UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.) **Docket No. ER26-3515-000**

PROPOSAL OF PJM INTERCONNECTION, L.L.C. TO ESTABLISH INTERIM RESOURCE ADEQUACY SERVICE AND A LARGE LOAD REGISTRY TO ADDRESS SYSTEM RELIABILITY

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August 13, 2026

The Honorable Debbie-Anne A. Reese
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426

Re: *PJM Interconnection, L.L.C.*, Docket No. ER26-3515-000
Proposal to Establish Interim Resource Adequacy Service and a Large Load Registry to Address System Reliability

Dear Ms. Reese:

PJM Interconnection, L.L.C. ("PJM"), pursuant to section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, hereby submits revisions to the Reliability Assurance Agreement Among Load Serving Entities ("RAA") and the PJM Open Access Transmission Tariff ("Tariff")[1] to establish Interim Resource Adequacy Service ("IRAS")—a service to be implemented by PJM solely during periods when there are insufficient resources to reliably meet demand in real time operations. When triggered by system conditions, IRAS will enable PJM to prioritize load reduction in zones/areas where New Large Loads[2] have not brought their own new capacity or had their capacity needs

[1] In the context of revisions proposed in this filing, the Tariff will be referred to as "proposed Tariff," and the RAA will be referred to as "proposed RAA." Capitalized terms not otherwise defined herein shall have the meaning as defined in the Tariff, Amended and Restated Operating Agreement of PJM ("Operating Agreement"), RAA, and Consolidated Transmission Owners Agreement.

[2] Proposed Tariff, Definitions – New Large Load ("'New Large Load' shall mean end-use customer load that is either (a) a Large Load that goes into service after June 1, 2027, or (b) incremental load in-service after June 1, 2027, that increases the existing end-use customer load at a single electrical site that, prior to such incremental load, did not previously meet the definition of Large Load. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then New Large Load shall mean end-use customer load that is either (a) a Large Load that goes into service after June 1 of the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met or (b) incremental load in-service after June 1 of the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met that increases the existing end-use customer load at

covered through the Reliability Backstop Procurement ("RBP").[3] New Large Loads can avoid this condition on taking transmission service by bringing new capacity to the system, as described below. The authority sought herein would only be invoked in those situations where PJM determines that the available economic real-time supply may be insufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits ("IROL") within prescribed limits and prevent cascading outages.[4]

The proposed IRAS framework and the other enclosed revisions fall squarely within the Federal Energy Regulatory Commission's ("Commission") established transmission jurisdiction and wholesale jurisdiction and has been carefully designed to respect the cooperative federalism approach established under the FPA and animating several other recent landmark Commission determinations, including the large load show cause proceedings.[5] As such, IRAS respects existing bright-line divisions between retail

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a single electrical site that, prior to such incremental load, did not previously meet the definition of Large Load.").

[3] Although the proposed IRAS framework and other revisions proposed herein may refer to the RBP, the two filings are independent of each other. In short, , IRAS can and should be accepted and made effective as requested.

[4] The North American Electric Reliability Corporation ("NERC") defines an Interconnection Reliability Operating Limit as "[a] System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System." *Glossary Terms*, North American Electric Reliability Corporation, https://www.nerc.com/glossary-of-terms?alpha=I [https://perma.cc/TZ9W-MZ4K] (last visited Aug. 11, 2026) (defining Interconnection Reliability Operating Limit); *IRO-009-2 – Reliability Coordinator Actions to Operate Within IROLs*, North American Electric Reliability Corporation, https://www.nerc.com/globalassets/standards/reliability-standards/iro/iro-009-2.pdf [https://perma.cc/6MLX-HBHM] (last visited Aug. 11, 2026) (The appropriate NERC Standard: IRO-009-2's purpose is "[t]o prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate instances of exceeding Interconnection Reliability Operating Limits (IROLs).").

[5] *See PJM Interconnection, L.L.C.*, 193 FERC ¶ 61,217 (2025) ("December 2025 Show Cause Order"); *PJM Interconnection, L.L.C.*, 195 FERC ¶ 61,211 (2026) ("June 2026 Order to Show Cause").

and wholesale jurisdiction over transmission and distribution. It is an example of a federal regime encouraging (but not mandating) states to re-evaluate load reduction plans, which are traditionally in the state jurisdictional bailiwick, while providing PJM the necessary tools to address situations where regional resource adequacy shortfalls would jeopardize reliability.[6] In this regard, it is an example of the federal regime helping to effectuate state decisions associated with the rates, terms, and conditions of retail service. Moreover, the IRAS framework, as proposed here, was developed following consultations and discussions with states and stakeholders (through the Critical Issue Fast Path ("CIFP") process), and the proposal is intentionally designed to avoid conflicts with state authority and regimes by leaving retail load reduction plans and retail cost allocation to state-level entities, while offering non-mandatory options under the federal tariff to aid collection and settlement of compensation for IRAS.

As further evidence of this federal-state division of labor, PJM anticipates participating in efforts to develop standardized regulatory tools and model retail tariff structures that individual state commissions may consider as they address the integration of new large loads and otherwise decide whether and how to act in response to the evolving federal wholesale landscape, inclusive of the IRAS filing.

To support the IRAS framework, PJM is also proposing three foundational revisions in this filing. First, PJM is proposing revisions to the RAA[7] to clarify a Load Serving Entity's ("LSE") obligation to bring new capacity in an amount that equals or

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[6] Under PJM's existing authority, it may receive load reduction plans from Electric Distributors and other Members. *See, e.g.*, Operating Agreement, sections 10.4, 11.3.1(e).

[7] Proposed RAA, section 7.8.

exceeds its New Large Loads' peak load or be subject to load reduction requests during Emergencies prior to Pre-Emergency Load Management Response. This principle lays the foundation for the IRAS paradigm in PJM that facilitates large load interconnections in a manner similar to the Southwest Power Pool's ("SPP") Conditional High Impact Large Load Service ("CHILLS") construct, which "allows transmission customers serving [a certain category of load called High Impact Large Loads] to reliably receive transfers of energy [subject to curtailment and interruption] until sufficient designated resources and/or network upgrades are in place to support long-term, firm transmission service[,]" where terms and conditions of service are "intended to incentivize transmission customers . . . to obtain the designated resources and/or complete the network upgrades needed to procure long-term firm transmission service through existing tariff processes."[8] In addition, this principle is consistent with the Ratepayer Protection Pledge introduced in March 2026[9] and recently expanded in July 2026,[10] which assures that New Large Loads will, at a minimum,

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[8] June 2026 Order to Show Cause, 195 FERC ¶ 61,211.

[9] *Ratepayer Protection Pledge*, The White House (Mar. 4, 2026), https://www.whitehouse.gov/releases/2026/03/ ratepayer-protection-pledge/ [https://perma.cc/N8PH-K82T] ("Ratepayer Protection Pledge").

[10] *President Trump's Ratepayer Protection Pledge Secures American AI Dominance, Protects Consumers*, The White House (July 23, 2026), https://www.whitehouse.gov/releases/2026/07/president-trumps-ratepayer-protection-pledge-secures-american-ai-dominance-protects-consumers/ [https://perma.cc/9VDB-B4EH] ("Ratepayer Protection Pledge Announcement"); *Data centers pay their way. Ratepayers pay theirs.*, The White House, https://www.whitehouse.gov/ratepayer-protection-pledge/ [https://perma.cc/3WBQ-RXW4] (last visited on Aug. 12, 2026) ("July 2026 Ratepayer Protection Pledge Update") (identifying 282 utilities, cooperatives, data centers, and 23 governors that joined the Ratepayer Protection Pledge, including 38 data centers: Aligned Data Centers, LLC; Amazon.com, Inc.; Beale Infrastructure Group, LLC; CleanSpark LLC; Cloud HQ LLC; Cologix, Inc.; Compass Datacenters, LLC; Core Scientific, Inc.; CoreWeave, Inc.; Corscale, LLC; Crusoe Technologies LLC; CyrusOne, Inc.; DataBank Holdings, Ltd.; Digital Realty Trust, Inc.; EdgeConnex Inc.; EdgeCore Digital Infrastructure (d/b/a EdgeCore Internet Real Estate, LLC); Equinix, Inc.; Google (d/b/a Alphabet Inc.); Iron Mountain Incorporated; Meta Platforms, Inc.; Microsoft Corporation; Nebius Group N.V.; NTT Global Data Centers (d/b/a NTT DATA, Inc.); OpenAI, L.L.C.; Oracle Corporation; Oppidan Connect Data Centers (d/b/a Oppidan Investment Company); Prologis, Inc.; Quality Technology Services, LLC; Rowan Digital Infrastructure Pty. Ltd.; Skybox Datacenters, LLC; STACK Infrastructure, Inc.; Starwood Digital Ventures (d/b/a Starwood Capital Operations, LLC); Stream

"build, bring, or buy the new generation resources and electricity needed to satisfy their new energy demands, paying the full cost of those resources whether by building, or buying from, new or otherwise additive power plants" because it "advances self-sufficiency and protects Americans from higher prices."[11]

Second, PJM is proposing revisions to the RAA to establish a Large Load Registry—a database of information pertaining to Large Loads that will be established and maintained by PJM. The Large Load Registry, while reliant on information provided by others, will aid PJM in administering recent resource adequacy initiatives, including IRAS, as well as likely useful in the implementation of other Large Load-related initiatives.[12] Third, PJM is proposing to revise its Tariff and the RAA to include definitions of Large Load and New Large Load.[13]

In addition to those revisions, PJM is proposing, beginning with the 2029/2030 Delivery Year, to exclude certain New Large Loads from the Variable Resource Requirement ("VRR") Curve to protect residential customers from capacity price

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Data Centers, L.P.; Switch, Inc.; T5Data Centers, LLC; TA Realty LLC; Vantage Data Centers Management Company, LLC; and x.AI LLC).

[11] Ratepayer Protection Pledge.

[12] In response to the Commission's show cause directives related to Large Loads, PJM is evaluating how to efficiently and cost effectively integrate Large Loads, including Large Load-specific procedures for interconnection studies, processing transmission service requests, and providing transmission service without cost shifting. *PJM Interconnection, L.L.C.*, Motion of PJM Interconnection, L.L.C. to Hold Proceeding in Abeyance and Request For Shortened Answer Period and Expedited Treatment, Docket No. EL26-67-000, at 5-7 (July 28, 2026). As part of that evaluation, PJM is assessing the usefulness of a Large Load Registry to support such efforts.

[13] Proposed RAA, Definitions – Large Load ("'Large Load' shall mean end-use customer(s) load that has a cumulative peak load of 50 megawatts [("MW")] or greater at a single electrical site behind one or more points of interconnection, where for configurations involving multiple affiliated load facilities or multiple points of interconnection with affiliated load facilities behind them, all affiliated load facilities within a one-mile radius will be considered a single electrical site as further described in the PJM Manuals.").

increases, consistent with the Statement of Principles Regarding PJM issued on January 16, 2026, by the National Energy Dominance Council ("NEDC") and the 13 governors of the PJM states, and the Ratepayer Protection Pledge introduced in March 2026,[14] and as recently expanded in July 2026.[15]

The IRAS and the related revisions proposed herein support system reliability in the PJM Region. Insufficient commitments of capacity in the 2027/2028 and 2028/2029 Reliability Pricing Model ("RPM") Auctions, primarily driven by the unprecedented addition of large loads, most notably data centers, have given rise to resource adequacy shortfalls—and associated real-time operational issues that IRAS is intended to address. More specifically, in Delivery Years when RPM Auctions have failed to secure sufficient capacity, under the proposed IRAS framework, PJM will have the ability to manage real-time operational issues resulting from such shortages through Interim Resource Adequacy Service Action.

Pursuant to IRAS, each Electric Distributor zone/area may be directed by PJM dispatchers to reduce load up to the MW quantity of capacity attributable to Eligible New Large Loads in that zone/area. Each Electric Distributor zone/area, in turn—based upon appropriate, documented state-sanctioned load reduction plans that are either already in place or will be developed and refined in conjunction—will determine which load to reduce in response to a PJM IRAS directive.

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[14] *See generally* Ratepayer Protection Pledge.

[15] *See generally* Ratepayer Protection Pledge Announcement.

Such actions by PJM at the regional level and Electrical Distributors at the local level will be informed and supported by the Large Load Registry established through this proposal. Indeed, the proposed registry will give Electric Distributors and state entities access to critical information they may elect to rely upon when fashioning such load reduction protocols (including through recently-announced VA SCC and DCC state-led workshops). By way of example, IRAS would facilitate a decision by an Electric Distributor in conjunction with relevant state entities, as applicable, to decide that specific Eligible New Large Loads may be reduced during a Delivery Year when IRAS applies, because such loads are not arranged with sufficient new capacity. Such new capacity would have either been brought by the New Large Load themselves ("Bring Your Own New Capacity" or "BYONC") or Allocated RBP Unforced Capacity ("UCAP") MW. This aspect of the IRAS framework is consistent with the Ratepayer Protection Pledge introduced in March 2026[16] and recently expanded in July 2026,[17] which recognizes that New Large Loads "will voluntarily negotiate new, separate rate structures with their utilities and relevant State governments wherever they build data centers."[18] The availability to PJM of IRAS provides PJM with a new critical operational tool in those hours when PJM is projecting its inability to maintain reliability for the region based on system conditions.

While the enclosed Tariff revisions make clear that IRAS will be available starting with the 2027/2028 Delivery Year, i.e., June 1, 2027, PJM requests that the Commission

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[16] *See generally* Ratepayer Protection Pledge.

[17] *See generally* Ratepayer Protection Pledge Announcement.

[18] Ratepayer Protection Pledge.

accept the enclosed proposed Tariff and RAA revisions effective October 12, 2026, which is 60 days from the date of filing. First, the requested effective date will allow PJM to start building the Large Load Registry and begin accepting information about New Large Loads and arrangements with BYONC in time to expeditiously develop and post a new VRR Curve with the New Load Loads removed to the extent they do not have arrangements with BYONC (which is another aspect of this submission).

Second, Commission action by such date, with the requested effective date, will provide regulatory certainty to parties seeking to enter into bilateral agreements for new capacity and will support the ongoing efforts of the states to establish state-level tariffs to address reduction priorities, as needed. PJM heard from data center representatives and others on this need for clarity of the IRAS rules as a condition precedent to their finalizing contracts for BYONC generation to offset their New Large Load additions. Approval of the proposed IRAS framework will provide regulatory certainty to parties seeking to enter into bilateral arrangements for new capacity, including through the ongoing, PJM-administered bilateral matching process aimed at bringing new capacity to PJM.

Third, in its recent RBP Proposal Filing,[19] PJM committed, subject to Commission approval, to conduct the RBP as soon as practicable, with a target start of September 30, 2026, in accordance with the Statement of Principles Regarding PJM by the NEDC and the 13 governors of the PJM states.[20] A zone/area in which New Large Loads have brought

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[19] *PJM Interconnection, L.L.C.*, Reliability Backstop Procurement to Address Resource Adequacy Concerns Stemming from Large Loads of PJM Interconnection, L.L.C., Docket No. ER26-3380-000 (July 31, 2026) ("RBP Proposal Filing").

[20] *Statement of Principles Regarding PJM*, National Energy Dominance Council, 1 (Jan. 16, 2026), https://www.energy.gov/documents/statement-principles-regarding-pjm [https://perma.cc/35HJ-W56E] ("NEDC/PJM Governors' Principles"). The 13 state signatories are the governors of Delaware, Illinois,

their own new capacity or have had capacity allocated to it through the RBP will be at lower risk of load reduction through the IRAS structure.

Fourth, approval of IRAS will support ongoing state efforts to establish retail-level, operational procedures through which New Large Loads that have not brought their own new capacity may be reduced ahead of residential and traditional industrial customers.

Each element of this proposal is just and reasonable. Nevertheless, in the event the Commission deems it necessary, and to help facilitate the Commission's acceptance of this filing without delay, PJM provides notice that it consents to the Commission's exercise of authority to modify and/or sever any element of the proposed Tariff and RAA language to the extent necessary and permitted under FPA section 205 and *NRG Power Marketing, LLC v. FERC*,[21] where such modification and/or severance is consistent with PJM's overarching objectives in this filing. While the each of the reforms proposed in this filing is just and reasonable and act together to advance important resource adequacy objectives, they may also be considered discretely.

While consenting to each issue being severable, PJM notes that some elements build on each other, and therefore, Commission modification/severance of an issue may require a corresponding/conforming modification to another element in order for the

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Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. Except for in reference to the "NEDC/PJM Governors' Principles," reference herein to the PJM states shall include the 13 state signatories and the District of Columbia.

[21] *NRG Power Mktg., LLC v. FERC*, 862 F.3d 108 (D.C. Cir. 2017). As the Commission has repeatedly stated, "[t]he United States Court of Appeals for the District of Columbia Circuit has held that, in certain circumstances, the Commission has 'authority to propose modifications to a utility's [FPA section 205] proposal if the utility consents to the modifications.'" *N.Y. Indep. Sys. Operator, Inc.*, 188 FERC ¶ 61,051, at P 22 n.36 (2024) (second alteration in original) (citing *NRG Power Mktg.*, 862 F.3d at 114-15); *see Midcontinent Indep. Sys. Operator, Inc.*, 180 FERC ¶ 61,141, at P 26 n.29 (2022) (same), *order on reh'g*, 182 FERC ¶ 61,096 (2023); *ISO New Eng. Inc.*, 175 FERC ¶ 61,172, at P 16 n.20 (2021) (same).

overall framework to function. For example, PJM's proposal to shift the VRR Curve based on the amount of New Large Load with capacity coverage is dependent on the BYONC rules being in place. However, the Large Load Registry, the general obligation that Load Serving Entities bring new capacity in an amount that equals or exceeds its New Large Loads' peak load, and other elements are discrete and may be severed and addressed through separate procedures without interlocking concerns.[22] For example, the proposed requirement that LSEs designate new capacity in a cumulative amount that equals or exceeds its New Large Loads' peak load or be subject to interim and conditional transmission service in emergency conditions has already been accepted in other regions and should be accepted here.[23]

Further, PJM has been and continues to be in an ongoing dialogue with states and other stakeholders regarding the important issues addressed by this filing, including the interaction of federal/state responsibilities. PJM may, at the behest of the states, host workshops and other fora to advance these discussions. PJM may, pursuant to FPA section 205, amend aspects of the proposals submitted herein based on the product of those discussions, and request that the Commission afford additional time for comments and consideration as may be necessary or appropriate.

