead Energy Market Withdrawal Congestion Charges minus [the sum of Day-ahead Energy Market Injection Congestion Credits plus any congestion charges calculated pursuant to the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 38), plus any congestion charges calculated pursuant to the Joint Operating Agreement Among and Between New York Independent System Operator Inc. and PJM Interconnection, L.L.C. (PJM Rate Schedule FERC No. 45), plus any congestion charges calculated pursuant to agreements between the Office of the Interconnection and other entities, as applicable)].

Day-ahead Energy Market Withdrawal Congestion Charges:

"Day-ahead Energy Market Withdrawal Congestion Charges" shall mean those congestion charges collected from Market Participants for withdrawal transactions in the Day-ahead Energy Market from transactions including Demand Bids, Decrement Bids, Up-to Congestion Transactions, Export Transactions, and Day-ahead Pseudo-Tie Transactions.

Day-ahead Loss Price:

"Day-ahead Loss Price" shall mean the Loss Price resulting from the Day-ahead Energy Market.

Day-ahead Prices:

"Day-ahead Prices" shall mean the Locational Marginal Prices resulting from the Day-ahead Energy Market.

Day-Ahead Pseudo-Tie Transaction:

"Day-Ahead Pseudo-Tie Transaction" shall mean a transaction scheduled in the Day-ahead Energy Market to the PJM-MISO interface from a generator within the PJM balancing authority area that Pseudo-Ties into the MISO balancing authority area.

Day-ahead Scheduling Reserves:

"Day-ahead Scheduling Reserves" shall mean thirty-minute reserves as defined by the Reliability*First* Corporation and SERC.

Day-ahead Scheduling Reserves Market:

“Day-ahead Scheduling Reserves Market” shall mean the schedule of commitments for the purchase or sale of Day-ahead Scheduling Reserves developed by the Office of the Interconnection as a result of the offers and specifications submitted in accordance with Operating Agreement, Schedule 1, section 1.10, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.

Day-ahead Scheduling Reserves Requirement:

“Day-ahead Scheduling Reserves Requirement” shall mean the sum of Base Day-ahead Scheduling Reserves Requirement and Additional Day-ahead Scheduling Reserves Requirement.

Day-ahead Scheduling Reserves Resources:

“Day-ahead Scheduling Reserves Resources” shall mean synchronized and non-synchronized generation resources and Demand Resources electrically located within the PJM Region that are capable of providing Day-ahead Scheduling Reserves.

Day-ahead Settlement Interval:

“Day-ahead Settlement Interval” shall mean the interval used by settlements, which shall be every one clock hour.

Day-ahead System Energy Price:

“Day-ahead System Energy Price” shall mean the System Energy Price resulting from the Day-ahead Energy Market.

Decrement Bid:

“Decrement Bid” shall mean a type of Virtual Transaction that is a bid to purchase energy at a specified location in the Day-ahead Energy Market. A cleared Decrement Bid results in scheduled load at the specified location in the Day-ahead Energy Market.

Default Allocation Assessment:

“Default Allocation Assessment” shall mean the assessment determined pursuant to Operating Agreement, section 15.2.2.

Demand Bid:

“Demand Bid” shall mean a bid, submitted by a Load Serving Entity in the Day-ahead Energy Market, to purchase energy at its contracted load location, for a specified timeframe and megawatt quantity, that if cleared will result in energy being scheduled at the specified location in the Day-ahead Energy Market and in the physical transfer of energy during the relevant Operating Day.

Demand Bid Limit:

"Demand Bid Limit" shall mean the largest MW volume of Demand Bids that may be submitted by a Load Serving Entity for any hour of an Operating Day, as determined pursuant to Operating Agreement, Schedule 1, section 1.10.1B, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1B.

Demand Bid Screening:

"Demand Bid Screening" shall mean the process by which Demand Bids are reviewed against the applicable Demand Bid Limit, and rejected if they would exceed that limit, as determined pursuant to Operating Agreement, Schedule 1, section 1.10.1B, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.10.1B.

Demand Resource:

"Demand Resource" shall have the meaning provided in the Reliability Assurance Agreement.

Designated Entity:

"Designated Entity" shall mean an entity, including an existing Transmission Owner or Nonincumbent Developer, designated by the Office of the Interconnection with the responsibility to construct, own, operate, maintain, and finance Immediate-need Reliability Projects, Short-term Projects, Long-lead Projects, or Economic-based Enhancements or Expansions pursuant to Operating Agreement, Schedule 6, section 1.5.8.

Direct Charging Energy:

"Direct Charging Energy" shall mean the energy that an Energy Storage Resource purchases from the PJM Interchange Energy Market and (i) later resells to the PJM Interchange Energy Market; or (ii) is lost to conversion inefficiencies, provided that such inefficiencies are an unavoidable component of the conversion, storage, and discharge process that is used to resell energy back to the PJM Interchange Energy Market.

Direct Load Control:

"Direct Load Control" shall mean load reduction that is controlled directly by the Curtailment Service Provider's market operations center or its agent, in response to PJM instructions.

Discharge Economic Maximum Megawatts:

"Discharge Economic Maximum Megawatts" shall mean the maximum megawatt power output available for discharge in economic dispatch by an Energy Storage Resource Model Participant in Continuous Mode or in Discharge Mode. Discharge Economic Maximum Megawatts shall be

the Economic Maximum for an Energy Storage Resource in Discharge Mode or in Continuous Mode.

Discharge Economic Minimum Megawatts:

"Discharge Economic Minimum Megawatts" shall mean the minimum megawatt power output available for discharge in economic dispatch by an Energy Storage Resource Model Participant in Discharge Mode. Discharge Economic Minimum Megawatts shall be the Economic Minimum for an Energy Storage Resource in Discharge Mode.

Discharge Mode:

"Discharge Mode" shall mean the mode of operation of an Energy Storage Resource Model Participant that only includes positive megawatt quantities (i.e., the Energy Storage Resource Model Participant is only injecting megawatts onto the grid).

***Discharge Ramp Rate**:*

"Discharge Ramp Rate" shall mean the Ramping Capability of an Energy Storage Resource Model Participant in Discharge Mode.

Dispatch Rate:

"Dispatch Rate" shall mean the control signal, expressed in dollars per megawatt-hour, calculated and transmitted continuously and dynamically to direct the output level of all generation resources dispatched by the Office of the Interconnection in accordance with the Offer Data.

Dispatched Charging Energy:

"Dispatched Charging Energy" shall mean Direct Charging Energy that an Energy Storage Resource Model Participant receives from the electric grid pursuant to PJM dispatch while providing *one of the following* services in the PJM markets*: Energy Imbalance Service pursuant to Tariff, Schedule 4; Regulation; Tier 2 Synchronized Reserves; or Reactive Service. Energy Storage Resource Model Participants shall be considered to be providing Energy Imbalance Service when they are dispatchable by PJM in real-time.*

Dynamic Schedule:

"Dynamic Schedule" shall have the same meaning set forth in the NERC Glossary of Terms Used in NERC Reliability Standards.

Dynamic Transfer:

"Dynamic Transfer" shall mean a Pseudo-Tie or Dynamic Schedule.

Definitions M - N

M2M Flowgate:

"M2M Flowgate" shall have the meaning provided in the Joint Operating Agreement between the Midcontinent Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C.

Maintenance Adder:

"Maintenance Adder" shall mean an adder that may be included to account for variable operation and maintenance expenses in a Market Seller's Fuel Cost Policy. The Maintenance Adder is calculated in accordance with the applicable provisions of PJM Manual 15, and may only include expenses incurred as a result of electric production.

Market Buyer:

"Market Buyer" shall mean a Member that has met reasonable creditworthiness standards established by the Office of the Interconnection and/or PJMSettlement in Tariff, Attachment Q, and that is otherwise able to make purchases in the PJM Interchange Energy Market.