As further discussed below in Part IV, to the extent the Commission exercises such authority to modify the proposed Tariff or RAA language herein pursuant to the FPA and

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[22] For example, given that IRAS will not be available until June 1, 2027, the compensation program, among other proposed rules, may be resolved later without affecting the overall efficacy of this filing.

[23] *See, e.g.*, *Sw. Power Pool, Inc.*, 195 FERC ¶ 61,213 (2026); *Sw. Power Pool, Inc.*, 195 FERC ¶ 61,196 (2026); *Sw. Power Pool, Inc.*, 194 FERC ¶ 61,031 (2026).

NRG Power Marketing, PJM respectfully requests that the Commission expressly prescribe specific revised language to provide the "necessary predictability" for PJM to implement such change(s) even before issuance of an order on compliance.[24] PJM's submittal of any compliance filing implementing such modifications would further constitute PJM's consent and acceptance of the Commission's modifications. PJM has the authority to consent to modifications to PJM's proposal by the Commission, pursuant to the FPA and *NRG Power Marketing*. In contrast to the underlying facts in *NRG Power Marketing*, the proposal submitted in this filing was authorized by the PJM Board of Managers ("PJM Board") and was not the result of a stakeholder-endorsed proposal.[25]

At bottom, IRAS is a just and reasonable means of addressing the influx of New Large Loads into the PJM Region while maintaining resource adequacy, reliability, and affordability in a manner that respects the divide between state and federal authorities and avoids disrupting existing commercial arrangements. As the PJM Board recognized in a

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[24] *PJM Interconnection, L.L.C.*, 175 FERC ¶ 61,137, at P 110 (2021) (first quoting *Aera Energy LLC v. FERC*, 789 F.3d 184, 190-92 (D.C. Cir. 2015) ("[A]ffirming the Commission, finding 'FERC's conditional acceptance . . . simply required Kern River to substitute one number for another when allocating costs to the rolled-in shippers. . . . Because this mechanical change gave Kern River no discretion to adjust its rate models, FERC provided sufficient notice to ratepayers.'"); and then quoting *Elec. Dist. No. 1 v. FERC*, 774 F.2d 490, 493 (D.C. Cir. 1985) ("[V]acating when the 'effective date of an order set[] forth no more than the basic principles pursuant to which the new rates are to be calculated.'" (second alteration in original))). As the Commission elaborated further in *PJM Interconnection*, mere "direction" without "sufficient detail on each element [of the replacement rate] that [customers/market participants] could determine when their transactions would be subject to [the new rule]," would mean that implementation of the compliance directive prior Commission approval would violate the filed rate doctrine. *Id.* (quoting *Elec. Dist. No. 1*, 774 F.2d at 493 ("[P]urchasers of electricity cannot plan their activities unless they know the cost of what they are receiving, 'providing the necessary predictability is the whole purpose of the well-established filed rate doctrine.'" (citing *Ark. La. Gas Co. v. Hall*, 453 U.S. 571, 577 (1981)))).

[25] *NRG Power Mktg.*, 862 F.3d at 112 (noting that PJM developed proposed revisions filed with the Commission through its stakeholder process and that the proposed revisions "received overwhelming support from PJM's stakeholders").

January 16, 2026 letter,[26] IRAS—which, in its earlier iteration, was referred to as "Connect & Manage"—is just one part of a multi-pronged, ongoing effort by PJM to respond to the challenges stemming from the influx of Large Loads into the PJM Region.[27] Indeed, PJM continues to make progress on a broader, holistic review of its capacity market, the RPM, to identify durable, more holistic solutions to concerns stemming from large load additions.[28] More specifically, on May 6, 2026, PJM issued a white paper, *Powering Reliability Through Market Design: Addressing Rising Demand and Constrained Supply, and Stimulating Investment to Support Durable Reliability*, which *inter alia*, posed foundational questions facing PJM's capacity market today and proffered three distinct, albeit not mutually exclusive, paths forward.[29] These foundational questions and proposed paths forward are a starting point towards more holistic solutions to PJM's resource adequacy concerns.[30] This ongoing review is in line with the NEDC/PJM Governors' Principles, which urged PJM to "embark on a stakeholder process to reform the capacity

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[26] Letter of David E. Mills, PJM Board Chair, *Board Decisional Letter on Critical Issue Fast Path - Large Load Additions*, PJM Board (Jan. 16, 2026), https://www.pjm.com/-/media/DotCom/about-pjm/who-we-are/public-disclosures/2026/20260116-pjm-board-letter-re-results-of-the-cifp-process-large-load-additions.pdf [https://perma.cc/P57T-ZXYJ] ("January 2026 Board Letter").

[27] PJM is proposing Interim Resource Adequacy Service, as opposed to Connect & Manage," to reflect that the proposal is for a new load reduction service provided by New Large Load that does not bring sufficient new capacity to meet the loads' resource adequacy needs, and to avoid confusion and conflation between "Connect & Manage" and the ongoing efforts to interconnect Large Loads in the Commission's show cause proceeding in Docket No. EL26-67 and PJM's development (and future filing of) of an FPA section 205 proposal to address the Commission-identified issues.

[28] *See Powering Reliability Through Market Design: Addressing Rising Demand and Constrained Supply, and Stimulating Investment to Support Durable Reliability* (May 6, 2026), https://www.pjm.com/-/media/DotCom/library/reports-notices/special-reports/2026/20260506-powering-reliability-through-market-design.pdf [https://perma.cc/3W8Z-M4TQ].

[29] *Id.*

[30] PJM Interconnection, L.L.C., *PJM to Lead Market Reform Effort to Support Generation Investment and Reliability*, PJM Inside Lines (May 6, 2026), https://insidelines.pjm.com/pjm-to-lead-market-reform-effort-to-support-generation-investment-and-reliability/ [https://perma.cc/J2KW-LRW2].

market to ensure long-term viability and prevent consumers from bearing excessive ongoing costs," with an ultimate goal of returning PJM to market fundamentals.[31]

I. BACKGROUND

PJM hosts the largest concentration of data center load in the world.[32] "PJM's load forecast predicts peak load growth of 32 gigawatts [("GW")] from 2024 to 2030, 30 GW of which is projected to be from data centers."[33] Year-over-year, the shortfall of capacity supply needed to meet demand (plus a reasonable reserve margin) has *grown* despite a net increase of 1,294.4 MW Installed Capacity ("ICAP") of supply between the 2027/2028 and 2028/2029 Base Residual Auction ("BRA").[34] In other words, the addition of new supply has not kept pace with rapid large load demand growth, thus giving rise to the significant tightening of the capacity market in recent years and subsequent resource adequacy shortfalls. To mitigate the potential reliability risks associated with resource adequacy

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[31] NEDC/PJM Governors' Principles at 1; *see also* PJM Interconnection, L.L.C., *CIFP Reliability Backstop Procurement – PJM Proposal*, 1 (June 11, 2026), https://www.pjm.com/-/media/DotCom/committees-groups/cifp-rbp/2026/20260611/20260611-item-04a---pjm-reliability-backstop-proposal---post-meeting-materials.pdf [https://perma.cc/X7T7-5RPB] (providing background on stakeholder engagement).

[32] *See, e.g.*, Laila Kearney, *Biggest US power grid operator moving forward with plan to manage data centers*, Reuters (Nov. 20, 2025), https://www.reuters.com/business/energy/biggest-us-power-grid-operator-moving-forward-with-plan-manage-data-centers-2025-11-19/ [https://perma.cc/7M34-52V4].

[33] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 8 & n.24 (citing Letter of David E. Mills, PJM Board Chair, *PJM Board Letter Implementing CIFP for Large Load Additions*, (Aug. 8, 2025), https://www.pjm.com/-/media/DotCom/about-pjm/who-we-are/public-disclosures/2025/20250808-pjm-board-letter-re-implementation-of-critical-issue-fast-path-process-for-large-load-additions.pdf [https://perma.cc/F9KV-B7HK] ("August 2025 Board Letter")). Since the issuance of the August 2025 Board Letter, PJM has published its 2026 Long-Term Load Forecast Report, which anticipates lower peak demand in the near term due to forecasting improvements, revising the peak load forecast for 2030 downward by 875 MW, but confirms significant growth in the next 20 years. PJM Interconnection, L.L.C., *PJM's Updated 20-Year Forecast Continues to See Significant Long-Term Load Growth*, PJM Inside Lines (Jan. 14, 2026), https://insidelines.pjm.com/pjms-updated-20-year-forecast-continues-to-see-significant-long-term-load-growth/ [https://perma.cc/W3UY-F9HE].

[34] *2028/2029 Base Residual Auction Report*, PJM Interconnection, L.L.C., 8 (July 14, 2026), https://www.pjm.com/-/media/DotCom/markets-ops/rpm/rpm-auction-info/2028-2029/2028-2029-bra-results-report.pdf [https://perma.cc/A53K-TXXY] ("2028/2029 BRA Report").

shortfalls, PJM is proposing the IRAS as a mechanism to support reliability while allowing New Large Loads to connect even when new capacity supply lags behind load growth.

The 2028/2029 BRA Report, dated July 14, 2026, indicates PJM's BRA cleared short of the PJM Region Reliability Requirement[35] for a second consecutive year.[36] Specifically, PJM's BRA for the 2028/2029 Delivery Year, which ran from June 30, 2026, to July 7, 2026, cleared 6,831.3 MW (in UCAP) short of PJM's Regional Transmission Organization ("RTO")-wide reliability requirement at the market price cap of $325/MW-day.[37]

Last year, PJM's BRA for the 2027/2028 Delivery Year, which ran from December 4, 2025, through December, 10, 2025, likewise cleared 6,623 MW short of the PJM Region Reliability Requirement, at the market price cap of $333.44/MW-day (UCAP).[38] As both the Commission and the Department of Energy ("DOE") have recently highlighted, the pace of "growth [in electricity demand] is now higher than at any point in the past two decades, driven in part by increasing quantities of large commercial and industrial load, most notably data centers, connecting rapidly to the transmission system."[39]

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[35] Tariff, Part I, section 1, Definitions – O – P - Q – 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 [Fixed Resource Requirement ("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.").

[36] 2028/2029 BRA Report at 3.

[37] 2028/2029 BRA Report at 3.

[38] *PJM Auction Procures 134,479 MW of Generation Resources*, PJM Interconnection, L.L.C., 1 (Dec. 17, 2025), https://www.pjm.com/-/media/DotCom/about-pjm/newsroom/2025-releases/20251217-pjm-auction-procures-134479-mw-of-generation-resources.pdf [https://perma.cc/A89W-W99B].

[39] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 6 & n.18 (citing *Interconnection of Large Loads to the Interstate Transmission System*, Advance Notice of Proposed Rulemaking, Docket No. RM26-4-000,

A. The Senior Task Force and Critical Issue Fast Path Stakeholder Processes

On January 16, 2026, the PJM Board issued a letter announcing its decision on the CIFP process addressing large load issues in PJM, which set forth the roadmap for a multi-pronged approach to addressing resource adequacy challenges, including "accelerat[ing] and execute[ing]" a backstop capacity procurement and "address[ing] cost allocation for any such procurement, including consideration of mechanisms that assign costs to those LSEs that are short as a result of incremental load growth within their service areas."[40] The NEDC/PJM Governors' Principles were issued on the same day.

On March 25, 2026, the PJM Board issued a Problem/Opportunity Statement directing that PJM implement a "framework that allows qualifying large loads to connect to the PJM system subject to defined operational controls, including curtailment during specified system conditions to protect residential customers from potential power outages."[41] Subsequently, the Connect and Manage Senior Task Force ("Senior Task Force") was established to address such a framework. The Senior Task Force met five times between March and May 2026.

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at 2 (Oct. 23, 2025) ("DOE ANOPR") (citing *2024 Long- Term Reliability Assessment*, North American Electric Reliability Corporation, 8 (Dec. 2024, corrected July 11, 2025), https://www.nerc.com/globalassets/our-work/assessments/2024-ltra_corrected_july_2025.pdf [https://perma.cc/Z4D4-AMQT])).

[40] January 2026 Board Letter at 6.

[41] *Problem/Opportunity Statement: Board Directed 'Connect and Manage'*, PJM Interconnection, L.L.C. (Mar. 25, 2026), https://www.pjm.com/-/media/DotCom/committees-groups/committees/mrc/2026/20260325/20260325-item-01---2-connect-and-manage---problem-statement.pdf [https://perma.cc/45CR-8Z4S].

During that period, on April 8, 2026, the PJM Board issued a letter initiating the CIFP to engage stakeholders in the development of an RBP proposal ("RBP CIFP").[42] Subsequently, on May 19, 2026, the PJM Board issued a second related letter, directing that the scope of the RBP CIFP be expanded to incorporate a separate stakeholder process to identify and reduce large load in the PJM Region, when necessary, to maintain sufficient reserves to meet applicable Reserve Requirements and IROLs within limits, and avoid cascading outages, if available economic generation is not sufficient. The PJM Board determined that it would be appropriate to address both the RBP and IRAS in a single CIFP process in light of the substantive link between these two proposals.

The expanded scope RBP and IRAS CIFP concluded on June 30, 2026, following eight days of stakeholder meetings over the course of three months. On June 30, 2026, stakeholders submitted advisory votes on 11 different proposals. All 11 proposals regarding the concepts addressed by IRAS failed to achieve two-thirds stakeholder support.[43]

B. PJM Board Determination

The PJM Board reviewed the results of the June 30, 2026 stakeholder advisory votes.[44] Ultimately, the PJM Board concluded that "[i]n light of the deteriorating resource

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[42] *Letter of David E. Mills, Interim President and CEO*, PJM Interconnection, L.L.C. (Apr. 8, 2026), https://www.pjm.com/-/media/DotCom/about-pjm/who-we-are/public-disclosures/2026/20260408-cifp-rbp-initiation-letter.pdf [https://perma.cc/8LM5-9VX3] (stating the intent of the letter was to addresses the initiation of the CIFP – RBP accelerated stakeholder process by the PJM Board).

[43] PJM Members Committee, *MC Voting Results for RBP Proposals Agenda Items 3L through 3X*, PJM Interconnection, L.L.C., https://www.pjm.com/committees-and-groups/committees/mc [https://perma.cc/5CSQ-DP4K] (last visited Aug. 12, 2026) (Scroll to "Meeting Materials" and search for 2026, click on link for "6.30.2026 Special MC," scroll to MC Voting Results – Agenda Items 3L to 3X and click on each to view the PDF).

[44] As PJM reported in a recent July 20, 2026 informational filing to the Commission, PJM sought additional feedback on the RBP proposal from stakeholders on specific topics through further polling, which concluded

adequacy outlook, and consistent with [the PJM Board] letter issued to the stakeholders on May 19, 2026, . . . PJM must take timely action within its control to begin restoring resource adequacy."[45] Thus, the PJM Board directed PJM to file a proposal that includes the following elements:

- IRAS, which will be applicable to "[N]ew Large Loads that, as of June 1, 2027, do not bring sufficient capacity to serve their resource adequacy needs and cannot otherwise be served at the 1-in-10 reliability standard[,]" with load reductions under the service occurring before deployment of Pre-Emergency Load Management;[46]

- A Large Load Registry, which will require Electric Distributors "to provide the information necessary for PJM to improve the accuracy and transparency of load forecasts and to administer the [RBP] and [IRAS];"[47]

- Compensation for reduced load under IRAS "for Large Load customers that are directed to reduce their consumption" with "[d]eterminations as to which retail customers may fund such a program or whether specific Large Loads would be entitled to such compensation (or may waive such compensation consistent with the Ratepayer Protection Pledge) will be determined by state authorities under state law or [Relevant Electric Retail Regulatory Authorities ("RERRA")] as may be applicable[,]" and administered by the relevant "Electric Distributor in coordination with the relevant state authorities or RERRA[.]"[48] and

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on July 10, 2026. *PJM Interconnection, L.L.C.*, PJM Informational Report on Stakeholder Processes Addressing Resource Adequacy for Large Loads, Docket No. EL26-67-000, at 4 (July 20, 2026) (citing PJM Interconnection, L.L.C., *CIFP – Reliability Backstop Procurement / Connect & Manage, Summarized Poll Results* (2026), https://www.pjm.com/-/media/DotCom/committees-groups/cifp-rbp/postings/cifp-poll-results-with-comments.pdf [https://perma.cc/T2X8-NKGD] ("CIFP - RBP/Connect & Manage Poll Results")).

[45] Letter from Paula Conboy, Chair, PJM Board of Managers, *Board Decisional Letter on Critical Issue Fast Path – Reliability Backstop Procurement and Connect and Manage*, 1 (July 27, 2026), https://www.pjm.com/-/media/DotCom/about-pjm/who-we-are/public-disclosures/2026/20260727-board-decisional-letter-on-cifp-reliability-backstop-procurement-and-connect-and-manage.pdf [https://perma.cc/V9Z7-83AH] ("PJM Board July 2026 Decisional Letter").

[46] PJM Board July 2026 Decisional Letter at 2 (emphasis omitted).

[47] PJM Board July 2026 Decisional Letter at 1.

[48] PJM Board July 2026 Decisional Letter at 2.

- Exclusion of "[i]ncremental [N]ew Large Loads relative to the forecast utilized for the 2028/2029 BRA . . . from the forecast used in future RPM auctions for the 2029/2030 Delivery Year and beyond unless and until there are new supply resources offered into an RPM auction in sufficient quantity to cover the [individual] [N]ew Large Load."[49]

On July 27, 2026, following a period of intense deliberation, during which the PJM Board considered the merits of the 11 proposals, as well as various letters to the PJM Board, the PJM Board issued a decisional letter directing PJM to submit the IRAS and the other enclosed revisions, and to also submit the RBP proposal set forth in this filing.[50] In a separate FPA section 205 filing on July 31, 2026, PJM submitted the RBP Proposal Filing.[51] The proposal in this FPA section 205 filing reflects the IRAS framework, including the Large Load Registry and compensation for reduced load under IRAS, which was ultimately approved by the PJM Board on July 27, 2026.

C. Related PJM Large Load Filings

The Interim Resource Adequacy Service proposal is just one of numerous filings that PJM has submitted or will shortly be submitting to the Commission, pursuant to FPA section 205, to address the region's resource adequacy issues.

As of today's filing, the following matters have already been filed with the Commission:

- An RBP proposal to establish a one-time procurement of new capacity to procure for an RBP target based on the observed capacity shortfall in the 2028/2029 Delivery Year BRA, as adjusted to reflect qualifying new

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[49] *CIFP Framework for Service During Periods of Insufficient Resource Adequacy – PJM Proposal*, PJM Interconnection, L.L.C., 5 (July 27, 2026), https://www.pjm.com/-/media/DotCom/about-pjm/who-we-are/public-disclosures/2026/20260727-cifp-framework-for-service-during-periods-of-insufficient-resource-adequacy-executive-summary.pdf [https://perma.cc/GX7A-W3Q6] ("CIFP Framework for Service").

[50] *See generally* PJM Board July 2026 Decisional Letter.

[51] *See generally* RBP Proposal Filing.

capacity serving new load and certain qualifying Electric Distributors that elect and meet requirements to opt-out of the RBP;[52]

- An Expedited Interconnection Track temporary pathway for advanced projects of significant size interconnected more quickly to address PJM's urgent need for additional Capacity Resources by facilitating the interconnection of those new generation resources—outside of PJM's Cycle Process—that commit to firm commercial-in-service dates and have a commitment from the Primary Siting Authority (or a state executive officer in certain circumstances) to expedite consideration of applicable siting, which was accepted by the Commission on June 9, 2026;[53]

- An extension of a price collar on RPM Auction outcomes through the 2029/2030 Delivery Year, which was accepted by the Commission on April 8, 2026;[54]

- A one-time, reliability-based expansion, known as the Reliability Resource Initiative, of the eligibility criteria for PJM's Transition Cycle #2 of PJM's existing interconnection queue, which the Commission accepted[55] and resulted in PJM selecting 51 projects that can come online quickly and provide more than 9,300 MW of reliable capacity;[56]

- An extension of the capacity must-offer requirement to *all* available Existing Capacity Resources so as to allow RPM Auction outcomes to more accurately reflect the actual quantity of Existing Generation Capacity Resources, while continuing to safeguard against the potential exercise of market power that may be exerted by the withholding of such resources, which was accepted by the Commission;[57] and

- A compliance filing and illustrative Tariff revisions to provide that the Eligible Customer taking transmission service on behalf of a co-located load may take a transmission service that reflects the co-located load's

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[52] Since this spring, PJM has been concurrently facilitating a bilateral matching process to encourage voluntary, bilateral agreements between supply and demand for new capacity.

[53] *See PJM Interconnection*, *L.L.C.*, 195 FERC ¶ 61,197, at PP 1, 7, 44-45 (2026).

[54] *See PJM Interconnection, L.L.C.*, 195 FERC ¶ 61,076, at P 51 (2026).

[55] *See PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,084, *reh'g denied*, 192 FERC ¶ 61,085 (2025).

[56] *See* PJM Interconnection, L.L.C., *PJM Chooses 51 Generation Resource Projects To Address Near-Term Electricity Demand Growth*, PJM Inside Lines (May 2, 2025), https://insidelines.pjm.com/pjm-chooses-51-generation-resource-projects-to-address-near-term-electricity-demand-growth/ [https://perma.cc/4BBH-YR3F].

[57] *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,117, *order on reh'g*, 191 FERC ¶ 61,221 (2025).

> ability and willingness to limit its use of the transmission system, which, if utilized, would reduce the amount of capacity required to meet the region's resource adequacy needs. The Commission ruled on PJM's Tariff revisions and directed a future compliance filing to implement these new transmission services that PJM will soon submit.[58]

The following filings aimed at addressing the impacts of new large loads on the PJM Region are forthcoming:

- A fulsome FPA section 205 filing addressing the issues the Commission raised in its June 2026 Order to Show Cause that will set forth the non-rate terms and conditions for Eligible Customers to take transmission service on behalf of large loads that are willing and able to limit their energy withdrawals from the transmission system, which, if utilized, will reduce the amount of capacity required to meet the region's resource adequacy needs; and

- Future enhancements to reserve products and updated reserve demand curves to better account for ramping and uncertainty and better align reserve pricing with operational practice.[59]

- In addition, PJM has undertaken the following initiatives:

    - Improved load forecasts that include state review of large load additions, addressing duplicative requests, the use of additional third-party review and increased transparency;[60] and

    - Facilitating bilateral contracting by providing a voluntary matching service that helps connect potential buyers with sellers of capacity, as described at length in the RBP proposal filed July 31, 2026.

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[58] *See PJM Interconnection, L.L.C.*, 195 FERC ¶ 61,209 (2026). On July 28, 2026, PJM submitted a motion to extend its compliance filing with respect to, among other things, the Tariff revisions implementing these new transmission services to allow for the concurrent development of the compliance language with the development of a new FPA section 205 filing to propose new transmission services for Eligible Customers taking transmission services on behalf of large loads that are not part of a co-location arrangement. *PJM Interconnection, L.L.C.*, Motion for Extension of Time for Specified Compliance Requirements and Request for Expedited Treatment of PJM Interconnection, L.L.C., Docket Nos. EL25-49-000, et al. (July 28, 2026).

[59] *See PJM Interconnection, L.L.C.*, Informational Report on Stakeholder Process Addressing Resource Adequacy for New Large Loads of PJM Interconnection, L.L.C., Docket No. EL26-67-000, at 8 (July 20, 2026).

[60] *See* January 2026 Board Letter at 2.

II. THE PROPOSED REFORMS TO THE TARIFF AND THE RAA ARE JUST AND REASONABLE AND NOT UNDULY DISCRIMINATORY OR PREFERENTIAL

A. Overview of Interim Resource Adequacy Service Framework and Responsibilities of PJM and Electric Distributors to Implement IRAS

1. The Interim Resource Adequacy Service framework

As of right now, PJM will enter the 2027/2028 Delivery Year short of sufficient capacity to meet the PJM Region Reliability Requirement. As PJM has explained, this shortfall is due to a confluence of various factors, particularly the "unprecedented surge in data center load" at a faster pace than new supply can come online,[61] and the "speed of connecting these large loads creates a fundamental misalignment between demand and supply cycles,"[62] resulting in "resource adequacy in the PJM service area [being] under significant stress."[63] Through this FPA section 205 filing, PJM seeks to build on its prior efforts to ameliorate the resource adequacy stress. PJM's proposal in this filing can be broadly thought of as consisting of five parts.

One, PJM proposes to clarify an LSE's obligation to bring new capacity in an amount that equals or exceeds its New Large Loads' peak load or be subject to load reduction requests during Emergencies prior to Pre-Emergency Load Management Response. In codifying this principle, which is similar to one already inherent in SPP's

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[61] *See 2027/2028 Base Residual Auction Reserve Target Shortfall Report*, PJM Interconnection, L.L.C., 1 (Feb. 9, 2026), https://www.pjm.com/-/media/DotCom/markets-ops/rpm/rpm-auction-info/2027-2028/2027-2028-bra-reserve-target-shortfall-report.pdf [https://perma.cc/TA3Y-95AX] ("2027/2028 BRA Report").

[62] 2027/2028 BRA Report at 4.

[63] 2027/2028 BRA Report at 2.

large load integration construct,[64] PJM is incentivizing resource adequacy and investing in generation and related infrastructure to meet the projected demand growth.

Two, PJM proposes to administer and maintain a new Large Load Registry. Through this centralized registry, PJM will be able to gain a better understanding of all the Large Loads currently on its system and the New Large Loads that will interconnect in the future. The registry will enable PJM to better forecast load growth, plan and manage the transmission system, and study and provide the anticipated new transmission services for co-located loads and Large Loads. PJM will not be the only beneficiary of the registry, as the proposed RAA language explicitly contemplates that the registry will be available to states, Transmission Owners, Electric Distributors, LSEs, the Independent Market Monitor for PJM, and the Commission, subject to appropriate confidentiality and data protection safeguards.

Three, PJM is proposing Interim Resource Adequacy Service, a new supplemental capacity product through which New Large Loads provide a load reduction service that is a tool available to PJM to manage resource adequacy shortfalls that would otherwise drive shedding of native loads. Interim Resource Adequacy Service Action will be issued prior to calling on Pre-Emergency Load Management, placing IRAS appropriately at the beginning of PJM's actions in the event of NERC Energy Emergency Alert Level 1 ("EEA1"), and PJM will update the Emergency Procedures in its PJM Manuals to detail how and when it may call on IRAS.

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[64] *See, e.g.*, *Sw. Power Pool*, 195 FERC ¶ 61,213, concur op. (Commissioner Rosner) at P 13; *Sw. Power Pool*, 195 FERC ¶ 61,196 at P 15; *Sw. Power Pool*, 194 FERC ¶ 61,031, concur op. (Commissioner Rosner) at P 1.

Four, PJM is proposing Bring Your Own New Capacity or "BYONC" as the category of new capacity eligible to address New Large Load capacity needs and through which a New Large Load can reduce the amount of Interim Resource Adequacy Service it may be asked to provide, consistent with the Electric Distributor's approved load reduction rules. The amount of IRAS a New Large Load will be eligible to make available is inversely proportional to the amount of new capacity the New Large Load has brought to the PJM system. New Large Loads have a number of "self-sufficiency" avenues (in the language of the Ratepayer Protection Pledge) to avoid facing potential load reduction under state curtailment priorities implementing IRAS at the retail level. Specifically, to the extent a New Large Load does not want to provide IRAS, it needs to contract with new capacity that meets the BYONC gating criteria, which are designed to ensure the capacity is actually new and not repackaged and will provide capacity over at least 10 years. Many New Large Loads have already committed through their recently executed Ratepayer Protection Pledge to fund the electricity generation and infrastructure their projects require. IRAS provides a tool available to PJM to manage resource adequacy issues through calling for load reductions from those New Large Loads that do not adhere to the Ratepayer Protection Pledge or have otherwise not brought new eligible capacity to offset their load additions.

Five, in future RPM Auctions, PJM is proposing to exclude from the VRR Curve New Large Loads, to the extent they do not have arrangements with sufficient BYONC, beginning with the 2029/2030 Delivery Year. To the extent New Large Loads do not procure BYONC to meet their capacity needs, the rest of PJM's load should not be exposed to the price impacts caused by those New Large Loads' procurement of their capacity needs through the RPM Auctions. PJM's proposal is designed to protect residential customers from capacity price increases resulting from the effects of New Large Loads and is therefore consistent with the Statement of Principles Regarding PJM issued on January 16, 2026, by the NEDC and the 13 governors of the PJM states and the Ratepayer Protection Pledge.[65]

As discussed below, to implement these concepts, PJM proposes to establish a new Attachment DD-4 to its Tariff to house the rules for Interim Resource Adequacy Service;[66] revisions to the RAA to establish the Large Load Registry and the resource adequacy obligations associated with interconnecting New Large Loads; and revisions to Tariff, Attachment DD to adjust the VRR Curve. While each of these provisions is detailed later in this transmittal letter, PJM takes this opportunity to describe the introductory section of proposed Tariff, Attachment DD-4. Specifically, section I provides that the rules in Attachment DD-4 are supplemented by the PJM Manuals and should be read "in conjunction with the Reliability Assurance Agreement."[67] From there, the basic concepts are introduced:

> (1) "Interim Resource Adequacy Service is a load reduction service, effective starting with the 2027/2028 Delivery Year . . . for the purpose of supporting the

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[65] PJM's proposal in this respect is based on the forecasted resource adequacy shortfalls and uncertainty today as to how much capacity will be procured through either the RBP or future BRAs. Nothing in this proposal is intended to bind PJM or the Commission in the future if and when the supply/demand balance becomes better aligned.

[66] At proposed Tariff, Attachment DD-4, the IRAS rules fit well alongside the other resource adequacy-related rules in the Tariff: Tariff, Attachment DD provides the Reliability Pricing Model rules, Tariff, Attachment DD-1 provides a copy of the RAA rules on Demand Resource participation in RPM, Tariff, Attachment DD-2 provides the rules for Peak Shaving Adjustments, and Tariff, Attachment DD-3 is the list of state policies or programs accepted as Conditioned State Support and subject to the Minimum Offer Price Rule.

[67] Proposed Tariff, Attachment DD-4, section I.

integration of New Large Loads to the PJM Region that are not in arrangements with new capacity additions to the PJM Region;"[68]

(2) PJM can call on IRAS load reductions prior to calling on Pre-Emergency Load Management Reductions Actions when needed to avoid a capacity shortage on a regional or sub-regional basis;[69]

(3) PJM will maintain the Large Load Registry "pursuant to the Reliability Assurance Agreement . . . [to] inform which New Large Loads are eligible to be called on to provide Interim Resource Adequacy Service;"[70] and

(4) PJM will "coordinate with Electric Distributors, and other Members as appropriate, on the provision of Interim Resource Adequacy Service" and any resulting compensation."[71]

Each of these concepts is borne out in the proposed IRAS rules described in this transmittal letter.

2. Responsibilities of PJM and Electric Distributors

Because successful implementation of Interim Resource Adequacy Service will require actions from PJM and Electric Distributors, PJM's proposal delineates broadly the responsibilities of PJM and Electric Distributors at the outset of proposed Tariff, Attachment DD-4. Section II of proposed Tariff, Attachment DD-4 provides that PJM shall be responsible for: maintaining the Large Load Registry; identifying Eligible New Large Loads and the MW quantity of IRAS needed for each Electric Distributor zone/area for a given Delivery Year, starting with the 2027/2028 Delivery Year; and issuing an Interim Resource Adequacy Service Action based on system conditions and Eligible New

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[68] Proposed Tariff, Attachment DD-4, section I(a).

[69] Proposed Tariff, Attachment DD-4, section I(b).

[70] Proposed Tariff, Attachment DD-4, section I(c).

[71] Proposed Tariff, Attachment DD-4, section I(d).

Large Load Amounts directing Electric Distributors to reduce load in accordance with such Interim Resource Adequacy Service Action.[72]

With regard to Electric Distributors, PJM proposes that they "shall" fulfill four tasks. One, Electric Distributors must execute PJM's load reduction directives when PJM issues an Interim Resource Adequacy Alert.[73] As discussed below in Part II.D.4.c, this does not mean that PJM will identify specific New Large Loads for the Electric Distributor to reduce; PJM will identify only aggregate MW values that need to be reduced, but such values will be based on the maximum IRAS value PJM determined for the Electric Distributor's zone/area prior to the Delivery Year. The Electric Distributors, in coordination with the appropriate states and/or RERRAs, LSEs, and LSE customers will determine which loads should ultimately reduce subject to IRAS. PJM here is simply memorializing current practice under which Electric Distributors, consistent with their state programs, determine how to implement load reduction directives.

Two, Electric Distributors must coordinate with PJM on the development and maintenance of the Large Load Registry. Specifically, PJM proposes that the Electric Distributors must provide PJM with "any information or data the Electric Distributor believes appropriate to facilitate an accurate Large Load Registry, including applicable state or RERRA retail tariff or contractual obligations."[74] This coordination is just and

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[72] Proposed Tariff, Attachment DD-4, sections II(a)-(e).

[73] Proposed Tariff, Attachment DD-4, section III(a). In full, this provision states: The Electric Distributor shall "execute the Office of the Interconnection's directives to implement Interim Resource Adequacy Service Actions among the Eligible New Large Loads in the Electric Distributor's zone/area, which is an area within a Zone for which the relevant Electric Distributor specifies a separate Obligation Peak Load MW value and is a service area of an Electric Distributor that is a separately identifiable, geographic area bounded by wholesale metering." *Id.*

[74] Proposed Tariff, Attachment DD-4, section III(b).

reasonable, as the Electric Distributor is privy to much of the information the proposed Large Load Registry seeks to maintain. As discussed below in Part II.B, the initial obligation to submit data to PJM is on the LSE serving the Large Load, but in order to increase the accuracy of the registry, PJM finds valuable—and needed—the information available to the Electric Distributors.

Three, Electric Distributors must "coordinate, as appropriate, with the relevant state(s) or RERRA(s), individual Load Serving Entities, and customers served by the Load Serving Entities in its zone/area to support transparent, effective, and orderly deployment of Interim Resource Adequacy Service."[75] Through this coordination requirement, PJM is not dictating how or on which terms the Electric Distributor must effectuate such coordination. Rather, as with the first responsibility discussed above, PJM is memorializing existing practices. And, here, PJM is merely articulating the expectation that the Electric Distributor will be the entity to identify, consistent with applicable state programs, the load to be reduced in response to an Interim Resource Adequacy Service Action.