Market Monitoring Unit or MMU:

"Market Monitoring Unit" or "MMU" shall mean the independent Market Monitoring Unit defined in 18 CFR § 35.28(a)(7) and established under the PJM Market Monitoring Plan (Attachment M) to the PJM Tariff that is responsible for implementing the Market Monitoring Plan, including the Market Monitor. The Market Monitoring Unit may also be referred to as the IMM or Independent Market Monitor for PJM.

Market Operations Center:

"Market Operations Center" shall mean the equipment, facilities and personnel used by or on behalf of a Market Participant to communicate and coordinate with the Office of the Interconnection in connection with transactions in the PJM Interchange Energy Market or the operation of the PJM Region.

Market Participant:

"Market Participant" shall mean a Market Buyer, a Market Seller, and/or an Economic Load Response Participant, except when that term is used in or pertaining to Tariff, Attachment M, Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4. "Market Participant," when such term is used in Tariff, Attachment M, shall mean an entity that generates, transmits, distributes, purchases, or sells electricity, ancillary services, or any other product or service provided under the PJM Tariff or Operating Agreement within, into, out of, or through the PJM Region, but it shall not include an Authorized Government Agency that consumes energy for its own use but does not purchase or sell energy at wholesale. “Market Participant,” when such term is used in or pertaining to Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4, shall mean a Market Buyer, a Market Seller, an Economic Load Response Participant, an FTR Participant, a Capacity Market Buyer, or a Capacity Market Seller.

Market Participant Energy Injection:

“Market Participant Energy Injection” shall mean transactions in the Day-ahead Energy Market and Real-time Energy Market, including but not limited to Day-ahead generation schedules, real-time generation output, Increment Offers, internal bilateral transactions and import transactions, as further described in the PJM Manuals.

Market Participant Energy Withdrawal:

“Market Participant Energy Withdrawal” shall mean transactions in the Day-ahead Energy Market and Real-time Energy Market, including but not limited to Demand Bids, Decrement Bids, real-time load (net of Behind The Meter Generation expected to be operating, but not to be less than zero), internal bilateral transactions and Export Transactions, as further described in the PJM Manuals.

Market Seller:

“Market Seller” shall mean a Member that has met reasonable creditworthiness standards established by the Office of the Interconnection and/or PJMSettlement in Tariff, Attachment Q, and that is otherwise able to make sales in the PJM Interchange Energy Market.

Maximum Emergency:

“Maximum Emergency” shall mean the designation of all or part of the output of a generating unit for which the designated output levels may require extraordinary procedures and therefore are available to the Office of the Interconnection only when the Office of the Interconnection declares a Maximum Generation Emergency and requests generation designated as Maximum Emergency to run. The Office of the Interconnection shall post on the PJM website the aggregate amount of megawatts that are classified as Maximum Emergency.

Maximum Generation Emergency:

“Maximum Generation Emergency” shall mean an Emergency declared by the Office of the Interconnection to address either a generation or transmission emergency in which the Office of the Interconnection anticipates requesting one or more Generation Capacity Resources, or Non-Retail Behind The Meter Generation resources to operate at its maximum net or gross electrical power output, subject to the equipment stress limits for such Generation Capacity Resource or Non-Retail Behind The Meter resource in order to manage, alleviate, or end the Emergency.

Maximum Daily Starts:

“Maximum Daily Starts” shall mean the maximum number of times that a generating unit can be started in an Operating Day under normal operating conditions.

Maximum Generation Emergency Alert:

“Maximum Generation Emergency Alert” shall mean an alert issued by the Office of the Interconnection to notify PJM Members, Transmission Owners, resource owners and operators, customers, and regulators that a Maximum Generation Emergency may be declared, for any Operating Day in either, as applicable, the Day-ahead Energy Market or the Real-time Energy Market, for all or any part of such Operating Day.

Maximum Run Time:

“Maximum Run Time” shall mean the maximum number of hours a generating unit can run over the course of an Operating Day, as measured by PJM’s State Estimator.

Maximum Weekly Starts:

“Maximum Weekly Starts” shall mean the maximum number of times that a generating unit can be started in one week, defined as the 168 hour period starting Monday 0001 hour, under normal operating conditions.

Member:

“Member” shall mean an entity that satisfies the requirements of Operating Agreement, section 11.6 and that (i) is a member of the LLC immediately prior to the Effective Date, or (ii) has executed an Additional Member Agreement in the form set forth in Operating Agreement, Schedule 4.

Members Committee:

“Members Committee” shall mean the committee specified in Operating Agreement, section 8, composed of representatives of all the Members.

Minimum Generation Emergency:

“Minimum Generation Emergency” shall mean an Emergency declared by the Office of the Interconnection in which the Office of the Interconnection anticipates requesting one or more generating resources to operate at or below Normal Minimum Generation, in order to manage, alleviate, or end the Emergency.

Minimum Down Time:

For all generating units that are not combined cycle units, “Minimum Down Time” shall mean the minimum number of hours under normal operating conditions between unit shutdown and

unit startup, calculated as the shortest time difference between the unit's generator breaker opening and after the unit's generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero. For combined cycle units, "Minimum Down Time" shall mean the minimum number of hours between the last generator breaker opening and after first combustion turbine generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero.

Minimum Run Time:

For all generating units that are not combined cycle units, "Minimum Run Time" shall mean the minimum number of hours a unit must run, in real-time operations, from the time after generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero, to the time of generator breaker opening, as measured by PJM's State Estimator. For combined cycle units, "Minimum Run Time" shall mean the time period after the first combustion turbine generator breaker closure, which is typically indicated by telemetered or aggregated State Estimator megawatts greater than zero, and the last generator breaker opening as measured by PJM's State Estimator.

MISO:

"MISO" shall mean the Midcontinent Independent System Operator, Inc. or any successor thereto.

Multi-Driver Project:

"Multi-Driver Project" shall mean a transmission enhancement or expansion that addresses more than one of the following: reliability violations, economic constraints or State Agreement Approach initiatives.

NERC:

"NERC" shall mean the North American Electric Reliability Corporation, or any successor thereto.

NERC Functional Model:

"NERC Functional Model" shall be the set of functions that must be performed to ensure the reliability of the electric bulk power system. The NERC Reliability Standards establish the requirements of the responsible entities that perform the functions defined in the Functional Model.

NERC Interchange Distribution Calculator:

"NERC Interchange Distribution Calculator" shall mean the NERC mechanism that is in effect and being used to calculate the distribution of energy, over specific transmission interfaces, from energy transactions.

NERC Reliability Standards:

"NERC Reliability Standards" shall mean those standards that have been developed by NERC and approved by FERC to ensure the reliability of the electric bulk power system.

NERC Rules of Procedure:"NERC Rules of Procedure" shall be the rules and procedures developed by NERC and approved by the FERC. These rules include the process by which a responsible entity, who is to perform a set of functions to ensure the reliability of the electric bulk power system, must register as the Registered Entity.

Net Benefits Test:

"Net Benefits Test" shall mean a calculation to determine whether the benefits of a reduction in price resulting from the dispatch of Economic Load Response exceeds the cost to other loads resulting from the billing unit effects of the load reduction, as specified in Operating Agreement, Schedule 1, section 3.3A.4 and the parallel provisions of Tariff, Attachment K-Appendix, section 3.3A.4.

Network Resource:

"Network Resource" shall have the meaning specified in the PJM Tariff.

Network Service User:

"Network Service User" shall mean an entity using Network Transmission Service.

Network Transmission Service:

"Network Transmission Service" shall mean transmission service provided pursuant to the rates, terms and conditions set forth in Tariff, Part III, or transmission service comparable to such service that is provided to a Load Serving Entity that is also a Transmission Owner.