Finally, the Electric Distributor shall "implement compensation program consistent with Tariff, Attachment DD-4, section X."[76] As discussed below in Part II.E, PJM is not mandating how IRAS-directed load reductions are to be compensated. PJM is proposing a just and reasonable maximum rate for such service. However, given that the Electric Distributors, in accordance with state programs, will have identified the loads to be

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[75] Proposed Tariff, Attachment DD-4, section III(c).

[76] Proposed Tariff, Attachment DD-4, section III(d).

reduced, it is the responsibility of the Electric Distributor and its applicable state regulator to determine the appropriate compensation scheme. PJM's proposal offers the Electric Distributor and their state regulator much flexibility in this regard.

B. The Large Load Registry (RAA, Schedule 11, Section B)

PJM is proposing to establish a registry of Large Loads in the PJM Region to be maintained by PJM and updated periodically, and which may be "available to Authorized Commissions, Transmission Owners, Electric Distributors, [LSEs], the Market Monitoring Unit, and [the Commission]" and other entities pursuant to the Operating Agreement, section 18.17, "subject to appropriate data protection safeguards required by Operating Agreement, section 18.17."[77] To the extent consistent with existing confidentiality protections in PJM's Governing Agreements, PJM is also proposing that aggregated data from the Large Load Registry be posted on the PJM website.[78]

The Large Load Registry will contain information about Large Loads in the PJM Region that will, *inter alia*, facilitate the transparent implementation of IRAS and assist the Commission and states in monitoring whether loads are, in fact adhering to the Ratepayer Protection Pledge commitment to "build, bring, or buy the new generation resources and electricity needed to satisfy their new energy demands" and "add[ing] more capacity that serves the broader public by increasing supply" in order to protect "Americans from higher prices."[79] PJM will use the registry to determine the quantity of New Large

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[77] Proposed RAA, Schedule 11, section B.1(d).

[78] Proposed RAA, Schedule 11, section B.1(e).

[79] Ratepayer Protection Pledge; Ratepayer Protection Pledge Announcement; *see also Fact Sheet: President Donald J. Trump Advances Energy Affordability with the Ratepayer Protection Pledge*, The White House (Mar. 4, 2026), https://www.whitehouse.gov/fact-sheets/2026/03/fact-sheet-president-donald-j-trump-

Loads by zone/area and allocate IRAS responsibility to each zone/area accordingly, starting with the 2027/2028 Delivery Year. States may leverage the Large Load Registry to inform the implementation of retail constructs including load reduction priorities and cost allocation at the retail level to appropriate end-use customers. The Large Load Registry will assist states in administering their respective programs at the retail level while allowing each state to retain the flexibility to administer those programs, including the flexibility to determine when and whether Large Loads and Existing Large Loads have demonstrated that their loads are matched with new capacity that they have procured to serve their needs. PJM also anticipates that the proposed Large Load Registry may also support recent efforts by NERC to "aggressively work[] toward revised registry criteria and standards"[80] in accordance with the Commission's recent order, pursuant to section 215(d)(5) of the FPA,[81] directing NERC to "develop changes to NERC's Rules of Procedure, including registry criteria, necessary for the registration of computational load entities."[82]

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advances-energy-affordability-with-the-ratepayer-protection-pledge/ [https://perma.cc/N366-NGF4] (listing the companies who joined the Ratepayer Protection Pledge).

[80] *Large Loads Action Plan: Understanding and addressing the reliability risks of emerging large loads*, North American Electric Reliability Corporation, https://www.nerc.com/initiatives/large-loads-action-plan [https://perma.cc/87WF-F4LV] (last visited Aug. 13, 2026);

[81] 16 U.S.C. § 824o(d)(5).

[82] *Reliability Standard(s) Pertaining to Computational Load Integration*, 196 FERC ¶ 61,031, at P 10 (2026). NERC has announced that it will be issuing its second draft of the registry criteria for public review on August 19, 2026. NERC, (@NERC_Official), X (Aug. 5, 2026, at 4:34 PM), https://x.com/NERC_Official /status/2085102044054953996 [https://perma.cc/4EWU-2E83].

1. Overwhelming support from PJM stakeholders for a New Large Load Registry to be established and maintained by PJM

PJM's proposal to establish a Large Load Registry received overwhelming support from PJM stakeholders. Indeed, in response to a poll of stakeholders posted on July 16, 2026, 82% of the 66 stakeholder respondents agreed that a Large Load registration requirement is necessary to "ensur[e] that costs of new capacity required to serve new large load should be allocated to data centers."[83] Furthermore, seven of the 10 proposals put forward by PJM's stakeholders similarly include a Large Load Registry.[84] In addition, in response to the July 16, 2026 poll of stakeholders, at least seven stakeholder respondents noted that the Large Load Registry is likely to provide the necessary transparency to identify Large Loads while supporting the overall success of the IRAS framework.[85] One stakeholder respondent noted that "[a] registry provides the transparency needed to identify new large loads, their locations, and whether they have secured qualifying BYONC or other

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[83] CIFP - RBP/Connect & Manage Poll Results at 4.

[84] *See* Connection and Manage Senior Task Force, *Implementation of Connect and Manage Framework for Large Load Interconnections Package/Proposal Matrix*, PJM Interconnection, L.L.C., Sheet 6 (3. Package Matrix) (June 30, 2026), https://www.pjm.com/-/media/DotCom/committees-groups/cifp-rbp/2026/20260630/20260630-cifp---connect-and-manage---options-and-packages-matrix.xls [https://perma.cc/59X5-P7WG] (The following stakeholder proposals also included the concept of a Large Load Registry: (1) Joint Electric Distribution Companies (Joint EDCs); (2) Glatz-Silverman; (3) Calibrant; (4) Joint Consumer Advocates; (5) Natural Resources Defense Council (NRDC); (6) E-Cubed Policy Associates; and (7) Voltus.).

[85] CIFP - RBP/Connect & Manage Poll Results at 33 (Stakeholder respondents noted that "[a] registry is necessary for both the Reliability Backstop Procurement and for the Connect & Manage framework to ensure costs and curtailments are assigned appropriately. Consistent with the Statement of Principles, a registry will ensure that new Large Load customers (cost causers), through the LSEs that serve them, are appropriately assigned the cost of capacity procured through the Reliability Backstop Procurement (RBP) mechanism. Absent a registry, it is unclear how other end-use consumers could be insulated from these costs. . . . Additionally, it is unclear how, absent a registry, a Connect & Manage framework could be implemented in a way that protects other end-use consumers from being curtailed in response to a PJM Connect & Manage event.").

reliability arrangements."[86] Another noted that "[a] registry is one means of satisfy[ing] the principle of ensuring that costs of new capacity required to serve new large load (i.e., data centers) should be allocated to data centers."[87] Overall, there was broad support across the stakeholder sectors for a registry registration requirement.[88]

2. *The proposed definition of Large Load is just and reasonable*

PJM's proposed Large Load Registry, which will provide the critical data transparency needed to establish load reduction priorities for retail customers through IRAS, begins with a definition of Large Load. PJM proposes to define Large Load as "end-use customer(s) load that has a cumulative peak load of 50 megawatts or greater at a single electrical site behind one or more points of interconnection, where for configurations involving multiple affiliated load facilities or multiple points of interconnection with affiliated load facilities behind them, all affiliated load facilities within a one-mile radius will be considered a single electrical site as further described in the PJM Manuals."[89]

PJM's proposed definition of Large Load is in line with the Commission's June 2026 Order to Show Cause regarding Large Loads, wherein the Commission expressly found that "PJM's Tariff appears to be unjust and unreasonable because it lacks a definition of large load, as a new category of load."[90] More specifically, the Commission held that

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[86] CIFP - RBP/Connect & Manage Poll Results at 32.

[87] CIFP - RBP/Connect & Manage Poll Results at 32.

[88] CIFP - RBP/Connect & Manage Poll Results at 5-6 (Of the 82% of stakeholder respondents that agreed that a large load registration requirement is necessary to ensure that costs of new capacity required to serve new load should be allocated to data centers, 18 were Electric Distributors, 16 were End-Use Customers, 6 were Generation Owners, 7 were Other Suppliers, and 7 were Transmission Owners).

[89] Proposed RAA, Definitions – Large Load.

[90] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 58.

"an appropriate definition, including a load size and interconnection voltage threshold, should be based on the characteristics of PJM's transmission system."[91] The Commission thus requested that PJM "explain whether the Tariff remains just and reasonable without such a definition, or propose Tariff revisions establishing its own definition of large load."[92]

The Commission, in its June 2026 Order to Show Cause, preliminarily found that, based on the record in the DOE ANOPR proceeding, "it appears that it would be reasonable to define a large load as a new, commercial or industrial customer, located at a single site behind one or more points of interconnection, and that has a peak load of 50 MW or greater, interconnects to the transmission system at a voltage level of greater than 69 [kilovolts ("kV")], and is not part of a co-location arrangement."[93] However, while the Commission stated that its proposed definition "appears . . . [to] be reasonable," the Commission furthermore acknowledged that PJM may establish "its own definition of large load."[94]

PJM proposes to define Large Load in terms that are substantially similar to the Commission's preliminary proposal. Specifically, like the Commission's preliminary definition, PJM is proposing that Large Load, as defined in the Tariff: (1) has a peak load of 50 MW or greater; (2) be located at a single site; and (3) be behind one or more points of interconnection. Nevertheless, PJM's proposed definition of Large Load differs from

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[91] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 58.

[92] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 58.

[93] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 58.

[94] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 58.

the Commission's in several ways to reflect the characteristics and realities of Large Loads in the PJM Region.

First, the 50 MW or greater threshold, as proposed by PJM, is a *cumulative* peak load of 50 MW. During the stakeholder process, PJM was informed that a single entity that is an end-use customer in PJM may actually consist of a number of smaller loads with a cumulative have a peak load of 50 MW or greater. Thus, to capture the smaller loads of a single entity—e.g., disparate, closely located data centers owned by a single company—and to avoid any gamesmanship from splitting up a Large Load into smaller loads, but all within the same area, PJM is proposing that the *cumulative* peak load be equal to or greater than a 50 MW threshold.

Second, Large Load is located at a single electrical site behind one or more points of interconnection *within a one-mile radius.* The one-mile radius requirement is intended to avoid a scenario where, for example, a data center owner is not categorized as Large Load simply because the owner has elected to site a number of smaller data centers, each with peak loads below 50 MW, close together.[95] The Commission has explicitly adopted a one-mile test in other situations to determine whether facilities are "at the same site" to be a Qualifying Facility There, the Commission has set and applied an irrebuttable presumption that they are a single facility at a single site when the distance between

[95] *Qualifying Facility Rates and Requirements Implementation Issues Under the Public Utility Regulatory Policies Act of 1978*, Order No. 872, 172 FERC ¶ 61,041 (revising one-mile rule for small power production facilities seeking Qualifying Facility status as an analog), *order on reh'g & clarifying in part*, Order No. 872-A, 173 FERC ¶ 61,158 (2020).

equipment at two facilities is one mile or less.[96] Adoption of a similar criterion for determining Large Loads is also just and reasonable.

Similarly, the reference to a single "electrical" site is similarly intended to avoid a scenario where data centers and other Large Loads avoid the 50 MW threshold by configuring themselves into smaller loads. Data centers and other Large Loads that are physically located together or act as a single facility are a single "electrical" site. In the same vein, companies may site many affiliated facilities in the same general areas but could site them in a manner that could allow the facilities to individually avoid falling within a definition of Large Load. Therefore, PJM is proposing to extrapolate in the definition that there are many different configurations that may constitute a single electrical site, particularly where there are multiple facilities that are affiliated in the same general area. These criteria are logical and helpful for purposes of defining Large Load and minimizing risks of gamesmanship.

Given the multitude of possible configurations and the other possible variations, PJM intends to detail in the PJM Manuals the method of calculating the one-mile distance and for examining different configurations to determine whether they may constitute a single electrical site. Such implementation details are needed, and explicitly called for in the proposed definition of Large Load.

Third, Large Load, as proposed by PJM, is defined as "*end-use customer(s) load*" rather than the Commission's proposed "new, commercial or industrial customer." PJM proposes to define Large Load to refer specifically to the MW quantity of the demand

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[96] Order No. 872, 172 FERC ¶ 61,041 at PP 17, 62, 466; *see* 18 C.F.R. § 292.204(a)(2).

created by the customer rather than the customer itself. In other words, as reflected below, during emergency conditions IRAS will not be used in real-time operations to require the reduction of specific end-use customers but, rather, will be focused on directing that a certain MW quantity be reduced by the Electric Distributor in order to maintain system reliability in the face of resource adequacy challenges. PJM is also proposing that Large Load encompass all end-use customer(s) load that meet the other requirements, thus avoiding singling out commercial or industrial customers specifically. That said, PJM does not contemplate that residential customers or smaller industrial customers would have peak loads anywhere near 50 MW, which represents, roughly, the electricity consumption of between 25,000 and 50,000 homes.[97]

Fourth, PJM's proposed definition of Large Load also excludes several provisions reflected in the Commission's definition. Namely, PJM is not proposing that Large Load be limited to connecting to the system at a voltage of 69 kV or greater, is not excluding co-location arrangements from the definition, and is not limiting the definition to new load. PJM understands that other regions have identified a need for specifying a voltage criterion in a Large Load definition because "different-size loads may have different impacts on the transmission system depending on the voltage level at which they interconnect," the prevalence of 69 kV transmission lines on their system, and the existence of transmission that is less than 69 kV.[98] While PJM's transmission system has some transmission that is

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[97] PJM is not using the Tariff defined term, "End-Use Customer," as not all relevant customers may necessarily fit under that term. End-Use Customer, as defined in the RAA, "shall mean a Member that is a retail end-user of electricity within the PJM Region." RAA, Article 1, Definitions (defining End-Use Customer). For purposes of this proposal, not all relevant customers of LSEs may be Members of PJM.

[98] *See Sw. Power Pool*, 194 FERC ¶ 61,031 at P 61.

less than 69 kV in certain zones, to date, PJM's processes and stakeholder engagement have not identified any need to draw a distinction between Large Loads connecting at different voltage levels given the specific purpose of IRAS as outlined herein. As such, PJM's proposed definition does not include the Large Load connecting to the system "at a voltage level of greater than 69 kV" criterion. PJM is also not proposing that the definition of Large Load exclude load that is "part of a co-location arrangement." Rather, PJM's proposed definition of Large Load is focused on the MW quantity threshold of load located close in distance at a single electrical site. Rather than entirely excluding such load from the definition of Large Load by virtue of its co-location with generation, PJM has proposed rules that specifically address situations in which Large Load is co-located with their own generation. Also, Large Load, as defined, is not limited to "new" load. Instead, PJM is proposing a separate definition, "New Large Load," to capture the temporal aspect of such load with greater specificity. In addition, PJM is proposing to define those New Large Loads that are eligible to provide IRAS as Eligible New Large Load. The definitions of New Large Load and Eligible New Large Load are described below in Parts II.B.3.a and II.C.6, respectively.[99]

3. Information reported in the Large Load Registry

PJM is proposing that LSEs submit information to PJM about the Large Loads they serve,[100] and also that PJM may obtain information, as needed, from the Electric

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[99] While PJM is proposing a just and reasonable definition of Large Load, as part of the ongoing NERC and large load show cause response efforts, PJM will continue to engage with the industry and stakeholders to consider operational impacts and requirements necessary to address situations where multiple unaffiliated loads aggregate up to or in excess of 50 MW in relatively close proximity to each other.

[100] Proposed RAA, Schedule 11, section B.1(a).

Distributors whose zone(s)/area(s) the LSEs are located and the Transmission Owner.[101] Furthermore, PJM may also consult with the Large Load.[102]

The Large Load Registry will contain the following information about each Large Load in the PJM Region:

- Eligible Customer/Network Customer for Large Load;
- Description of Large Load;
- Location(s) (Control Zone, Electric Distributor zone/area, where a zone/area is an area within a Zone for which the relevant Electric Distributor specifies a separate Obligation Peak Load MW value. A zone/area is a service area of an Electric Distributor that is a separately identifiable, geographic area bounded by wholesale metering);
- In-service date for each increment of load;
- Peak shaving adjustment value pursuant to a state program codified in state law and whether and how it meets the requirements of Tariff, Attachment DD-2;
- Delivery point / Point(s) of interconnection (include all if more than one);
- Peak load quantity (MW) and ramp schedule, if applicable;
- Telemetry specifications;
- BYONC quantity (MW) and ramp schedule, if applicable;
- Allocated RBP UCAP MW quantity (MW), if applicable;
- Backup generation (MW), including fuel type and relevant permitting limitations;
- Contracts or service agreements between the Large Load and the LSE;
- Points of contact at the applicable Transmission Owner, Electric Distributor, and Load Serving Entity;
- EMS B1/B2/B3 name (for the applicable Transmission Owner, Electric Distributor); and
- Additional details and contents as necessary, in accordance with the PJM Manuals.[103]

Each piece of information is a necessary component to the Large Load Registry and provides key information to PJM, as well as Authorized Commissions, Transmission

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[101] Proposed RAA, Schedule 11, section B.1(b).

[102] Proposed RAA, Schedule 11, section B.1(c).

[103] Proposed RAA, Schedule 11, section B.1(a).

Owners, Electric Distributors, LSEs, the Market Monitoring Unit, and the Commission, subject to data protection safeguards pursuant to the Operating Agreement, section 18.17, as discussed below in Part II.B.3.d. The information in the Large Load Registry will be used, as needed, for purposes that include implementation of IRAS, effective starting with the 2027/2028 Delivery Year.[104] Below, PJM describes how the information required to be reported in the Large Load Registry will support IRAS and allow PJM to determine the MW value of load that is required to be made available for IRAS in each Electric Distributor zone/area.

a. Information in the Large Load Registry will help PJM distinguish Large Loads from New Large Loads and identify New Large Loads eligible for IRAS.

The information submitted to or obtained by PJM for inclusion in the registry will allow PJM to distinguish Large Loads from New Large Loads. As noted above, PJM's proposed definition of Large Loads, unlike the Commission's, does not require that the Large Load is new. Rather, PJM is proposing a separate definition of New Large Load, which will mean "an end-use customer load that is either (a) a Large Load that goes into service after June 1, 2027, or (b) incremental load in-service after June 1, 2027, that increases the existing end-use customer load at a single electrical site that, prior to such incremental load, did not previously meet the definition of Large Load."[105]

The in-service date for the Large Load, including each increment of Large Load coming online, is a critical piece of information, because only New Large Load may be

[104] Proposed RAA, Schedule 11, section B.3.

[105] Proposed Tariff, Definitions – New Large Load.

designated "Eligible New Large Load"—i.e., New Large Load that is eligible to provide IRAS. The reason for this is straightforward. Namely, IRAS applies in Delivery Years when the amount of Capacity Resources committed falls short of the PJM Region Reliability Requirement.[106] As described below in Part II.C.7, such a shortfall arises when new load comes onto the PJM system without bringing their own capacity. IRAS, as proposed, is a service that specifically allows for Large Loads to interconnect without bringing their own capacity, on the condition that "they must reduce their load or switch to on-site backup resources under specific, limited" emergency conditions.[107] Furthermore, in recent years, the majority of the new load that has come onto the PJM system has been Large Load.[108] PJM is therefore limiting the MW quantity of Large Load that may be subject to reduction pursuant to IRAS to the MW value of New Large Load that has not brought their own capacity.

At the beginning of IRAS, New Large Load will be Large Load that is in-service after June 1, 2027.[109] In subsequent years, the relevant in-service date for a Large Load to qualify as New Large Load will fluctuate based on whether or not IRAS is needed in the manner set forth below. Thus, the in-service date will continue to be relevant to IRAS in future years. More specifically, pursuant to PJM's proposed definition of New Large Load,

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[106] Proposed Tariff, Attachment DD-4, sections IV(b)(i)-(ii).

[107] CIFP Framework for Service at 1.

[108] August 2025 Board Letter at 1 ("Recent increases in large load additions, mainly from data centers, present both opportunities and challenges for the regional grid. PJM's location, size, market opportunities and system reliability make it an attractive area for large load customers to locate, and we continue to see significant load interconnection activity at several of our utilities. Indeed, PJM's 2025 long-term load forecast shows a peak load growth of 32 GW from 2024 to 2030. Of this, approximately 30 GW is projected to be from data centers.").

[109] Proposed Tariff, Definitions – New Large Load.

"to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then New Large Load shall mean end-use customer load that is either (a) a Large Load that goes into service after June 1 of the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met or (b) incremental load in-service after June 1 of the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met that increases the existing end-use customer load at a single electrical site that, prior to such incremental load, did not previously meet the definition of Large Load."[110]

b. Information in the Large Load Registry will assist in identifying Eligible New Large Loads that may be called on to reduce their load or switch to on-site back-up resources pursuant to IRAS.

In a Delivery Year where IRAS applies, the MW subject to IRAS that PJM will allocate to an Electric Distributor zone/area will be limited to the MW quantity of New Large Loads in that zone/area without arrangements for BYONC or RBP UCAP MW allocated to them. PJM is therefore proposing that the Large Load Registry include information needed to distinguish between New Large Load with and without arrangements for capacity including, for example, the BYONC quantity and schedule for incremental build out of the New Large Load's energy demands (i.e., ramp schedule), and the quantity of Allocated RBP UCAP MW associated with each Large Load. Information in the registry will assist PJM in determining the quantity of New Large Loads by zone/area that did not BYONC (or have RBP UCAP MW) and allocate an appropriate MW value of

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[110] Proposed Tariff, Definitions – New Large Load.

IRAS responsibility to each zone/area starting with the 2027/2028 Delivery Year. Using the registry information, and subject to real-time needs of the system, New Large Loads that have not arranged for BYONC or been assigned Allocated RBP UCAP MW may, in accordance with arrangements involving the Electric Distributor and relevant state authorities, be subject to load reduction prior to the MW quantity associated with other, in-service New Large Loads that have arrangements with BYONC and/or Allocated RBP UCAP MW in the registry.

c. Information in the Large Load Registry will assist PJM operators in determining how best to support reliability during periods of insufficient capacity.

Much of the information that PJM is proposing to require in the Large Load Registry is needed by the Electric Distributor and state authorities to make decisions that will, in turn, also inform determinations by PJM operators about how best to manage the system and avoid a Manual Load Dump Action.[111] For example, the peak load MW value associated with a Large Load in a particular Electric Distributor zone/area will help inform PJM operators of the potential capacity needs in that particular zone/area. The peak shaving adjustment value pursuant to a state program codified in state law and meeting the requirements of Tariff, Attachment DD-2 will inform PJM operators of Large Loads that are managing their resource needs through peak shaving adjustments under a state program.

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[111] Systems Operations Division, *PJM Manual 13: Emergency Operations*, PJM Interconnection, L.L.C., section 2.3.2 (rev. 98, June 24, 2026), https://www.pjm.com/-/media/DotCom/documents/manuals/m13.pdf [https://perma.cc/HE9Y-BNQK] ("PJM Manual 13") (defining a Manual Load Dump Action as "an Operating Instruction from PJM to shed firm load when the PJM RTO cannot provide adequate capacity to meet the PJM RTO's load and tie schedules, or critically overloaded transmission lines or equipment cannot be relieved in any other way").

The locations, including the service zone/area of an Electric Distributor, of each Large Load will assist PJM operators in managing capacity needs across the PJM Region.

Furthermore, as noted above, PJM is not excluding co-located load or load with backup generation from the definitions of Large Load and New Large Load. To the extent that Large Load is co-located or has backup generation, PJM is proposing that this be identified in the Large Load Registry.

d. Confidentiality pursuant to Operating Agreement, section 18.17

PJM is proposing to maintain the confidentiality of the information in the Large Load Registry "[t]o the extent such documents, data, or other information provided to the Office of the Interconnection has been designated as confidential by a Party, Electric Distributor, or other entity supplying the information," pursuant PJM's existing confidentiality obligations under Operating Agreement, section 18.17.[112] Furthermore, subject to the appropriate data protection safeguards required by Operating Agreement, section 18.17, information maintained in the Large Load Registry may be available to Authorized Commissions, Transmission Owners, Electric Distributors, LSEs, the Market Monitoring Unit, the Commission.[113]

In addition, to aid transparency to the public, PJM will post aggregated data from the Large Load Registry, which will be aggregated by Electric Distributor zone/area, where possible and in a manner consistent with existing confidentiality protections. Aggregating the data by zone/area supports transparency by putting stakeholders on notice of the

[112] Proposed RAA, Schedule 11, section B.1(d).

[113] Proposed RAA, Schedule 11, section B.1(d).

zones/areas that have been assigned IRAS in a given Delivery Year, that may be potentially required to reduce load under certain emergency conditions pursuant to IRAS, while maintaining the confidentiality of the data.

Furthermore, PJM intends to develop provisions in its Manuals to implement the Large Load Registry, as needed, including details about who may access the information and specific safeguards in place to maintain the confidentiality of certain data. PJM intends, for example, to propose revisions to its Manuals that would permit Electric Distributors to access their specific information in the registry. PJM anticipates that each Large Load will have a specific randomized identifier in the registry, and that Electric Distributors will inform customers who have been included in the Large Load Registry and each customer's Large Load identifier. To link Large Load to a BYONC resource, a Capacity Market Seller may input the relevant BYONC resource into their account and associate it with the Large Load identifier. By relying on randomized identifiers, PJM effectively allows for some transparency while also maintaining confidentiality of Large Loads with BYONC.

e. Reliance on Large Load Registry must reflect accurate and complete information on which PJM may determine a baseline.

PJM will review the information provided and coordinate with the applicable Transmission Owner and Electric Distributor to check the validity of the information provided, request additional information if needed, and consult with the Large Load.[114] The information provided in the Large Load Registry will form the foundation for an

[114] Proposed RAA, Schedule 11, section B.1(c).

accurate, complete, and reliable database that will inform, *inter alia*, decisions about the MW quantity of New Large Loads that is available to provide IRAS in a Delivery Year.

PJM is aware that false or misleading statements about, for example, Peak Load Contributions could give rise to inaccurate baselines on which PJM would rely in the course of determining Eligible New Large Load Amounts, i.e., the MW value of load that an Eligible New Large Load in a given zone/area may be required to be made available for IRAS.[115]

The longstanding provisions against intentionally false statements or omissions of material fact extend to the reporting of information to the Large Load Registry. Specifically, pursuant to FPA section 222[116] and 18 C.F.R. § 1c.2, "it shall be unlawful for any entity, directly or indirectly, in connection with the purchase or sale of electric energy or the purchase or sale of transmission services subject to the jurisdiction of the Commission, . . . [t]o make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading."[117] Furthermore, to the extent that Electric Distributors, LSEs, and Large Loads are "Sellers,"[118] they are required, pursuant to the Commission's Rules and Regulations, to "provide accurate and factual

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[115] Indeed, falsifying or artificially lowering Peak Load Contributions for purposes of increasing profits for the provision of demand response has given rise to significant scrutiny by the Commission's enforcement office. *See Lincoln Paper & Tissue, LLC*, 140 FERC ¶ 61,031 (2012); *Competitive Energy Servs. LLC*, 144 FERC ¶ 61,163 (2013).

[116] 16 U.S.C. § 824v.

[117] 18 C.F.R. §§ 1c.1(a), 1c.2(a); 16 U.S.C. § 824v.

[118] A "Seller" is "any person that has authorization to or seeks authorization to engage in sales for resale of electric energy, capacity or ancillary services at market-based rates under section 205 of the Federal Power Act." 18 C.F.R. § 35.36(a)(1).

information and not submit false or misleading information, or omit material information, in any communication with the Commission," as well as with PJM, "unless Seller exercises due diligence to prevent such occurrences."[119]

False or misleading statements or material omissions may give rise to a referral to the Commission's Office of Enforcement and Regulatory Accounting. Violators, including individuals, of the duty of candor and the prohibition against false or misleading statements may be subject to significant penalties, including civil penalties of over $1.5 million per violation per day.[120] The authority of PJM to validate the information submitted into the database and consult with the Large Load supports PJM's efforts to make the Large Load Registry an accurate and reliable dataset. Furthermore, the underlying prohibition against false or misleading statements or material omissions provides PJM with reasonable confidence that the information provided will be a reliable basis for establishing a baseline for purposes of IRAS.

4. PJM's exercise of authority to require information from LSEs and Electric Distributors, and to obtain information from Large Loads and other entities

PJM is proposing to require that the information used to develop and maintain a Large Load Registry be "submit[ted] or cause to be submitted" to PJM by LSEs, pursuant to proposed RAA, Schedule 11, section B.1(a).[121] In addition, PJM proposes to obtain information from Electric Distributors,[122] to coordinate with applicable Transmission

[119] 18 C.F.R. § 35.41(b).

[120] *Civil Monetary Penalty Inflation Adjustments*, Order No. 906, 190 FERC ¶ 61,006 (2025).

[121] Proposed RAA, Schedule 11, section B.1(a).

[122] Proposed RAA, Schedule 11, section B.1(b).

Owners and Electric Distributors, as needed, to validate the information provided in the Large Load Registry, and/or to consult with relevant Large Loads.[123]

The data PJM is requesting for the Large Load Registry in this proposal builds upon PJM's existing authority and Commission precedent. Authority exists today in the Operating Agreement to require Electric Distributors to provide to PJM "all System, accounting, customer tracking, load forecasting (including all load to be served from its System) and other data necessary or appropriate to implement or administer [the Operating Agreement], and the Reliability Assurance Agreement[.]"[124] The Commission has also previously accepted proposals by PJM to require and obtain information from jurisdictional entities such as Electric Distributors and LSEs. For example, in 2024, the Commission accepted PJM's proposed revisions to the RAA to incorporate, into its forecast, Load Adjustments, which would be reported by Electric Distributors and/or their LSEs.[125]

Furthermore, PJM's information-gathering authority is wide, and the Commission has permitted PJM to seek information from non-jurisdictional entities such as retail customers to the extent that the information is relevant to Commission-jurisdictional services and rates.[126] Indeed, an analogous practice can be found in longstanding

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[123] Proposed RAA, Schedule 11, section B.1(c).

[124] Operating Agreement, section 11.3.3(h).

[125] *PJM Interconnection, L.L.C.*, 188 FERC ¶ 61,200, at P 40 & n.65 (2024) (finding that an "Electric Distributor is the party with the distribution and metering facilities defining a zone/area and responsible for reporting load information to PJM[,]" and also noting that, "'under the current framework, each LSE already reports their peak load contribution to the Electric Distributor, which is the entity ultimately responsible for reporting that information to PJM.'" (quoting *PJM Interconnection, L.L.C.*, Response to Deficiency Letter, Request for Commission Action by September 23, 2024, Request for Waiver of the 60-Day Notice Requirement, and Request for a Shortened Seven Business Day Comment Period, Docket No. ER24-2447-001, at 9-10 (Aug. 9, 2024))).

[126] *FERC v. Elec. Power Supply Ass'n*, 577 U.S. 260, 278-79 (2016) ("*EPSA*"); FPA section 201(b), 16 U.S.C. § 824(b).

requirements applicable to Demand Resources, as set forth in Order No. 719-A.[127] In that order, the Commission prohibited PJM and other RTOs/Independent System Operators ("ISO") from accepting bids from Curtailment Service Providers that aggregated demand response of customers of utilities distributing below a MW per hour threshold unless otherwise permitted by an appropriate retail authority.[128] To comply with Order No. 719-A, the Commission required that PJM and other RTOs/ISOs review evidence and information concerning end-use customer participation in load response programs. In PJM's case, PJM explained that, "when an LSE or Electric Distribution Company does not present evidence that the Retail Authority permits or conditionally permits demand response activity, the registration will not be processed until evidence of Retail Authority authorization for the resource's participation in PJM's load response programs is provided to PJM within the established deadlines."[129]

Furthermore, PJM's authority to obtain "data and details concerning large load additions" finds support in the Commission's June 2026 Order to Show Cause, which expressly required PJM and the PJM Transmission Owners to post and regularly update data and details concerning large load additions.[130]

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[127] *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719-A, 128 FERC ¶ 61,059, *order on clarification*, Order No. 719-B, 129 FERC ¶ 61,252 (2009).

[128] Order No. 719-A, 128 FERC ¶ 61,059 at P 60; *PJM Interconnection, L.L.C.*, 135 FERC ¶ 61,211, at P 3 (2011).

[129] *PJM Interconnection*, 135 FERC ¶ 61,211 at P 3 (citing *PJM Interconnection, L.L.C.*, Request for Limited Tariff Waiver, and Request for Fast Track Processing of PJM Interconnection, L.L.C., Docket No. ER11-3386-000, at 4-5 (Apr. 19, 2011)).

[130] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 74.

In fact, the Commission found, therein, that PJM's Tariff appeared to be unjust and unreasonable because it lacked, *inter alia*, "provisions that would require PJM and the Transmission Owners to publicly post and regularly update data that details: (1) the aggregate amounts of proposed large load additions in PJM's footprint, including the aggregate amounts in each transmission pricing zone."[131] In particular, the Commission expressed concern that "without sufficient transparency . . . stakeholders may lack information and visibility regarding the costs driven by large load additions."[132] Likewise, the Large Load Registry provides transparency to PJM, states, the Independent Market Monitor for PJM, and other entities with the ability to obtain such information and—through aggregated data posted on PJM's website—transparency to stakeholders, regarding the zones/areas with the greatest concentrations of Large Loads that may be eligible to provide IRAS during a particular Delivery Year. As such, PJM's proposal to gather the data, materials, and other inputs into the Large Load Registry is in line with the Commission's overall interest in supporting transparency with respect to information about Large Loads.

[131] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 76.

[132] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 74.

C. New Large Loads Can Avoid Being Subject to Interim Resource Adequacy Service by Bringing New Capacity to Offset Their Capacity Needs. This Is Consistent with the Ratepayer Protection Pledge and Is a Just and Reasonable Condition to Maintaining System Reliability.

1. Requirement for New Large Loads to bring capacity or be subject to load reductions

To make clear an LSE's obligations associated with bringing a New Large Load to the transmission system, PJM is proposing a new section 7.8 to the RAA. Article 7 of the RAA is for detailing LSEs Reserve Requirements and Obligations, and PJM proposes to expand those obligations, effective June 1, 2027, to include a requirement that the LSE serving each New Large Load "designate one or more Generation Capacity Resources or Capacity Storage Resources that had not cleared an RPM Auction as Network Resource(s) in a cumulative amount that equals or exceeds the LSE's New Large Load's peak load (in MW) as reported in the Large Load Registry pursuant to RAA, Schedule 11."[133] To the extent, the LSE does not designate a sufficient amount of Network Resources, then "such New Large Load may be subject to load reduction requests during Emergencies prior to Pre-Emergency Load Management Response."[134] This provision of the proposed section, while it includes the concepts that underlie the IRAS framework, is not dependent on Commission acceptance of the IRAS rules in proposed Tariff, Attachment DD-4 to be effective.