New York ISO or NYISO:

"New York ISO" or "NYISO" shall mean the New York Independent System Operator, Inc. or any successor thereto.

No-load Cost:

"No-load Cost" shall mean the hourly cost required to create the starting point of a monotonically increasing incremental offer curve for a generating unit.

Non-Disclosure Agreement:

"Non-Disclosure Agreement" shall mean an agreement between an Authorized Person and the Office of the Interconnection, pursuant to Operating Agreement, section, the form of which is appended to this Agreement as Operating Agreement, Schedule 10, wherein the Authorized Person is given access to otherwise restricted confidential information, for the benefit of their respective Authorized Commission.

Non-Dispatched Charging Energy:

"Non-Dispatched Charging Energy" shall mean all Direct Charging Energy that an Energy Storage Resource Model Participant receives from the electric grid that is not otherwise Dispatched Charging Energy.

Nonincumbent Developer:

"Nonincumbent Developer" shall mean: (1) a transmission developer that does not have an existing Zone in the PJM Region as set forth in Tariff, Attachment J; or (2) a Transmission Owner that proposes a transmission project outside of its existing Zone in the PJM Region as set forth in Tariff, Attachment J.

Non-Regulatory Opportunity Cost:

"Non-Regulatory Opportunity Cost" shall mean the difference between (a) the forecasted cost to operate a specific generating unit when the unit only has a limited number of starts or available run hours resulting from (i) the physical equipment limitations of the unit, for up to one year, due to original equipment manufacturer recommendations or insurance carrier restrictions, (ii) a fuel supply limitation, for up to one year, resulting from an event of Catastrophic Force Majeure; and, (b) the forecasted future Locational Marginal Price at which the generating unit could run while not violating such limitations. Non-Regulatory Opportunity Cost therefore is the value associated with a specific generating unit's lost opportunity to produce energy during a higher valued period of time occurring within the same period of time in which the unit is bound by the referenced restrictions, and is reflected in the rules set forth in PJM Manual 15. Non-Regulatory Opportunity Costs shall be limited to those resources which are specifically delineated in Operating Agreement, Schedule 2.

Non-Retail Behind The Meter Generation:

"Non-Retail Behind The Meter Generation" shall mean Behind the Meter Generation that is used by municipal electric systems, electric cooperatives, and electric distribution companies to serve load.

Non-Synchronized Reserve:

"Non-Synchronized Reserve" shall mean the reserve capability of non-emergency generation resources that can be converted fully into energy within ten minutes of a request from the Office of the Interconnection dispatcher, and is provided by equipment that is not electrically synchronized to the Transmission System.

Non-Synchronized Reserve Event:

"Non-Synchronized Reserve Event" shall mean a request from the Office of the Interconnection to generation resources able and assigned to provide Non-Synchronized Reserve in one or more specified Reserve Zones or Reserve Sub-zones, within ten minutes to increase the energy output by the amount of assigned Non-Synchronized Reserve capability.

Non-Variable Loads:

"Non-Variable Loads" shall have the meaning specified in Operating Agreement, Schedule 1, section 1.5A.6, and the parallel provisions of Tariff, Attachment K-Appendix, 1.5A.6.

Normal Maximum Generation:

"Normal Maximum Generation" shall mean the highest output level of a generating resource under normal operating conditions.

Normal Minimum Generation:

"Normal Minimum Generation" shall mean the lowest output level of a generating resource under normal operating conditions.

11.6 Membership Requirements.

(a) To qualify as a Member, an Applicant shall:

(i) Be a Transmission Owner, a Generation Owner, an Other Supplier, an Electric Distributor, or an End-Use Customer;

(ii) Accept the obligations set forth in this Agreement;

(iii) Cure any default, including but not limited to paying all outstanding and unpaid obligations due to PJM and/or PJMSettlement by any former Member that is an Affiliate of the Applicant, if any, as required by PJM and/or PJMSettlement based on its evaluation of the membership application; and

(iv) Cure any default, including but not limited to paying all outstanding and unpaid obligations due to PJM and/or PJMSettlement by any former Member, and for which Applicant should be treated as the same Member that experienced the outstanding default, pursuant to the factors identified in Operating Agreement, Schedule 1, section 1.4.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.4.8, if any, as required by PJM and/or PJMSettlement based on its evaluation of the membership application.

(b) Certain Members that are Load Serving Entities are parties to the Reliability Assurance Agreement. Upon becoming a Member, any Applicant that is a Load Serving Entity in the PJM Region and that wishes to become a Market Buyer shall also simultaneously execute the Reliability Assurance Agreement.

(c) An Applicant that wishes to become a PJM Member and party to this Agreement shall apply, in writing, to the President of PJM setting forth its request, its qualifications for membership, its agreement to supply data and information as specified in this Agreement and any additional data or information reasonably requested by PJM and/or PJMSettlement, its agreement to pay all costs and expenses in accordance with Operating Agreement, Schedule 3, and providing all additional information specified pursuant to the Agreements for entities that wish to become Market Participants. Among other things, PJM will evaluate the application to determine whether the entity seeking to become a Member (i) is qualified for membership, (ii) satisfies the requirements for participation in one of the sectors in accordance with Operating Agreement, section 8.1, and/or (iii) presents any unreasonable, inherent or material risks to PJM, including but not limited to unreasonable credit risk pursuant to Tariff, Attachment Q that cannot be cured by posting Collateral or credit support commensurate with the risk of the anticipated market activity of the Applicant to the PJM Markets and PJM Members. Such review shall include an examination of whether the Applicant should be treated as a former Member that experienced an outstanding default in PJM, including but not limited to the interconnectedness of the business relationships, overlap in relevant personnel, similarity of business activities, overlap of customer base, and the business engaged in prior to the attempted re-entry, and other relevant factors. PJM and PJMSettlement will review applications to determine whether they satisfy applicable requirements. The determination whether an application for membership is approved shall be made within ninety (90) days after receipt of all documentation and information required by the Agreements and/or requested by PJM and/or PJMSettlement in the consideration of the application for membership. If an application for membership is not approved by the President of PJM, the Applicant will be provided a written notice explaining the basis for non-approval. An Applicant may appeal the non-approval of its application for membership to the Federal Energy Regulatory Commission.

(d) Nothing in Operating Agreement, section 11 is intended to remove, in any respect, the choice of participation by other utility companies or organizations in the operation of the PJM Region through inclusion in the System of a Member.

(e) An Applicant whose application is accepted by the President of PJM pursuant to section 11.6(c) above shall execute a supplement to this Agreement in substantially the form prescribed in Operating Agreement, Schedule 4, which supplement shall be countersigned by the President of PJM or the President's authorized designee. The Applicant shall become a Member effective on the date the supplement is countersigned by the President of PJM or the President's authorized designee.

(f) Applicants whose applications contemplate expansion or rearrangement of the PJM Region may become Members promptly as described in sections 11.6(c) and 11.6(e) above, but the integration of the Applicant's system into all of the operation and accounting provisions of the Agreements, shall occur only after completion of all required installations and modifications of metering, communications, computer programming, and other necessary and appropriate facilities and procedures, as determined by the Office of the Interconnection. The Office of the Interconnection shall notify the other Members when such integration has occurred.

(g) Applicants that become Members will be listed in Operating Agreement, Schedule 12.

(h) In accordance with this Agreement, Members agree that PJMSettlement shall be the Counterparty with respect to certain transactions under the PJM Tariff and this Agreement.