To tie this concept with the IRAS program, PJM further proposes a second sentence that joins this provision with the IRAS program. Specifically, it provides that to the extent

[133] Proposed RAA, section 7.8.

[134] Proposed RAA, section 7.8.

an LSE service a New Large Load has not "designated such Network Resource(s) as BYONC with which it has entered into an arrangement in accordance with this requirement and Tariff, Attachment DD-4," the New Large Load will need to provide IRAS "subject to the rates, terms, and conditions of Interim Resource Adequacy Service, as set forth in Tariff, Attachment DD-4."[135] These IRAS rates, terms, and conditions are discussed in the following sections of this transmittal letter.

2. *Bring Your Own New Capacity arrangements with New Large Load*

To incentivize Large Loads to address the capacity shortfall caused by their rapid growth, in both speed to interconnection and volume of capacity needed, PJM is proposing to allow New Large Loads to remove themselves—in whole or in part—from the MW eligible for IRAS where such loads bring new capacity to the PJM Region. As discussed below, to ensure such capacity is in fact "new" and not simply existing generation capacity that is repackaged, and to ensure the benefits of the new capacity are not ephemeral and will not dissipate quickly, PJM is proposing for such new capacity certain gating criteria and imposing capacity market participation requirements.

a. <u>PJM proposes to define BYONC as new megawatts of Unforced Capacity.</u>

Before turning to the gating criteria and market participation requirements, it is important to understand what this new capacity is definitionally. First, PJM is calling this new capacity "Bring Your Own New Capacity," or "BYONC" for short, to convey that the New Large Load should bear some responsibility for bringing this new capacity to correspond with the addition of the New Large Load.

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[135] Proposed RAA, section 7.8.

Second, at a basic level, BYONC is "megawatts of Unforced Capacity."[136] This is consistent with how Capacity Resources under PJM's capacity market design are also MW and not the underlying physical resource that supports a Capacity Resource.[137] RPM Auctions clear MW of UCAP; that is the traded product. Thus, in the same vein, BYONC is designed to offset the capacity need presented by the New Large Load. Further, as discussed below, BYONC will also be Capacity Resources, but will be a subset of Capacity Resources that have arrangements with New Large Loads, must meet the BYONC RPM participation requirements discussed below, and also must meet all applicable requirements for Capacity Resources.[138]

In addition, defining BYONC as simply MW provides significant flexibility in how New Large Loads meet their capacity requirements and how resources can provide BYONC to New Large Loads, and provide a more liquid marketplace for matching New Large Loads with BYONC. For example, a New Large Load can enter into BYONC arrangements with multiple qualifying resources to cover its peak load, and likewise, a resource can provide MW for purposes of entering into BYONC arrangements with multiple New Large Loads so long as these arrangements are clearly identified and consistent with the Large Load Registry. Through this approach of commoditizing the capacity attributes of a physical resource, the lumpiness inherent in matching New Large

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[136] *See* proposed Tariff, Definitions – Bring Your Own New Capacity.

[137] *See* RAA, Article 1, Definitions ("'Capacity Resources' shall mean megawatts . . . ."); *see also Energy Harbor, LLC v. FERC*, 143 F.4th 388, 394 (D.C. Cir. 2025) ("The [PJM] Tariff defines a Capacity Resource as the amount of net megawatts committed from one or many generating units, not a physical facility." (citation omitted)).

[138] *See* proposed Tariff, Attachment DD-4, section VI.

Loads with physical resources is smoothed, allowing for a more efficient and timely means of addressing the capacity shortfall otherwise caused by the addition of New Large Loads.

Third, the capacity must be "new." Given that PJM is currently short of capacity and looking to reestablish a healthy capacity reserve margin, PJM is proposing that any capacity added to the system starting with the 2027/2028 BRA will qualify as new—subject to the gating criteria discussed below, while capacity already on the system would not fall within the definition of BYONC.

For the same reason, PJM is proposing that "[m]egawatts of Unforced Capacity that have been previously included in an FRR Capacity Plan prior to the 2027/2028 Delivery Year do not qualify as BYONC."[139] The capacity must be new to the PJM system, not just new to the capacity market.[140] As such, New Large Loads should only be exempted from IRAS if it has arrangements with capacity not already on the system as of May 31, 2027, the day before IRAS becomes available as a tool for PJM operators.

However, in the event the PJM Region has sufficient capacity to meet the PJM Region Reliability Requirement for three consecutive Delivery Years, the IRAS rules will not apply—no IRAS will be required, and BYONC will not be needed to address New Large Loads' capacity needs. In such circumstance, all existing BYONC would be relieved of their BYONC market participation requirements and can be just regular Capacity Resources.[141] But, to the extent the PJM Region again falls short of securing sufficient

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[139] *See* proposed Tariff, Definitions – Bring Your Own New Capacity.

[140] *See* proposed RAA, Schedule 8.1, section D 1.1 ("An FRR Entity may not include in its FRR Capacity Plan any MW quantity of Existing Generation Capacity Resource in excess of what such FRR Entity owned or contracted by such FRR Entity prior to June 1, 2027, to serve New Large Load.").

[141] *See* proposed Tariff, Attachment DD-4, section IV(b)(iii).

capacity to meet the PJM Regional Reliability Requirement and the need for IRAS arises, then the "new" capacity needed will no longer be measured against the capacity in the system prior to the 2027/2028 Delivery Year. Rather, it will be measured against the capacity supply existing at that time, such that BYONC would be any new capacity that has "not cleared in an RPM Auction conducted for a Delivery Year prior to the first Delivery Year" in which the PJM Region is short of capacity, while still meeting the gating criteria.[142]

b. PJM is proposing reasonable gating criteria designed to stimulate development of new capacity.

Such new capacity may be supported by generation, storage, or demand-side resources that meet certain gating criteria. The gating criteria are designed to ensure that the capacity is "new" and not a repackaging of existing capacity or capability.

Thus, for generation and storage resources, PJM proposes that the BYONC must be supported by: "(1) a new-build generation resource including new resources that obtain Capacity Interconnection Rights [("CIR")] transferred from deactivated resources or resources that have announced deactivation as of April 10, 2026; (2) the incremental capacity created by an uprate of Existing Generation Capacity Resources, but only to the extent such incremental capacity is created through an increase in such Generation Capacity Resource's installed capacity and increase in [CIRs] associated with that Generation Capacity Resource; (3) the incremental capacity created by the utilization of Surplus Interconnection Service; (4) repowering of a deactivated generation resource that

[142] *See* proposed Tariff, Attachment DD-4, section VI(a)(ii).

deactivated prior to April 10, 2026; or (5) incremental capacity, whether due to greater Unforced Capacity or a higher level of [CIRs], created by an Existing Generation Capacity Resource's changing fuel type to a more efficient fuel type."[143] Each of these gating criteria ensures that the BYONC will be capacity that was not on the transmission system or otherwise available to meet the PJM Region's needs as of June 1, 2027.

Because capacity may also be supplied by demand-side resources, PJM proposes that BYONC may be supported by Planned Demand Resource or Planned Distributed Energy Resources ("DER") Capacity Aggregation Resources, as described in RAA, Schedule 6 and Schedule 6.2. Such resources would need to be composed of registered locations that did not previously support a capacity commitment or reduce the amount of capacity needed to meet the PJM Region Reliability Requirement through a Peak Shaving Adjustment or Price Responsive Demand for or prior to the 2026/2027 Delivery Year.[144] Thus, just as for BYONC supported by generation and storage resources, demand-side BYONC would need to be "new" starting June 1, 2027. However, this date would need to be reset in the event the PJM Region has sufficient capacity to meet the PJM Region Reliability Requirement for three consecutive Delivery Years—meaning the IRAS rules would not apply and BYONC will not be needed—and then the PJM Region again falls short of securing sufficient capacity to meet the PJM Regional Reliability Requirement. As discussed, such capacity shortage would trigger the need for IRAS again. In such circumstance, because the "new" capacity would need to be measured against the capacity

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[143] *See* proposed Tariff, Attachment DD-4, sections VI(b)(i)(1)-(5).

[144] *See* proposed Tariff, Attachment DD-4, sections VI(b)(ii)(1)-(2).

supply existing at that time, any demand-supported capacity would need to be "composed of, or reliant on, any location registered in the Delivery Year prior to the first Delivery Year" the PJM Region experienced the capacity shortage.[145]

3. *To ensure the capacity benefits of BYONC are real and lasting, PJM is proposing certain RPM participation requirements.*

For BYONC to address the capacity needs of New Large Loads, BYONC must be Capacity Resources, with all attendant rights and obligations, and obtain capacity commitments. PJM is proposing a number of RPM participation requirements designed to obtain the maximum capacity benefit from the BYONC.

First, all BYONC must be Capacity Resources,[146] and when committed through an RPM Auction to provide capacity, the BYONC "will be subject to all capacity market rules, as set forth in Tariff, Attachments DD and DD-1."[147] While these requirements may seem obvious, they make clear to all entities the rules and obligations that accompany arrangements between the UCAP of their resource and New Large Loads. Thus, if the resource supporting BYONC fails to appear or is otherwise unavailable for a Delivery Year, the seller will be subject to "all relevant deficiency charges under Tariff, Attachment DD."[148]

Second, to ensure that BYONC clear the auction and obtain a capacity commitment, PJM proposes a general requirement that each BYONC must participate, as a price taker (i.e., \$0/MW offer) in RPM Auctions for 10 consecutive Delivery Years, starting with the

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[145] Proposed Tariff, Attachment DD-4, section VI(b)(ii)(1).

[146] *See* proposed Tariff, Attachment DD-4, section VIII(a).

[147] Proposed Tariff, Attachment DD-4, section VIII(c).

[148] Proposed Tariff, Attachment DD-4, section VIII(d).

first Delivery Year of the arrangement with New Large Load.[149] As part of this 10-year participation requirement, PJM is proposing that the BYONC would be subject to the "capacity must-offer requirements and exceptions set forth in Tariff, Attachment DD, sections 6.6 and 6.6A," and that the BYONC would be prohibited from "seek[ing] an exception to the capacity must-offer requirement to provide an external sale" during this 10-year period.[150]

The 10-year participation requirement for generation and storage resources, including the no-external-sale rule, is just and reasonable. It is designed to ensure that this BYONC is real and lasting. New capacity brought to address a New Large Load's significant capacity demands should not be allowed to sell its capacity attributes outside of PJM. Such would undermine the purpose of BYONC, particularly given that New Large Loads with BYONC arrangements are included in the demand curve. If the new capacity was able to withdraw from serving as a PJM Capacity Resource, but the load continued to be considered in the VRR Curve, then the New Large Load would no longer be the entity responsible for procuring its capacity. Rather, that obligation would have been transferred to PJM and shared with other PJM loads, contrary to the purpose of the IRAS scheme.

BYONC supported by a Demand Resource or DER Capacity Aggregation Resource likewise has a 10-year commitment.[151] However, the seller of the BYONC may replace its

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[149] *See* proposed Tariff, Attachment DD-4, section VIII(e).

[150] Proposed Tariff, Attachment DD-4, section VIII(b).

[151] *See* proposed Tariff, Attachment DD-4, section VIII(e) ("To the extent the resource is a Demand Resource or DER Capacity Aggregation Resource, the BYONC shall participate in RPM Auctions for ten (10) consecutive Delivery Years as an Annual Demand Resource or DER Capacity Aggregation Resource, as applicable.").

BYONC obligation with a different BYONC subject to certain conditions. First, the initial BYONC seller (i.e., the releasing BYONC) must report—or cause to be reported—the new arrangement with the replacement BYONC in accordance with the reporting rules, and the replacement BYONC seller will need to provide the certification attesting to the arrangement. Second, the replacement BYONC must be for the remainder of the releasing BYONC's 10-year commitment. And, third, the releasing BYONC (and its supporting registrations) may no longer provide BYONC going forward.[152]

This exception to the 10-year commitment for demand-supported BYONC is just and reasonable, as it increases commercial opportunities for BYONC without adversely affecting the region's ability to address its capacity needs. PJM understands that this exception provides New Large Loads a "bridge to power" of near-term demand-supported capacity that is eventually replaced with new generation as that supply comes online. As such, it increases opportunities for New Large Loads to spur the development of additional capacity in a few years, while relying on existing (or their own) demand-side capacity capability.

The requirement to offer BYONC MW as price takers ($0/MW) is both just and reasonable. To realize the capacity benefits of a BYONC arrangement, the resource must successfully clear an RPM Auction and secure a capacity commitment. The BYONC arrangement itself serves as the commitment to provide this capacity. Because the resource is already obligated to provide the capacity, its incremental, going-forward avoidable costs

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[152] *See* proposed Tariff, Attachment DD-4, section VIII(e).

to secure the RPM commitment are zero. Offering as a price taker directly reflects this zero-cost profile and guarantees the resource clears the auction.

This treatment also preserves market balance. Matching the inclusion of New Large Loads in the VRR Curve (demand side) with the corresponding BYONC MW in the supply stack at $0/MW creates a symmetrical, one-for-one addition. This structure prevents artificial price shifts, resulting in an effectively price-neutral outcome for the rest of the market. This mechanism is consistent with existing Commission-approved rules for other resources retained for reliability purposes, which are also treated as price takers.[153]

Finally, however, BYONC RPM participation requirements are extinguished if IRAS is not needed for three consecutive Delivery Years.[154] This means that the BYONC would no longer be required to offer as price takers for the remainder of their 10-year term. Because they are Capacity Resources BYONC would still be subject to the capacity must-offer requirement (to the extent they are not supported by Demand Resources or DER Capacity Aggregation Resources). But, they would be free to meet the requirements for an exception based on an external sale.

[153] *See, e.g.*, *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,088, at P 50, *reh'g denied*, 192 FERC ¶ 61,135, at PP 31-34 (2025); *Indep. Power Producers of N.Y. v. N.Y. Indep. Sys. Operator, Inc.*, 150 FERC ¶ 61,214 (2015), *order granting in part & denying in part clarification & reh'g*, 170 FERC ¶ 61,118 (2020); *N.Y. Indep. Sys. Operator, Inc.*, 150 FERC ¶ 61,116 (2015), *order on reh'g & compliance*, 155 FERC ¶ 61,076 (2016), *order on reh'g & compliance*, 161 FERC ¶ 61,189 (2017), *order on clarification & reh'g*, 163 FERC ¶ 61,047 (2018); *see also ISO New Eng. Inc.*, 165 FERC ¶ 61,202, at PP 82-88 (2018) (approving price taker treatment for resource retained for fuel security purposes), *order addressing arguments raised on reh'g*, 173 FERC ¶ 61,204 (2020).

[154] *See* proposed Tariff, Attachment DD-4, section VIII(f).

4. Reporting arrangements between BYONC and New Large Loads, and obligatons on BYONC of an arrangement

The purpose of the BYONC construct is to incent New Large Loads to facilitate the development of new capacity so that the PJM Region has sufficient capacity to maintain reliability without entering into a capacity shortage and/or having to shed existing native load customers. To do so, the New Large Loads need to be able to get credit for any BYONC they facilitate.[155] PJM proposes to give them credit by allowing New Large Loads to report to PJM an arrangement the New Large Load enters into with BYONC, and such arrangement will result in a reduction in the New Large Loads MW available to provide Interim Resource Adequacy Service.

a. <u>The clear two-step process for PJM to recognize arrangements between New Large Loads and BYONC</u>

Obtaining recognition for arrangements between BYONC with a New Large Load is a relatively basic process, with only two steps. One, an entity needs to report the arrangement to PJM by identifying both the New Large Load and the BYONC. While PJM expects the LSE serving the New Large Load or the applicable Electric Distributor to make such report, the proposed rules contemplate that PJM "may also accept information to the extent interconnection customers, Large Loads, Transmission Owners, or other entities voluntarily report any BYONC that may be in an arrangement with a New Large Load."[156]

Two, "the resource owner or entity with contractual authority to enter into a BYONC arrangement must certify" to PJM that the BYONC has an arrangement with that

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[155] *See* proposed Tariff, Attachment DD-4, section V(c) ("For purposes of removing its eligibility to provide Interim Resource Adequacy Service, a New Large Load may enter into arrangements with BYONC supported by one or more resources.").

[156] Proposed Tariff, Attachment DD-4, section VII(a)(i).

New Large Load and that the BYONC will follow the RPM participation requirements in proposed Tariff, Attachment DD-4, section VIII.[157] Both elements of this certification are crucial. The BYONC representative attesting to the arrangement confirms the reported arrangement in the other step, providing certainty that the New Large Load's capacity needs will be addressed (at least in part) through this BYONC. Certification that the BYONC is aware of and intends to abide by the RPM participation requirements, which as discussed above, include a 10-year must-offer at $0/MW, provides a level of certainty that the BYONC will be real and lasting. Together, these certifications provide confidence that the capacity needs of the New Large Load will be addressed (at least in part as discussed below in Part II.C.6) by this BYONC, allowing PJM to include such loads in the demand curve used to clear RPM Auctions.

b. <u>Arrangements must be reported to PJM in a timely manner to allow for them to be reflected in the RPM Auctions, because an arrangement will not be effective for Delivery Years before the BYONC clears an RPM Auction.</u>

Because New Large Loads in arrangements with BYONC will be included in the VRR Curve used to clear RPM Auctions—and the BYONC in the arrangement will be required to participate in RPM Auctions as price takers, it is important that any BYONC arrangements expected to start in a future Delivery Year are timely reported to PJM to allow such load to be reflected in the VRR Curve. Without timely reporting, the BYONC could clear the auction without associated load being included in the demand curve, which

[157] Proposed Tariff, Attachment DD-4, section VII(a)(ii).

would artificially show more capacity available to serve the PJM Region generally than would be appropriate.

To be clear, arrangements between New Large Loads and new resources need to be reported prior to the first Delivery Year they will be in place. PJM will validate the arrangement as discussed, and update the Large Load Registry to reflect any PJM-validated arrangements between New Large Loads and BYONC. That is, PJM will validate the BYONC to make sure it meets the BYONC rules and is capable of providing the level of capacity, and to avoid duplicate arrangements between BYONC and New Large Loads, and PJM will, as necessary, validate the data regarding the New Large Load with the Electric Distributor that interconnected the Large Load for retail service.[158]

The above timing concerns are most present where the arrangement is known or has otherwise been consummated. Thus, PJM proposes rules requiring timely reporting of BYONC-New Large Load arrangements prior to the next RPM Auction for the first Delivery Year of each arrangement.

i. Reporting BYONC-New Large Load arrangements for the 2027/2028 and 2028/2029 Delivery Years

For the 2027/2028 and 2028/2029 Delivery Years, because (1) the BRAs have already run; (2) IRAS is not intended to commence until June 1, 2027; and (3) parties need time to develop appropriate contractual arrangements, PJM proposes that, for an arrangement to be considered in determining a New Large Load's availability to provide IRAS, as measured by its Eligible New Large Load Amount, any arrangement for these

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[158] Once an arrangement is reported to PJM, there are no ongoing reporting requirements for subsequent Delivery Years.

Delivery Years must be reported to PJM by April 1 before the first applicable Delivery Year.[159] Reporting arrangements between BYONC and New Large Loads by such date will afford PJM sufficient time to review and validate, and then update the Large Load Registry by April 15 before the Delivery Year.[160] PJM will use such data to determine the amount of IRAS available to PJM for the upcoming Delivery Year, and assign each Electric Distributor the amount of IRAS available in their zone/area for the Delivery Year.

ii. Reporting BYONC-New Large Load arrangements for the 2029/2030 Delivery Year

The timing considerations for Delivery Year 2029/2030 are idiosyncratic given that the BRA is scheduled to commence on December 9, 2026, i.e., within 60 days from the requested effective date of this filing. Accordingly, PJM is proposing that any known arrangements be reported to PJM "no later than by 50 days prior to the commencement of the 2029/2030 Base Residual Auction,"[161] so that PJM may adjust the VRR Curve for that auction, as discussed below in Part II.F. In the event, an arrangement is entered into after that deadline, in order for the "BYONC arrangement to be considered" for the 2029/2030 Delivery Year, and the New Large Load's Interim Resource Adequacy Service availability to be reduced, the arrangement must be reported "by 30 days prior to the posting of the planning parameters for the Incremental Auctions arrangement with the 2029/2030 Delivery Year."[162]

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[159] *See* proposed Tariff, Attachment DD-4, section VII(b).

[160] *See* proposed Tariff, Attachment DD-4, section VII(b).

[161] Proposed Tariff, Attachment DD-4, section VII(c).

[162] Proposed Tariff, Attachment DD-4, section VII(c).

iii. Reporting BYONC-New Large Load arrangements for the 2030/2031 Delivery Year and subsequent Delivery Years

Starting with the 2030/2031 Delivery Year and for all future Delivery Years, for any BYONC arrangement to be considered for a given Delivery Year, the arrangement must be reported to PJM "no later than by 30 days prior to the posting of the planning parameters for the relevant RPM Auction for the initial Delivery Year the BYONC enters into an arrangement with the New Large Load."[163] Reporting associations 30 days before PJM must post the planning parameters for an RPM Auction provides sufficient time for PJM to validate the information provided and reflect such arrangement in the VRR Curve for that auction. It also reasonably balances providing entities the maximum time possible to agree on the arrangements.

c. Rules for BYONC arrangements

PJM is also proposing certain rules around BYONC-New Large Load arrangements to ensure no capacity is double counted and to facilitate efficient matchmaking between New Large Loads and new capacity. As discussed above, BYONC is composed of MW, not a physical resource. This allows for efficient sizing of BYONC to meet the exact capacity needs of New Large Loads, and allows for liquidity in the market for matching the two.

In this regard, PJM proposes that "[a] physical resource may support multiple BYONC, each of which may be in an arrangement with different New Large Loads, as long

[163] Proposed Tariff, Attachment DD-4, section VII(d).

as no BYONC is in an arrangement with more than one New Large Load,"[164] and that "[a] New Large Load may enter into an arrangement with discrete BYONC supported by different physical resources."[165] In other words, New Large Load may reduce or eliminate its IRAS availability by mixing and matching BYONC supported by many different physical resource, with the caveat that no MW of BYONC may sold twice. This approach best allows resources to price each MW of BYONC capability and derive an alternative revenue stream that will facilitate the development of new capacity in PJM.

To provide further flexibility, PJM is proposing that "[a] New Large Load may enter into an arrangement with BYONC in excess of its current Eligible Large Load Amount, e.g., to allow for expected growth in the New Large Load."[166] Thus, a New Large Load that has plans for expanding in the future may go ahead and lock in BYONC for such planned growth before the growth occurs. This type of arrangement would occur where the new capacity enters commercial operation at its maximum facility output level while the New Large Load has not achieved its maximum expected demand level. Offering this flexibility to the New Large Load and BYONC arrangements is reasonable, as it allows the parties to fashion their arrangements however they see fit.

While PJM is proposing significant flexibility in reaching BYONC-New Large Load arrangements, PJM is proposing that once the subject of an arrangement BYONC cannot change to a different New Large Load—i.e., BYONC is non-transferable. Specifically, PJM is proposing that "BYONC that is in an arrangement with a New Large

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[164] Proposed Tariff, Attachment DD-4, section VII(f).

[165] Proposed Tariff, Attachment DD-4, section VII(g).

[166] Proposed Tariff, Attachment DD-4, section VII(h).

Load must remain in such arrangement with that New Large Load unless and until the New Large Load is permanently out-of-service."[167] This limitation is necessary and consistent with PJM's overall scheme. Specifically, PJM is proposing that once BYONC is in an arrangement with a New Large Load, such arrangement is permanent,[168] and the New Large Load gets the benefit of "bringing" this new capacity to the system and permanently reduces its availability to provide Interim Resource Adequacy Service by the ICAP equivalent of the BYONC.[169] Allowing BYONC to leave or be traded after entering into an arrangement with a New Large Load would dramatically increase the complexity of the program without commensurate benefit. New Large Loads would be susceptible to fluctuations in their Interim Resource Adequacy Service availability, and could be left scrambling for additional BYONC. PJM would need to expend extra resources ensuring no BYONC enters into an arrangement with New Large Load more than once.

d. The Accredited UCAP value for BYONC subject to an arrangement is set in the first Delivery Year the arrangement is in effect.

The timing of the arrangement is central to the determination of the BYONC's Accredited UCAP value—the ICAP equivalent of this Accredited UCAP value is used to

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[167] Proposed Tariff, Attachment DD-4, section VII(e).

[168] As discussed, PJM is proposing that BYONC based on Demand Resources or DER Capacity Aggregation Resources may be replaced within the 10-year RPM Auction commitment. This does not affect the requirement the BYONC is permanent, as the Demand Resources or DER Capacity Aggregation Resources being replaced must be retired and their registered locations can never support future BYONC. *See* proposed Tariff, Attachment DD-4, section VIII(e) ("[T]he replaced BYONC (and its supporting registrations) may no longer provide BYONC.").

[169] *See* proposed Tariff, Attachment DD-4, section V(b) (determination of a New Large Load's Eligible New Large Load Amount).

reduce a New Large Load's potential IRAS availability as discussed below in Part II.C.7.[170] For BYONC supported by any resource type (generation, storage, and demand-side), the Accredited UCAP of the BYONC "shall be the Accredited UCAP for the RPM Auction in which the BYONC cleared for the initial Delivery Year the BYONC is in an arrangement with the New Large Load."[171] For BYONC supported by Demand Resources or DER Capacity Aggregation Resources, such Accredited UCAP value "must be demonstrated each year for a 10-year period using the Demand Response or DER Capacity Aggregation Resources installed capacity for the first Delivery Year after the BYONC is in an arrangement with the New Large Load."[172] This requirement is derived from PJM's existing Demand Resource rules, which require sellers to the "demonstrate, to PJM's satisfaction, that such resource shall have the capability to provide a reduction in demand, or otherwise control load, on or before the start of the Delivery Year for which such resource is committed."[173] However, given the 10-year commitment for BYONC, the usual one-year demonstration must extend to cover all 10 years. This is reasonable, as it provides a level of assurance that the capacity to be provided by such demand-side resource is commensurate with that offered by a generation or storage resource.

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[170] *See* proposed Tariff, Attachment DD-4, section V(b) ("A New Large Load's Eligible New Large Load Amount shall be determined as follows: (New Large Load's registered peak load (in MW), as provided in the Large Load Registry) minus (the sum of all BYONC arrangements with the New Large Load in accordance with Tariff, Attachment DD-4, section VII divided by the Forecast Pool Requirement for the first Delivery Year in which the BYONC cleared an RPM Auction, plus Allocated RBP UCAP MW assigned to the New Large Load, in accordance with Tariff, Attachment DD-4, section IX divided by the Forecast Pool Requirement for the first Delivery Year in which the Allocated RBP UCAP MW cleared an RPM Auction).").

[171] Proposed Tariff, Attachment DD-4, sections VII(i)(i)-(ii).

[172] Proposed Tariff, Attachment DD-4, section VII(i)(ii).

[173] RAA, Schedule 6, section A.5.

5. *Allocated RBP UCAP MW*

In addition to BYONC, a New Large Load may have its IRAS availability reduced by being allocated a share of the RBP UCAP MW[174] obtained through the Reliability Backstop Procurement that PJM has proposed in Docket No. ER26-3380.[175]

Under the proposed RBP rules, the costs for committed RBP UCAP MW are, as a general matter, allocated to each Electric Distributor's zones/areas based on its pro-rata share of forecasted load growth in the PJM Region from the 2026/2027 Delivery Year to the 2028/2029 Delivery Year.[176] To do so, PJM used the total load growth, in part to determine the target quantity to be committed through the Reliability Backstop Procurement, called the "Final RBP Target," and provided that costs for such resources will be allocated "an Electric Distributor's zone/area on a pro-rata basis using the zone/area's assigned share of the total Final RBP Target MW across all zone/areas."[177] In other words, those areas that have forecasted load growth—which is generally due to Large Loads, including New Large Loads—will be allocated the costs for the RBP UCAP MW.

For purposes of IRAS availability, PJM proposes that the allocation of RBP UCAP MW following the RBP cost allocation at the Electric Distributor zone/area level, such that each Electric Distributor zone/area "shall be allocated RBP UCAP MW on a pro-rata basis

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[174] RBP UCAP MW is the unforced capacity product committed through the RBP.

[175] RBP Proposal Filing, Transmittal Letter at 46.

[176] *See* RBP Proposal Filing, proposed Tariff (Attachments A & B), Attachment DD, section 18.3(a) ("The Office of the Interconnection shall allocate the Initial RBP Target MW to each Electric Distributor's zone/area using that zone/area's pro-rata share of the difference between the forecasted Load Adjustments for the 2026/2027 Delivery Year and the 2028/2029 Delivery Year. . . . The resulting reduced MW, floored at zero, is used to calculate the zone/area's assigned pro-rata share of the Final RBP Target MW. The zone/area's assigned share of the Final RBP Target MW shall remain constant throughout the fixed, 15-year term.").

[177] RBP Proposal Filing, proposed Tariff (Attachments A & B), Attachment DD, section 18.3(a).

using the Electric Distributor zone/area's assigned share of the total Final RBP Target MW across all zone/areas."[178] From there, to allocate that quantity among New Large Load's in the Electric Distributor's zone/area, PJM proposes that the Electric Distributor "shall inform [PJM] how such RBP UCAP MW should be further allocated among the New Large Loads located in the Electric Distributor's zone/area."[179] But, in the event the Electric Distributor has not informed PJM how to allocated its share of RBP UCAP MW among its New Large Loads by April 1 before a given Delivery Year, PJM will allocate that quantity pro rata among the New Large Loads in the zone/area.[180] Since RBP commitments can vary each Delivery Year as RBP Resources enter commercial operation, the allocation of RBP UCAP MW will be done for each Delivery Year throughout the 15-year RBP commitment term, i.e., from 2028/2029 through 2042/2043.

PJM's proposed approach is just and reasonable. The "benefit" of RBP UCAP MW in the context of IRAS should flow to the entities with cost responsibility for the RBP UCAP MW. Thus, New Large Loads should get an offset credit to their capacity needs for RBP UCAP MW.

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[178] Proposed Tariff, Attachment DD-4, section IX(a).

[179] Proposed Tariff, Attachment DD-4, section IX(b)(i). Each New Large Load's allocated share of its zone/area's RBP UCAP MW is called "Allocated RBP UCAP MW." *See* proposed Tariff, Definitions – Allocated RBP UCAP MW.

[180] Proposed Tariff, Attachment DD-4, section IX(b)(ii).

> 6. *Only Eligible New Large Loads will be considered available to provide Interim Resource Adequacy Service, and then only to the extent they do not have sufficient BYONC to meet their capacity needs.*

All New Large Loads shall be eligible to provide IRAS and considered Eligible New Large Loads[181] to the extent the combination of their BYONC arrangements and Allocated RBP UCAP MW does not meet their capacity needs.[182] To determine whether a New Large Load is an Eligible New Large Load, PJM will determine its Eligible New Large Load Amount—a measurement of the difference between the New Large Load's peak load (in MW) as reported in the New Large Load Registry and the ICAP equivalent of its (1) BYONC arrangements and (2) Allocated RBP UCAP MW.[183] If the Eligible New Large Load Amount is greater than zero MW, the New Large Load is an Eligible New Large Load.[184]

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[181] *See* proposed Tariff, Definitions – Eligible New Large Load ("'Eligible New Large Loads' shall mean a New Large Load eligible to provide Interim Resource Adequacy Service in accordance with Tariff, Attachment DD-4, section V.").

[182] *See* proposed Tariff, Attachment DD-4, section V(a); *see also* proposed Tariff, Attachment DD-4, section IV(a) ("All Eligible New Large Loads shall be available to be requested to provide Interim Resource Adequacy Service by [PJM].").

[183] *See* proposed Tariff, Attachment DD-4, section V(b) ("A New Large Load's Eligible New Large Load Amount shall be determined as follows: (New Large Load's registered peak load (in MW), as provided in the Large Load Registry) minus (the sum of all BYONC arrangements with the New Large Load in accordance with Tariff, Attachment DD-4, section VII divided by the Forecast Pool Requirement for the first Delivery Year in which the BYONC cleared an RPM Auction, plus Allocated RBP UCAP MW assigned to the New Large Load, in accordance with Tariff, Attachment DD-4, section IX divided by the Forecast Pool Requirement for the first Delivery Year in which the Allocated RBP UCAP MW cleared an RPM Auction).").

[184] *See* proposed Tariff, Attachment DD-4, section V(a) ("New Large Loads with a cumulative installed capacity equivalent of their BYONC arrangements and assigned Allocated RBP UCAP MW that equals or exceeds the New Large Load's registered peak load, as provided in the Large Load Registry, shall not be Eligible New Large Loads. New Large Loads that are located within an FRR Service Area cannot be Eligible New Large Loads.").

[184] *See* proposed Tariff, Attachment DD-4, section V(a). This is reasonable given that FRR Entities are individually responsible for securing sufficient capacity for all loads within their FRR Service Area, and are therefore not reliant on RPM to secure capacity commitments.

7. Determination of the maximum amount of Interim Resource Adequacy Service available for a Delivery Year for the PJM Region and each Electric Distributor zone/area.

The amount of Interim Resource Adequacy Service PJM may need to be available will be determined each Delivery Year for the PJM Region and each Electric Distributor zone/area. The amount of Interim Resource Adequacy Service needed to be available depends on the level of capacity shortfall for the PJM Region and the Eligible New Large Load Amounts.

There are three possible scenarios. One, the capacity shortfall[185] *exceeds* the cumulative sum of all Eligible New Large Load Amounts across the PJM Region. In this event, then PJM will need all Eligible New Large Load Amounts to be available to provide Interim Resource Adequacy Service for that Delivery Year.[186]

Two, the capacity shortfall *is less than* the cumulative sum of all Eligible New Large Load Amounts across the PJM Region. In this event, then PJM only needs Eligible New Large Loads to make available Interim Resource Adequacy Service in a cumulative amount equal to the capacity shortfall.[187]

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[185] To use the most precise figure, the capacity shortfall shall be determined after the Third Incremental Auction and equal: "([amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) is less than the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor)." Proposed Tariff, Attachment DD-4, section IV(b)(i).

[186] *See* proposed Tariff, Attachment DD-4, section IV(b)(i).

[187] *See* proposed Tariff, Attachment DD-4, section IV(b)(ii) ("In the event ([the amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) is less than the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor) by an amount less than the sum (in MW) of all Eligible New Large Load Amounts, then the difference (in MW) shall be the cumulative amount (in MW) of Eligible New Large Load Amounts that the Office of the Interconnection needs to be available to provide Interim Resource Adequacy Service for that Delivery Year.").