15.1 Failure to Meet Obligations.

15.1.1 Suspension and Termination of Market Participant Rights.

PJM may limit, suspend or terminate a Market Participant's right to participate in any PJM Market if it determines that the Market Participant does not continue to meet the obligations set forth in any of the Agreements, including but not limited to the obligation to be in compliance with the terms, or operating characteristics of any of its prior scheduled transactions in any market operated by PJM, the creditworthiness requirements set forth in Tariff, Attachment Q and/or the obligation to make timely payment, provided that PJM and/or PJMSettlement has notified the Market Participant of any such deficiency and afforded the Market Participant a reasonable opportunity to cure pursuant to section 15.1.3 below, or Tariff, Attachment Q, as applicable. PJM shall reinstate a Market Participant's right to participate in any PJM Market upon a determination by PJM and/or PJMSettlement that the Market Participant has satisfied the applicable requirements and is in compliance with the obligations set forth in the Agreements.

15.1.2 [Reserved for Future Use]

15.1.3 Payment of Bills.

Members and Participants shall make full and timely payment, in accordance with the terms specified by PJM, of all bills rendered in connection with or arising under or from any of the Agreements, any service or rate schedule, any tariff, or any services performed by PJM or transactions with PJMSettlement, notwithstanding any disputed amount, but any such payment shall not be deemed a waiver of any right with respect to such dispute. Any Member or Participant that fails to make full and timely payment to PJMSettlement (of amounts owed either directly to PJMSettlement or PJMSettlement as agent for PJM) or otherwise fails to meet its financial or other obligations to a Member, PJMSettlement, or PJM under any of the Agreements, shall, in addition to any requirement set forth in Operating Agreement, section 15.1 and upon expiration of the cure period specified below, be in default.

15.1.4 Breach Notification and Remedy

If PJM or PJMSettlement concludes, upon its own initiative or the recommendation of or complaint by the Members Committee or any Member, that a Member or Participant is in breach of any of its obligation under any of the Agreements, including, but not limited to, the obligation to make timely payment and the obligation to meet PJM's creditworthiness standards and to otherwise comply with PJM's credit policies, PJM and/or PJMSettlement shall so notify such Member or Participant. The notified Member or Participant may remedy such asserted breach by: (i) paying all amounts assertedly due, along with interest on such amounts calculated in accordance with the methodology specified for interest on refunds in FERC's regulations at 18 C.F.R. § 35.19a(a)(2)(iii); and (ii) demonstration to the satisfaction of PJM and/or PJMSettlement that the Member or Participant has taken appropriate measures to meet any other obligation of which it was deemed to be in breach; provided, however, that any such payment or demonstration may be subject to a reservation of rights, if any, to subject such matter to the PJM Dispute Resolution Procedures; and provided, further, that any such determination by PJM and/or PJMSettlement may be subject to review by the PJM Board upon request of the Member or Participant involved or PJM and/or PJMSettlement.

15.1.5 Default Notification and Remedy

If a Member or Participant has not remedied a breach, as described in section 15.1.4 above, by 4:00 p.m. Eastern Prevailing Time on the first Business Day following PJM's or PJMSettlement's issuance of a written notice of breach or Collateral Call, the notice of which is issued before 1:00 p.m. Eastern Prevailing Time, or by 4:00 p.m. Eastern Prevailing Time on the second Business Day following PJM's or PJMSettlement's issuance to the Member or Participant of a written notice of breach or Collateral Call, the notice of which is issued at or after 1:00 p.m. Eastern Prevailing Time, or receipt of the PJM Board's decision on review, if applicable, then the Member or Participant shall be in default and, in addition to such other remedies as may be available to PJM or PJMSettlement:

i) A defaulting Market Participant shall be precluded from buying or selling in any market operated by PJM until the default is remedied as set forth above;

ii) A defaulting Member shall not be entitled to participate in the activities of any committee or other body established by the Members Committee or PJM; and

iii) A defaulting Member shall not be entitled to vote on the Members Committee or any other committee or other body established pursuant to this Agreement.

iv) PJM shall notify all other Members of the default.

15.1.6 Reinstatement of Member Following Default and Remedy

a. A Member that has been declared in default, solely of PJM's creditworthiness standards, or fails to otherwise comply with PJM's credit policies as more fully described in Tariff, Attachment Q, once within any 12 month period may be reinstated in full after remedying such default and satisfying any requirements imposed upon the Member as a result of the default.

b. A Member that has been declared in default of any of the Agreements for failing to: (i) make timely payments when due once during any prior 12 month period, or (ii) adhere to PJM's creditworthiness standards and credit policies, twice during any prior 12 month period, may be subject to the following restrictions:

a) Loss of stakeholder privileges, including voting privileges, for 12 months following such default; and

b) Loss of the allowance of unsecured credit for 12 months following such default

c. A Member that has been declared in default of this Agreement for failing to: (i) make timely payments when due twice during any prior 12 month period, or (ii) adhere to PJM's creditworthiness standards and credit policies, three times during any prior 12 month period, shall, except as provided for in section 15.1.6(d) below, not be eligible to be reinstated as a Member to this Agreement and its membership rights pursuant to this Agreement shall be terminated in accordance with Operating Agreement, section 4.1(c), notwithstanding whether such default has been remedied. Furthermore:

a) PJMSettlement shall close out and liquidate all of the Member's current and forward positions in accordance with the provisions of this Agreement and the PJM Tariff; and

b) A Member terminated in accordance with these provisions shall be precluded from seeking future membership in PJM under this Agreement whether in the name of the Member when it was terminated from PJM membership or as a new Applicant under a different name, affiliation, or organization if the Member or new Applicant experienced a previous default that resulted in a loss to the PJM Markets and was terminated from membership. Whether an Applicant should be considered the same as a Member that previously defaulted will be determined based on the factors identified in Operating Agreement, Schedule 1, section 1.4.8, and the parallel provisions of Tariff, Attachment K-Appendix, section 1.4.8.

d. A Member may appeal a determination made pursuant to the foregoing procedures utilizing PJM's Dispute Resolution Procedures as set forth in Operating Agreement, Schedule 5, (provided, however, that a Member's decision to utilize these procedures shall not operate to stay the ability of PJM to exercise any and all of its rights under this Agreement and the PJM Tariff) and may be reinstated provided that the Member can demonstrate the following:

a) that it has otherwise consistently complied with its obligations under this Agreement and the PJM Tariff; and

b) the failure to comply was not material; and

c) the failure to comply was due in large part to conditions that were not in the common course of business.

15.2 Enforcement of Obligations.

If PJM sends a notice to the PJM Board that a Member has failed to perform an obligation under any of the Agreements, the PJM Board, on behalf of PJM and PJMSettlement, shall initiate such action against such Member to enforce such obligation as the PJM Board shall deem appropriate. Subject to the procedures specified in section 15.1 above, a Member's failure to perform such obligation shall be deemed to be a default under this Agreement. In order to remedy a default, but without limiting any rights PJM or PJMSettlement may have against the defaulting Member, the PJM Board may assess against, and collect from, the Members not in default, in proportion to their Default Allocation Assessment, an amount equal to the amount that the defaulting Member has failed to pay to PJMSettlement or PJM (less amounts covered by Collateral, held by PJMSettlement, on behalf of itself and as agent for PJM, or indemnifications paid to PJM or PJMSettlement), along with appropriate interest. Such assessment shall in no way relieve the defaulting Member of its obligations. In addition to any amounts in default, the defaulting Member shall be liable to PJM and PJMSettlement for all reasonable costs incurred in enforcing the defaulting Member's obligations.

15.2.1 Collection by PJM.

PJM and PJMSettlement are authorized to pursue collection through such actions, legal or otherwise, as it reasonably deems appropriate, including but not limited to the prosecution of legal actions and assertion of claims on behalf of the affected Members in the state and federal courts as well as under the United States Bankruptcy Code. Prior to initiating formal legal action in state or federal court to pursue collection, PJM and PJMSettlement shall provide to the Members Committee an explanation of its intended action. Upon the duly seconded motion of any Member, the Members Committee may conduct a vote to afford PJM and PJMSettlement a sense of the membership as regards to PJM's or PJMSettlement's intended action to pursue collection. PJM and PJMSettlement shall consider any such vote before initiating formal legal action and at all times during the course of any collection effort evaluate the expected benefits in pursuing such effort in light of any changed circumstances. After deducting the costs of collection, any amounts recovered by PJM and PJMSettlement shall be distributed to the Members who have paid their Default Allocation Assessment in proportion to the Default Allocation Assessment paid by each Member.

15.2.2 Default Allocation Assessment.

(a) "Default Allocation Assessment" shall be equal to (0.1(1/N) + 0.9(A/Z)), where:

N = the total number of Members, calculated as of five o'clock p.m. eastern prevailing time on the date PJM declares a Member in default, excluding ex officio Members, State Consumer Advocates, Emergency and Economic Load Response Program Special Members, and municipal electric system Members that have been granted a waiver under Operating Agreement, section 17.2.

A = for Members comprising factor "N" above, the Member's gross activity as determined by summing the absolute values of the charges and credits for each of the Activity

Line Items identified in section 15.2.2(b) below as accounted for and billed pursuant to Operating Agreement, Schedule 1, section 3 for the month of default and the two previous months.

Z = the sum of factor A for all Members excluding ex officio Members, State Consumer Advocates, Emergency and Economic Load Response Program Special Members, and municipal electric system Members that have been granted a waiver under Operating Agreement, section 17.2.

The assessment value of (0.1(1/N)) shall not exceed $10,000 per Member per calendar year, cumulative of all defaults, or more than once per Member default if Default Allocation Assessment charges for a single Member default span multiple calendar years. For this purpose, a default by an individual Member that spans multiple billing periods without cure shall be considered a single default. If one or more defaults arise that cause the value to exceed $10,000 per Member, then the excess shall be reallocated through the gross activity factor.

(b) Activity Line Items shall be each of the line items on the PJM monthly bills net of load reconciliation adjustments and adjustments applicable to activity for the current billing month appearing on the same bill.

15.3 Obligations to a Member or Participant in Default.

The Members have no continuing obligation to provide the benefits of interconnected operations to a Member or Participant in default.

15.4 Obligations of a Member or Participant in Default.

A Member or Participant found to be in default shall take all possible measures to mitigate the continued impact of the default on the Members not in default, including, but not limited to, loading its own generation to supply its own load to the maximum extent possible.

15.5 No Implied Waiver.

A failure of a Member, the PJM Board, PJMSettlement, or PJM to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such entity's right to assert or rely upon any such provisions, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.

15.6 Limitation on Claims.

No adjustment in the billing for any service, transaction, or charge under this Agreement may be asserted by PJM, PJMSettlement, or any Member or Participant with respect to a month, if more than two years has elapsed since the first date upon which the billing for that month occurred. PJMSettlement, on behalf of itself or as agent for PJM, may make no adjustment to a Member's or Participant's bill with respect to a month for any service, transaction, or charge under this Agreement, if more than two years have elapsed since the first date upon which the billing for that month occurred, unless 1) a claim made by a Member or Participant in writing and addressed to the President of PJMSettlement seeking such adjustment has been received by PJMSettlement prior thereto or 2) PJM and/or PJMSettlement have notified the Member or Participant in writing of the need to make such an adjustment prior thereto.

1.4 Market Participant.

1.4.1 Qualification.

(a) To become a Market Participant, an Applicant shall submit an application to the Office of the Interconnection, in such form as shall be established by the Office of the Interconnection, and such further information detailed in Tariff, Attachment Q.

(b) An Applicant that is a Load Serving Entity or that will purchase on behalf of or for ultimate delivery to a Load Serving Entity shall establish to the satisfaction of the Office of the Interconnection that the end-users that will be served through energy and related services purchased in the PJM Interchange Energy Market, are located electrically within the PJM Region, or will be brought within the PJM Region prior to any purchases from the PJM Interchange Energy Market. Such Applicant shall further demonstrate that:

i) The Load Serving Entity for the end users is obligated to meet the requirements of the Reliability Assurance Agreement, as applicable; and

ii) The Load Serving Entity for the end users has arrangements in place for Network Transmission Service or Point-To-Point Transmission Service for all PJM Interchange Energy Market purchases.

(c) An Applicant that is not a Load Serving Entity or purchasing on behalf of or for ultimate delivery to a Load Serving Entity shall demonstrate that:

i) The Applicant has obtained or will obtain Network Transmission Service or Point-to-Point Transmission Service for all PJM Interchange Energy Market purchases; and

ii) The Applicant's PJM Interchange Energy Market purchases will ultimately be delivered to a load in another Control Area that is recognized by NERC and that complies with NERC's standards for operating and planning reliable bulk electric systems.

(d) An Applicant shall not be required to obtain transmission service for purchases from the PJM Interchange Energy Market to cover quantity deviations from its sales in the Day-ahead Energy Market.

(e) An Applicant applying to become a Market Participant shall demonstrate that it:

i) is capable of complying with all applicable metering, data storage and transmission, and other reliability, operation, planning and accounting standards and requirements for the operation of the PJM Region and the PJM Markets, as applicable;

ii) meets the creditworthiness standards established by the Office of the

Interconnection and/or PJMSettlement, or has provided cash or a Credit Support Document acceptable to the Office of the Interconnection and/or PJMSettlement; and

iii) has paid all applicable fees and reimbursed the Office of the Interconnection and/or PJMSettlement for all unusual or extraordinary costs of processing and evaluating its application to become a Market Participant, and has agreed in its application to subject any disputes arising from its application to the PJM Dispute Resolution Procedures.

(f) The Applicant shall become a Market Participant upon a final favorable determination on its application by the Office of the Interconnection as specified below, which determination shall be made by the Office of the Interconnection in conjunction with input from PJMSettlement, and execution by the Applicant of counterparts of this Agreement.

1.4.2 Submission of Information.

The Applicant shall furnish all information reasonably requested by the Office of the Interconnection and/or PJMSettlement in order to determine the Applicant's qualification to be a Market Participant and whether the entity should be allowed to remain a Market Participant. The Office of the Interconnection and/or PJMSettlement may waive the submission of information relating to any of the foregoing criteria, to the extent the information in the Office of the Interconnection's and/or PJMSettlement's possession is sufficient to evaluate the application against such criteria.

1.4.3 Fees and Costs.

The Office of the Interconnection shall require all Applicants seeking to become a Market Participant to pay a uniform application fee, initially in the amount of $2,000, to defray the ordinary costs of processing such applications. The application fee shall be revised from time to time as the Office of the Interconnection shall determine to be necessary to recover its ordinary costs of processing applications. Any unusual or extraordinary costs incurred by the Office of the Interconnection in processing an application shall be reimbursed by the Applicant.

1.4.4 Office of the Interconnection Determination.

Upon submission of the information specified above, and such other information as shall reasonably be requested by the Office of the Interconnection and/or PJMSettlement, the Office of the Interconnection and/or PJMSettlement shall undertake an evaluation to determine whether the Applicant meets the criteria specified above, and in accordance with Tariff, Attachment Q.

As soon as practicable, but in any event not later than sixty (60) calendar days after submission of the foregoing information, or such later date as may be necessary to satisfy the requirements of the Agreements, the Office of the Interconnection shall notify the Applicant and the Members Committee of its determination, along with a written summary of the basis for the determination, and whether there are any actions the Applicant can take that might cause the Office of the

Interconnection to change its determination, including but not limited to providing even further supplemental information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes. The Office of the Interconnection and/or PJMSettlement shall respond promptly to any reasonable and timely request by an Applicant or a Member for additional information regarding the basis for the Office of the Interconnection's determination, and shall take such action as it shall deem appropriate in response to any request for reconsideration or other action submitted to the Office of the Interconnection not later than thirty (30) calendar days from the initial notification to the Members Committee. Notifications to the Members Committee shall be in compliance with Operating Agreement, section 18.17.1.

1.4.5 Existing Participants.

A Member that was previously qualified to participate as a Market Participant shall not automatically continue to be qualified to participate as a Market Participant under the Agreements. Rather, in order to retain its eligibility to continue to participate as a Market Participant in the PJM Markets, a Market Participant shall be subject to the requirements and ongoing risk evaluation in accordance with Tariff, Attachment Q.

1.4.6 Withdrawal.

(a) An Internal Market Buyer that is a Load Serving Entity may withdraw from this Agreement by giving written notice to the Office of the Interconnection specifying an effective date of withdrawal not earlier than the effective date of (i) its withdrawal from the Reliability Assurance Agreement, or (ii) the assumption of its obligations under the Reliability Assurance Agreement by an agent that is a Market Buyer.

(b) An External Market Buyer or an Internal Market Buyer that is not a Load Serving Entity may withdraw from this Agreement by giving written notice to the Office of the Interconnection specifying an effective date of withdrawal at least one day after the date of the notice.

(c) Withdrawal from this Agreement shall not relieve a Market Participant of any obligation to pay for electric energy or related services purchased from the PJM Markets prior to such withdrawal, to pay its share of any fees and charges incurred or assessed by the Office of the Interconnection and/or PJMSettlement prior to the date of such withdrawal, maintain and/or provide sufficient credit support until all of its transactions in the PJM Markets have been satisfied, or to fulfill any obligation to provide indemnification for the consequences of acts, omissions or events occurring prior to such withdrawal; and provided, further, that withdrawal from this Agreement shall not relieve any Market Participant of any obligations it may have under, or constitute withdrawal from, any other Related PJM Agreement.

(d) A Market Participant that has withdrawn from this Agreement may reapply to become a Market Participant in accordance with the provisions of this section 1.4, provided it is not in default of any obligation incurred under the Agreements.

1.4.7 Limitation, Suspension, and Termination.

The Office of the Interconnection requires that Market Participants certify and provide information required and requested by the Office of the Interconnection and/or PJMSettlement at least annually as indicated in section 1.4.1, 1.4.2 and 1.4.4 above and Tariff, Attachment Q. If the Office of the Interconnection determines that the entity no longer satisfies its requirements to be a Market Participant, the Office of the Interconnection may limit and/or suspend that entity's activity in the PJM Markets until such time as it can satisfy the requirements, and if the requirements are not satisfied the Office of the Interconnection may terminate that entity's approval to be a Market Participant. As soon as practicable, the Office of the Interconnection shall notify the entity and the Members Committee of its determination, along with a written summary of the basis for the determination, and whether there are any actions the entity can take that might cause the Office of the Interconnection to change its determination, including but not limited to providing even further additional information, providing additional Restricted Collateral, the discontinuance of certain behaviors, implementing additional monitoring, and implementing of process or policy changes. The Office of the Interconnection shall respond promptly to any reasonable and timely request by a Member for additional information regarding the basis for the Office of the Interconnection's determination, and shall take such action as it shall deem appropriate in response to any request for reconsideration or other action submitted to the Office of the Interconnection not later than thirty (30) calendar days from the initial notification to the Members Committee. Notifications to the Members Committee shall be in compliance with Operating Agreement, section 18.17.1.

1.4.8. Re-entry of Defaulting Market Participant.

An Applicant who previously defaulted on any obligations owed to PJM and/or PJMSettlement that resulted in a loss to any PJM Market which was never cured, or who is not eligible for reinstatement to PJM membership pursuant to Operating Agreement, section 15.1, shall not be allowed to re-enter the PJM Markets. In addition, PJM will evaluate relevant factors to determine if an Applicant seeking to participate in the PJM Markets under a different name, affiliation, or organization should be treated as the same Market Participant that experienced a previous default that resulted in a loss to the PJM Markets under this provision. Such factors may include, but are not limited to, the interconnectedness of the business relationships, overlap in relevant personnel, similarity of business activities, overlap of customer base, and the business engaged in prior to the attempted re-entry.

Attachment E

Affidavit of Mr. Steven Dreyer
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. ER20-_____-000**
	)	

AFFIDAVIT OF
STEVEN DREYER
ON BEHALF OF PJM INTERCONNECTION, L.L.C.

1. My name is Steven Dreyer. I am the Founder of Ostrich Advisors, LLC. My business address is 316 South Fayette Street, Alexandria, VA 22314. I am submitting this affidavit in support of the proposal by PJM Interconnection, L.L.C. ("PJM") to update its credit risk evaluation process. In particular, my affidavit addresses why it is appropriate and proper for PJM to keep its internal credit score model proprietary and confidential.

2. I am a consultant providing credit-related advisory services drawing on my experience as a credit and financial analyst for nearly 40 years. In addition to working with PJM, I am currently advising a major insurance industry trade association on financial and economic matters, and I participate in the Financial Working Group of the Electric Infrastructure Security Council. I also serve as head of North American Business Development for SwissThink SAS, which provides credit-related consulting and training services.

   Among various roles at S&P Global Ratings over a 27-year career there, I was practice leader for North American Insurance Ratings, lead analytical manager for U.S. Utility & Infrastructure Ratings, and head of Investor Communications for the Americas. In 2018, I served as Director of the Federal Insurance Office in the U.S. Treasury. Among publications I have authored or co-authored are:

   - "Factors in Credit Scoring for PJM Markets," PJM Interconnection, L.L.C., 2019;
   - "Methodology: Management and Governance Credit Factors for Corporate Entities and Insurers," S&P Global RatingsDirect, 2012;
   - "Integrating Enterprise Risk Management Analysis into Corporate Credit Ratings," S&P Global RatingsDirect, 2009;
   - "Using Statistics to Measure Insurer Financial Strength," Journal of the American Society of CLU & ChFC, 1993; and
   - "A Solvency Model for Evaluation of International Reinsurance Companies," Anglo/American Insurance Scholarship Foundation, 1986.

   A full list of publications is included with my CV in Exhibit No. 1 to this affidavit.

3. PJM retained me in October 2019 to help review their counterparty credit analysis and scoring processes, and to develop a new internal credit score that takes industry-specific risks into account. In the course of this work, I developed several scoring models that employ financial ratio analysis and judgement-based factors to generate a score representing an estimate of an entity's relative risk of default.

4. I participated in stakeholder meetings of PJM's Financial Risk Mitigation Senior Task Force, including two at which I presented: "Credit Analysis Overview" on October 18, 2019,[1] and "Recommended Credit Review Process" on November 21, 2019.[2] These presentations emphasized the importance of both quantitative and qualitative factors in credit analysis.

5. Since the 2008 financial crisis, multidimensional credit scorecards and internal ratings based on quantitative and qualitative factors have become much more common in evaluating an entity's credit risk. Consistent with industry best practices, PJM needs to develop and maintain an internal credit score model. For such model to yield robust and credible results, the methodology must be kept proprietary and confidential for the following reasons.

A. *The Methodology's Qualitative Elements Cannot Be Reduced to a Formula or Recipe.*

6. Credit evaluations are predictions about an entity's future solvency generated by analyzing historical facts and forming projections of financial condition based on those facts and market knowledge. Historical financial data alone is insufficient on which to base a credible credit evaluation; qualitative judgement is required to make projections.

7. PJM's internal credit scores are meant to supplement and be generally consistent with credit ratings issued by recognized public credit rating agencies ("CRAs"). CRAs have long asserted that their ratings are projections. According to S&P Global, an issuer credit rating is "a forward-looking opinion about an obligor's overall creditworthiness. This opinion focuses on the obligor's capacity and willingness to meet its financial commitments as they come due."[3] Similarly, according to Moody's Corporation, ratings are defined as "forward-looking opinions of the relative credit risks of financial obligations . . . . Moody's defines credit risk as the risk that an entity may not meet its

---

[1] *See* Steve Dreyer, *Credit Analysis Overview*, PJM Interconnection, L.L.C. (Oct. 18, 2019), https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20191018/20191018-item-05-credit-analysis-overview.ashx.

[2] *See* Steve Dreyer, *Recommended Credit Review Process*, PJM Interconnection, L.L.C. (Nov. 21, 2019), https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20191121/20191121-item-05-credit-scoring-models-presentation.ashx.

[3] *S&P Global Ratings Definitions*, S&P Global Ratings (Sept. 18, 2019), https://www.standardandpoors.com/en_US/web/guest/article/-/view/sourceId/504352.

contractual financial obligations as they come due and any estimated financial loss in the event of default or impairment."[4]

8. Quantitative financial ratios can help determine an entity's ability or capacity to meet its obligations at a given point in the past, but provide only limited value in assessing the entity's ability and willingness to do so in the future. The latter requires consideration of qualitative factors such as:

    i. the nature of an entity's relationship with its owners and affiliates: are they likely to be a source of support or strain in times of financial stress?

    ii. the riskiness of its financial policy: are they likely to access future funds via issuing equity or debt that must be repaid?

    iii. the quality of relationships with and diversification of its banks, capital providers, regulators, and other stakeholders: do stakeholders represent a threat or support to the entity's future solvency?

    Although observable quantitative data can inform opinions about these qualitative elements, they cannot be determinative by themselves.

B. Maintaining Control of the Process Preserves Critical Analytical Flexibility.

9. To properly assess the credit risk posed by an entity, PJM must be able to tailor its analysis for unique characteristics of the market participants it evaluates and to maintain flexibility to respond to changes in the economic and market environment. Although PJM's scoring models account for industry-specific risks, entities operating within a given industry may exhibit varying levels of exposure to those risks. PJM must be able to promptly respond to an entity's change in ownership, strategy, business mix, pricing, cost structure, and use of technology, among other factors. It is not possible to communicate in advance which factors would arise as important (or what their relative importance may be) for any given entity.

10. Standards within scoring models used by credit research professionals are based on historical averages over a complete business cycle (i.e., covering both "boom and bust" periods). It would be unwise, and contrary to industry practice, for PJM to treat these standards as fixed. During a recession or cyclical financial market downturn, such as the one we are currently experiencing, expectations about the ability of companies to gain additional funding, grow revenue, and manage production costs would be markedly different than during a time of strong economic growth. It is reasonable to assume that entities would expect any disclosed standards to be "locked in" while published in the PJM Open Access Transmission Tariff, thereby limiting PJM's flexibility to adapt to changing conditions.

[4] *Rating Symbols and Definitions*, Moody's Investor Service, 5 (Jan. 2020), https://www.moodys.com/sites/products/AboutMoodysRatingsAttachments/MoodysRatingSymbolsandDefinitions.pdf.

C. Maintaining Control of the Process Ensures the Integrity of PJM's Analysis.

11. Sharing the full internal credit score methodology with entities subject to it effectively transfers decision-making power from PJM to the subject entities. Just as the student who asks the teacher on the first day of class, "What do I have to do to get an 'A'?" effectively wrests control of grade assignment, so too would sharing PJM scoring model methodology incentivize the subject entities to focus on form over substance. For example, a credit scoring model might penalize a company for having too high a ratio of short-term debt to total debt because it suggests exposure to uncertainty on terms and availability of debt refinancing. In such a case, a company could obtain a better credit score by rebalancing its existing debt profile by swapping short-term for long-term obligations in advance of its ongoing credit review (only to unwind it after the fact). This would present a potentially misleading picture of the company's actual credit risk profile, improperly hampering PJM's risk assessment.

12. Further, in my experience, providing details on individual ratios and standards used in a scoring methodology invites debates over minutiae of ratio calculations and data adjustments. Such debates distract from the more relevant discussion of important credit fundamentals.

D. Disclosure of Methodologies Encourages Copycats, Limiting Diversity of Opinion.

13. About 60 percent of PJM's Financial Transmission Rights ("FTR") market participants are organizations that are not rated by a CRA. If PJM's credit evaluation methodology were to be made public, it is highly likely that scores on such entities would be used by others such as lenders, securities regulators, or other independent system operators (many PJM market participants also participate in other FTR markets). This would be particularly likely in a case where the PJM score is lower than the user's own internal credit score and in cases where there is no other credit score of any kind on the entity.

14. This outcome introduces at least two problems. One, that the score generated by the PJM methodology would be used for purposes other than intended (i.e., to protect PJM markets from effects of default in its FTR market), and two, that as a shortcut, other users of the score—even those with similar objectives to PJM with respect to the score—will simply adopt it outright without doing their own independent analysis. Such "groupthink" can cause all observers to over- or under-estimate the same risk at the same time for the same reason, which can exacerbate any overlooked or unknown risks that may arise. Indeed, if there were a shortcoming in a PJM scoring model, it would be replicated with the potential to magnify the financial damage from an eventual default. Similarly, a score that would prohibit or limit an entity's participation in a PJM market could, if replicated, impact an entity's ability to access credit from lenders or suppliers, thus compounding negative effects on the organization's solvency.

15. My recommendation that PJM not fully disclose its methodology is not to encourage opacity in its evaluation process. Rather, PJM has provided much transparency by publishing its tables, metrics, and whether a factor is a "primary" or "secondary" metric for that business type. While PJM should not disclose the exact methodology for determining a company's internal credit score, PJM has provided sufficient transparency

for entities to be on notice as to what factors will be evaluated and which of those factors PJM will consider to be more important to the entity's credit risk level depending on business type. Companies will therefore have a general range as to what credit score PJM will determine, and should not be surprised by the outcome.

16. This concludes my affidavit.

Exhibit No. 1

CV of Mr. Steven Dreyer
on Behalf of
PJM Interconnection, L.L.C.

STEVEN J. DREYER

Alexandria, VA | 908-295-6836
sdreyer@comcast.net | www.linkedin.com/in/sdreyer

EXPERIENCED FINANCIAL EXECUTIVE

Former U.S. Treasury official and credit ratings executive focused on maximizing long-term value for investors and economies, with sector experience in insurance, energy, and infrastructure, and technical expertise in financial risk analytics, enterprise risk management (ERM) and sustainable finance.

SKILL SETS

Industries	Insurance and Reinsurance, Utilities and Power, Midstream Energy, Transportation.
Strategy	Interacted at C-suite level on enterprise risks, financing, strategic threats. Led innovations in quantitative ratings, capital/liquidity adequacy tools, carbon risk evaluations, and management/governance assessments.
Promotion	Advocate for long-term decision-making in government and private sector.
Research	Led analytical work related to benefits of infrastructure investment, insolvency prediction, and impact of management and governance on credit quality.

EXPERIENCE

Ostrich Advisors LLC, Alexandria, VA

Founder 2017 - Present

Consulting on ERM, credit analysis and infrastructure finance risks. Helped build a credit training curriculum including ESG risks for a financial information firm. Providing economic and reserve analysis for the research arm of a major insurance trade association. Advising an electric independent system operator on counterparty credit risk.

SwissThink SAS, Paris, France

Senior Consultant and Head of North American Business Development 2019 - Present

With 15 experienced credit research professionals in 7 countries, provide consulting, outsourcing and training to banks, asset managers, pension funds, treasury departments of corporates and governments, ratings agencies and other financial market participants.

U.S. Department of the Treasury, Washington, DC

Director, Federal Insurance Office 2018

Led insurance policy development and engagement on retirement savings, long-term care, terrorism, systemic risk, capital standards, coverage gaps and cyber risk. Worked to implement US-EU covered agreement and led negotiations with the U.K. on post-BREXIT continuity. Advisory member of Financial Stability Oversight Council. Worked with U.S. and international regulators on market access, prudential standards, and infrastructure investment.

S&P Global Ratings, New York, NY and Washington, DC

Head of Investor Communications, Americas 2015 - 2017

Engaged institutional investors on key credit risks. Led advisory councils of credit research heads of large U.S. asset managers. Drafted “Statement on ESG in Credit Ratings” for *U.N. Principles for Responsible Investment (UNPRI)*, later adopted by major rating agencies and investment firms.

Lead Analytical Manager, U.S. Utilities & Infrastructure Ratings 2006 - 2015

Oversaw analysis of impact on power industry of fracking, nuclear, and renewables. Co-authored methodology for management and governance analysis for all non-financial companies. Grew $50+ million business at double-digit rates by diversifying service offerings and deepening client engagement. Developed business plan for global infrastructure ratings practice and oversaw restructuring of project finance ratings criteria.

Practice Leader, North America Insurance Ratings 1990 - 2006

Led analysis of impact on insurance industry of 9-11, Hurricane Katrina, finite risk and life insurance selling scandals. Introduced insurance ERM analysis, the first credit rating firm to do so. Implemented novel process change to leverage senior talent, replicated in a company-wide restructuring years later, doubling profit margins from 2001 to 2006 in $50 million revenue business. Developed quantitative ratings on 4,000 insurers, many previously unrated.

Insurance Solvency International Ltd., London, England and Hartford, CT 1985 - 1990

Chase Econometric Associates, Bala Cynwyd, PA 1980 - 1985

VOLUNTEER ACTIVITIES

Member, Advisory Board, **ERM Initiative of the Poole College of Business at North Carolina State University**.

Member, Markets Advisory Council, **Council of Institutional Investors**.

Judge, **SIFMA Foundation** *InvestWrite* national student essay competition.

Delegate, Climate Finance Retreats & Liaison, **United Nations Principles for Responsible Investment**.

Board of Directors, **Insurance Marketplace Standards Association**.

Judge, “Real-LIFEstories Award”, **Life & Health Insurance Foundation for Education** (now Life Happens).

Member, “Roundtable on Sector Preparedness,” **Greater New York Safety Council** for the 911 Commission.

RECOGNITION

S&P Global **Gold ACE Award for Innovation** for ESG Assessments.

Cited as one of the “100 Most Influential People in Finance 2010” by **Treasury & Risk** magazine.

Named five times as one of the “100 Most Powerful People in Insurance” by **Insurance Newscast**.

McGraw Hill Corporate Achievement Awards, for “*S&P’s Insurer Solvency Review*” (1992), “*Response to the 9-11 Attacks”* (2002) and “*Enterprise Risk Management Analysis*” (2012).

Anglo American Insurance Foundation scholarship winner.

EDUCATION AND PROFESSIONAL DEVELOPMENT

S&P Global Leadership Program, *INSEAD,* Fontainebleau, France.

S&P Senior Management Leadership Program, *Columbia University*, New York, NY.

S&P Executive Development Program, *University of Virginia*, Charlottesville, VA.

McGraw-Hill Management Development Program, Princeton, NJ.

M.B.A. Finance*, Drexel University*, Philadelphia, PA. (withdrew with two courses remaining to undertake scholarship in the U.K.)

B.A. Statistics, minor in Business Administration, *University of Delaware*, Newark, DE.

PUBLICATIONS

Factors in Credit Scoring for PJM Markets, *PJM Interconnection,* 2019

Can Insurers Fill the Infrastructure Funding Gap?, *Steven J. Dreyer on LinkedIn*, 2019

Climate Change: Preparing for the Long-Term, *S&P Ratings Direct*, 2014

Global Infrastructure: How to Fill a $500 Billion Hole, *S&P Ratings Direct*, 2014

Solar is Powering Up, On the Roof or Over the Grid, *S&P Ratings Direct*, 2013

How We Use Management and Governance Credit Factors, *S&P Ratings Direct*, 2012

Management and Governance Credit Factors for Corporate Entities and Insurers, *S&P Ratings Direct*, 2012

Standard & Poor's Looks Further into How Nonfinancial Companies Manage Risk, *S&P Ratings Direct*, 2010

U.S. Government Lights A Fire Under Alternative Energy Financing, *S&P Ratings Direct*, 2010

Integrating Enterprise Risk Management Analysis into Corporate Credit Ratings, *S&P Ratings Direct*, 2009

Enterprise Risk Management for Ratings of Nonfinancial Corporations, *S&P Ratings Direct*, 2008

Exploring Insurance Rating Agency Myths and Truths, *S&P Ratings Direct*, 2006

Insurance Regulation & Competition: Who Calls the Shots and Which Should be Called?, *S&P Ratings Direct*, 2006

Rating the Reinsurance Startups, *S&P Ratings Direct*, 2005

Dark Clouds Linger as U.S. Property/Casualty Insurers' Loss Reserves Upped Again, *S&P Ratings Direct*, 2005

Financial Engineering Investigations Explained, *S&P Ratings Direct*, 2004

Contingent Commissions Controversy Affects Both Insurance and Brokerage Industries, *S&P Ratings Direct*, 2004

California Still Vulnerable in Workers' Compensation Market, *S&P Ratings Direct*, 2004

Reserving Judgment: U.S. P/C Insurers Fall Short Again, *S&P Ratings Direct*, 2004

Self-Insurance a Mixed Blessing for U.S. Commerce, *S&P Ratings Direct*, 2004

Insurance Actuaries -- A Crisis of Credibility *S&P Ratings Direct*, 2003

Asset Managers' Woes Raise Questions About Global Insurers, *S&P Ratings Direct*, 2003

Collateralization: Cure or Curse?, *S&P Ratings Direct*, 2003

Insurer Insolvency Analysis Identifies Key Risk Factors, *S&P Ratings Direct*, 2003

Enron-Based Lawsuit Highlights Identity Crisis for Insurers, *S&P Ratings Direct*, 2003

Global Reinsurance: Sept. 11—The Last Straw for Global Reinsurance?, *S&P Ratings Direct*, 2002

Insurance Industry Renews Sense of Vital Identity After Sept. 11, *S&P Ratings Direct*, 2002

Terrorism Coverage Remains in Doubt, *S&P Ratings Direct*, 2002

Maintenance of Insurance Ratings Depends on Mitigating Terrorism Risks, *S&P Ratings Direct*, 2001

Insurer Financial Troubles on the Rise, *S&P Ratings Direct*, 2000

The Credit Calm for Insurers After the Storm, *S&P Ratings Direct*, 1999

Using Statistics To Measure Insurer Financial Strength, *Journal of the American Society of CLU & ChFC*, 1993

Assessing Insurer Insolvency, *Reinsurance Digest*, 1989

Five U's Spell Disaster For Property-Casualty Insurers, *The United States Reinsurance Report*, 1988

A Solvency Model for Evaluation of International Reinsurance Companies, *Anglo/American Insurance Fndn.*, 1986

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

	)	
PJM Interconnection, L.L.C.	)	Docket No. ER20-_____-000

VERIFICATION OF STEVEN DREYER

Steven Dreyer, being first duly sworn, deposes and states that he is the Steven Dreyer referred to in the foregoing document entitled "Affidavit of Steven Dreyer on Behalf of PJM Interconnection, L.L.C.," that he has read the same and is familiar with the contents thereof, and that the facts set forth therein are true and correct to the best of his knowledge, information, and belief.

____

Executed on: 3/26/2020