Third, there is no capacity shortfall, i.e., "([the amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) equals or exceeds the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor)" and PJM "does not need any Eligible New Large Loads to be available to provide Interim Resource Adequacy Service for that Delivery Year."[188]

If the first or second scenarios occur, PJM will need to determine for the Delivery Year the total amount of IRAS needed to be available on a daily basis across the PJM Region and for each Electric Distributor zone/area.[189] The regional amount will be the lesser of: the cumulative sum of all Eligible New Large Load Amounts across the PJM Region or the capacity shortfall.[190] In either instance, the maximum amount of IRAS PJM needs from an Electric Distributor zone/area will be determined in accordance with the following formula:

> the product of the sum of all Eligible New Large Load Amounts needed in the PJM Region pursuant to Attachment DD-4, section IV(b) multiplied by the quotient of [(the sum of all Eligible New Large Load Amounts in the Electric Distributor's zone/area) divided by (the sum of all Eligible New Large Load Amounts in the PJM Region)].[191]

In other words, each Electric Distributor zone/area will be required to provide a proportional share of the IRAS needed based on the sum of the Eligible New Large Load Amounts in its zone/area. Thought of conversely, each Electric Distributor zone/area will

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[188] Proposed Tariff, Attachment DD-4, section IV(b)(iii).

[189] *See* proposed Tariff, Attachment DD-4, section IV(c).

[190] *See* proposed Tariff, Attachment DD-4, section IV(c)(i).

[191] *See* proposed Tariff, Attachment DD-4, section IV(c)(ii).

need to be available to provide IRAS consistent with the amount of capacity the Eligible New Large Loads in the zone/area need to meet the zone/area's capacity needs.

As discussed above in Parts II.C.2.a and II.C.3, to the extent the third scenario (i.e., PJM does *not* have a capacity shortfall) occurs for three consecutive Delivery Years, then the IRAS program effectively goes to sleep, with any existing BYONC relieved of their RPM participation obligations[192] and all New Large Loads effectively becoming Large Loads. The New Large Loads become Large Loads because the definition of New Large Load is initially tied to an in-service date of June 1, 2027, or later.[193]

PJM is not proposing an end date to the IRAS program. Regardless of whether the PJM Region has maintained capacity sufficient to meet the PJM Region Reliability Requirement for three or more years, PJM will continue to maintain the Large Load Registry. However, if the region re-enters capacity shortfall conditions, then the need for New Large Loads to provide IRAS will re-emerge. The definition of New Large Load allows for this and explicitly provides that New Large Loads will then be defined as entering service "after June 1 of the first Delivery Year" the PJM Region is short of capacity.[194]

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[192] Proposed Tariff, Attachment DD-4, section VIII(f).

[193] Proposed Tariff, Definitions – New Large Load.

[194] Proposed Tariff, Definitions – New Large Load. For example, to the extent PJM meets the regional capacity requirement for Delivery Years 2033/2034, 2034/2035, and 2035/2036, but then enters shortage conditions for the 2036/2037 Delivery Year, then New Large Loads must have an in-service date after June 1, 2036.

8. PJM is not proposing to extend IRAS to New Large Loads located in FRR Service Areas.

A general purpose of IRAS is for New Large Loads to bring new capacity to address their capacity needs instead of relying on PJM's capacity market. Given that FRR Entities have elected to be responsible for providing capacity for *all* loads in their FRR Service Areas, there is no reason to extend IRAS to New Large Loads in FRR Service Areas. For this reason, as noted above, PJM is proposing that "New Large Loads that are located within an FRR Service Area cannot be Eligible New Large Loads."[195] While New Large Loads in FRR Service Areas may not be eligible for IRAS, they will still fall within the definition of Large Load and, as such, the LSEs serving such load—or another entity—will need to register such loads in the Large Load Registry.

However, FRR Entities must procure sufficient capacity for all their New Large Loads and include such in their FRR Capacity Plans. And, the PJM Region, as a whole, does not have excess capacity right now, so the FRR Entity must add new capacity for any New Large Load in its territory. Given the current levels of existing capacity, PJM is proposing a similar "bring your own new capacity" requirement for FRR Service Areas. While PJM will not set gating criteria for an FRR Entity's new capacity to serve New Large Loads, PJM is proposing a requirement that "[a]n FRR Entity may not include in its FRR Capacity Plan any MW quantity of Existing Generation Capacity Resource in excess of what such FRR Entity owned or contracted by such FRR Entity prior to June 1, 2027, to serve New Large Load" to meet its capacity requirements.[196] This rule ensures that FRR

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[195] Proposed Tariff, Attachment DD-4, section V(a).

[196] *See* proposed RAA, Schedule 8.1, section D.1.1.

Entities (or their New Large Loads) bring *new* capacity to the system to meet the New Large Loads' resource adequacy needs, and precludes FRR Entities from satisfying load growth from New Large Loads with existing Capacity Resources that could potentially be lured from the RPM Auctions (and further exacerbating the shortage conditions in the capacity market). The growth of Large Loads is an issue facing the entire PJM Region, and new capacity should arrive to serve their needs, regardless of whether the New Large Load is to be located in an FRR Service Area or the region served by RPM. At the same time, this measured approach provides FRR Entities with the necessary flexibility to replace contracts for capacity from one set of resources with a different set of resources that may be existing so long as the total MW quantity of Existing Generation Capacity Resource in the FRR Capacity Plan does not exceed the amount that such FRR Entity owned or contracted prior to June 1, 2027, to serve New Large Loads.

D. Load Reduction Under Interim Resource Adequacy Service

1. Interim Resource Adequacy Service will be needed only to address potential capacity emergencies or IROL violations.

IRAS is a supplemental capacity product through which Eligible New Large Loads may be directed by the Electric Distributor to reduce their load in response to an Interim Resource Adequacy Service Action called by PJM. Indeed, proposed Tariff, Attachment DD-4, section I(a) accurately describes Interim Resource Adequacy Service as "a load reduction service, effective starting with the 2027/2028 Delivery Year, through which Eligible New Large Loads may be compensated for providing load reductions requested by [PJM] to maintain system reliability for the purpose of supporting the integration of New Large Loads to the PJM Region that are not in arrangements with new capacity additions to the PJM Region." In other words, IRAS is needed to manage the capacity needs of New Large Loads that have not satisfied their capacity needs on their own.

Thus, "[s]tarting with the 2027/2028 Delivery Year, [PJM] may, in accordance with the Manuals, instruct the implementation of an Interim Resource Adequacy Service Action prior to calling on Pre-Emergency Load Management Reductions Actions after determining that available economic real-time supply may not be sufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits within prescribed limits and prevent cascading outages."[197] In other words, PJM anticipates the need to implement IRAS when (1) it is no longer able to maintain reserves in the RTO or a zone; or (2) there are insufficient resources to keep IROLs within defined operating limits in order to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection.

As detailed in the proposed Tariff language, PJM may initiate an Interim Resource Adequacy Service Action, which is an "Operating Instruction, as defined by NERC,"[198] in accordance with the procedures and conditions to be detailed in the Manuals, and "prior to calling on Pre-Emergency Load Management Reduction Actions after determining that available economic real-time supply may not be sufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits within prescribed limits and prevent cascading outages."[199] The details as to how and when

[197] Proposed Tariff, Attachment DD-4, section I(b).

[198] Proposed Tariff, Definitions – Interim Resource Adequacy Service Action.

[199] Proposed Tariff, Attachment DD-4, section I(b).

PJM may call an Interim Resource Adequacy Service Action will be set forth in PJM Manual 13.[200]

The affidavit of Mr. Christopher Pilong, Senior Director of Operations Planning for PJM, provides an overview of the steps taken by PJM Dispatchers, in accordance with PJM Manual 13, "to manage, allocate, or alleviate an emergency" in the course of Emergency Procedure Advisories, Alerts, Warnings, and Actions.[201]

Interim Resource Adequacy Service may be called on, as necessary, to maintain required RTO/Zonal Reserves, IROLs within limits, and/or prevent cascading outages if available economic generation is not sufficient. To implement IRAS Emergency Procedures, PJM intends to revise PJM Manual 13 to include IRAS Alerts and IRAS Actions. Mr. Pilong further explains, in his affidavit, how Interim Resource Adequacy Service Alerts and Interim Resource Adequacy Service Actions will be added to the steps taken in the event of an emergency, and thus provide an additional tool that PJM Dispatchers may use when responding to an emergency.[202]

Importantly, however, while Interim Resource Adequacy Service Alerts and Interim Resource Adequacy Service Actions will be incorporated into a general sequence of escalating Emergency Procedures, Mr. Pilong notes that it remains the case that "PJM

[200] CIFP Framework for Service at 4 ("New and/or existing Emergency Procedures (Alerts and Warnings) need to be adjusted as appropriate to provide advanced notice that Interim Resource Adequacy Service may need to be reduced. This will be documented in [PJM] Manual 13.").

[201] Affidavit of Mr. Christopher Pilong on Behalf of PJM Interconnection, L.L.C. (Attachment C) ¶ 5 ("Pilong Aff.") (quoting PJM Manual 13, section 2.1).

[202] Pilong Aff. ¶¶ 29-55.

Dispatchers 'have the flexibility to implement emergency procedures in whatever order is required to ensure system reliability.'"[203]

That said, PJM anticipates that the general sequence of Emergency Procedures will be revised, as follows: Prior to the Operating Day, PJM may issue Interim Resource Adequacy Service Alerts, which would put all Eligible New Large Loads on notice that PJM may "request reductions in load in quantities equal to or lesser than each Electric Distributor zone/area's assigned IRAS amounts during the next Operating Day."[204] Interim Resource Adequacy Service Alerts would be available before and/or concurrently with a Max Gen Alert/Load Management Alert.[205] Mr. Pilong describes a scenario (Example 1), in which PJM operators look ahead to the next Operating Day and determine that it is necessary to issue an Interim Resource Adequacy Service Alert.[206] As Mr. Pilong explains, "All alerts and cancellation thereof are broadcast on the ALLCALL system and posted to selected PJM websites to assure that all members receive the same information. Alerts are issued in advance of a scheduled load period to allow sufficient time for members to prepare for anticipated initial capacity shortages."[207]

In real-time, as Mr. Pilong explains, Interim Resource Adequacy Service Actions would become a new step available to PJM Dispatchers, prior to Pre-Emergency Load Management Reductions.[208] Mr. Pilong describes a scenario (Example 2) in which PJM

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[203] Pilong Aff. ¶ 15 (quoting PJM Manual 13, section 2.3) (footnotes omitted).

[204] Pilong Aff. ¶ 31.

[205] Pilong Aff. ¶ 31.

[206] Pilong Aff. ¶¶ 29-34.

[207] Pilong Aff. ¶ 33 (quoting PJM Manual 13, section 2.3.1).

[208] Pilong Aff. ¶ 45.

Dispatchers respond to an RTO-wide emergency in real-time by deploying an Interim Resource Adequacy Service Action under an EEA1.[209]

As Mr. Pilong explains, prior to deploying Interim Resource Adequacy Service Actions, PJM Dispatchers may first "deploy available generation and economic demand resources, in economic dispatch order while maintaining required reserves."[210] Second, PJM Dispatchers may "require non-firm interchange transaction curtailment, as needed."[211] Third, assuming that "PJM's new, yet-to-be-effective transmission service products—Non-Firm Contract Demand Service ('CDS') and Interim Network Integrated Transmission Service ('Interim NITS') are effective, PJM may direct curtailment of Non-Firm CDS and/or Interim NITS transmission service."[212]

In accordance with the proposed sequence, "after all non-firm transmission services are curtailed" PJM may "then issue the new Interim Resource Adequacy Service Action prior to deployment of a Pre-Emergency Load Management Reduction Action."[213] PJM intends to communicate Emergency Procedures under IRAS using the status quo notification processes set forth in PJM Manual 13.[214] Figure 1, below, demonstrates how

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[209] Pilong Aff. ¶¶ 35-47.

[210] Pilong Aff. ¶ 36.

[211] Pilong Aff. ¶ 37.

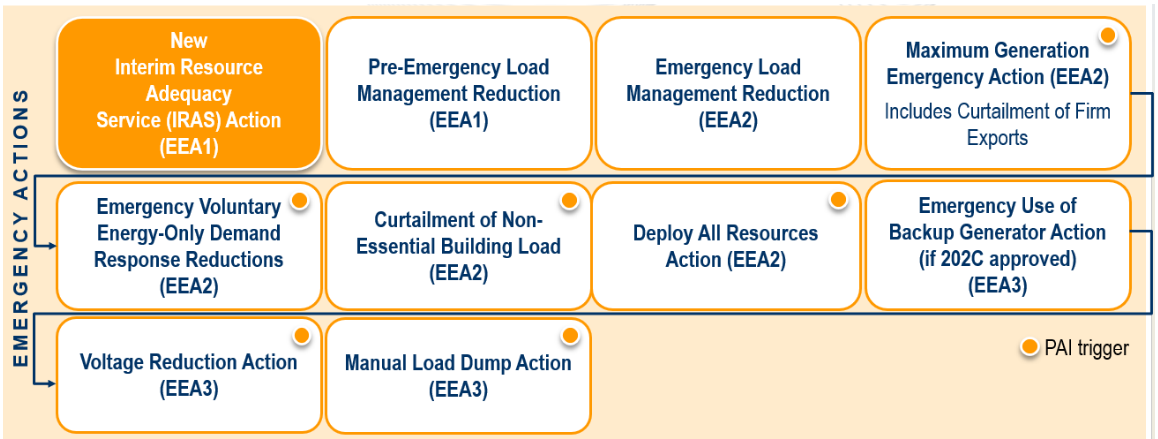
[212] Pilong Aff. ¶ 12 (citing *PJM Interconnection*, 195 FERC ¶ 61,209 at P 551 ("[W]e find PJM's proposal to curtail Interim NITS and [Non-Firm Contract Demand] transmission service prior to deployment of its Pre-Emergency Load Response Program, or in response to a transfer capability shortage as a result of system reliability conditions, to be just and reasonable because it is consistent with how Non-Firm [Point-to-Point Service] is curtailed. . . . [W]e find that PJM's proposal to curtail Interim NITS during capacity or reserve shortages is just and reasonable and consistent with both the nature of the transmission service as a non-firm transmission service for which Eligible Customers do not pay generation capacity charges, and the need to maintain reliability." (footnote omitted))); *id.* ¶ 39.

[213] Pilong Aff. ¶ 40.

[214] Pilong Aff. ¶ 41.

New Interim Resource Adequacy Service Actions may precede Pre-Emergency Load Management Reductions in an EEA1.

Figure 1: PJM Emergency Procedures with Interim Resource Adequacy Service (IRAS)



As explained in PJM Manual 13, "EEA1 signals that PJM foresees or is experiencing conditions where all available resources are scheduled to meet firm load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves."[215] In other words, the region is approaching a capacity event. Thus, it is appropriate for PJM to direct Electric Distributors to reduce those New Large Loads that have failed to cover their capacity obligations *before* relying on Demand Resources, through Pre-Emergency Load Management Reductions Actions, to maintain reliability.

To further illustrate how PJM plans to integrate IRAS into its Emergency Procedures, PJM prepared Figure 2, which shows how IRAS will affect PJM's Emergency Procedures, relative to the status quo, and when there is an order from the Secretary of

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[215] PJM Manual 13, section 2.3.1.

Energy under FPA section 202(c) authorizing backup generation to run in excess of their permits.[216]

Figure 2: Comparison of PJM Emergency Procedures

<table>
<tr><th></th><th>Alerts and Warnings</th><th colspan="2">EEA1</th><th>EEA2</th><th>Last step before EEA3</th><th>EEA3</th></tr>
<tr><td rowspan="2">Today (Status quo)</td><td rowspan="2">Schedule All Available Resources; issue Max Gen Alert</td><td colspan="2" rowspan="2">Pre-Emergency DR</td><td rowspan="2">Emergency DR</td><td rowspan="2"></td><td>Shed Non-critical load with backup generation (remaining load)</td></tr>
<tr><td>firm load shed</td></tr>
<tr><td rowspan="2">Status quo plus DOE 202c Order</td><td rowspan="2">Schedule All Available Resources; issue Max Gen Alert</td><td colspan="2" rowspan="2">Pre-Emergency DR</td><td rowspan="2">Emergency DR</td><td rowspan="2">Energency Use of Back-up Generators (pre 6/1/2027 load)</td><td>Shed Non-critical load with backup generation (remaining load)</td></tr>
<tr><td>firm load shed</td></tr>
<tr><td rowspan="2">With IRAS</td><td rowspan="2">Schedule All Available Resources; issue IRAS and/or Max Gen Alerts</td><td rowspan="2">IRAS Large Load reduction (post 6/1/27 load) without BYONC</td><td rowspan="2">Pre-Emergency DR</td><td rowspan="2">Emergency DR</td><td rowspan="2">Energency Use of Back-up Generators (pre 6/1/2027 load)</td><td>Shed Non-critical load with backup generation (remaining load)</td></tr>
<tr><td>firm load shed</td></tr>
</table>

Finally, Figures 1 and 2 illustrate that changing the Emergency Procedures sequence to call on IRAS *after* Pre-emergency Load Management would reduce the incentive for New Large Loads to bring new capacity to the system, as they would be insulated by the Demand Resource capacity products.

[216] 16 U.S.C. § 824a(c).

2. *How PJM will call an Interim Resource Adequacy Service Action*

Under the terms of the Operating Agreement and as the Reliability Coordinator, Transmission Operator, and Balancing Authority, PJM has the authority and flexibility to initiate Emergency Procedures as it sees fit to maintain the reliability of the PJM Region. Indeed, the Operating Agreement explicitly authorizes PJM to "[c]oordinate the curtailment or shedding of load, or other measures appropriate to alleviate an Emergency, in order to preserve reliability in accordance with NERC, or Applicable Regional Entity principles, guidelines and standards, and to ensure the operation of the PJM Region in accordance with Good Utility Practice and this Agreement[,]"[217] where an "Emergency" is defined as mean "a condition that requires implementation of emergency procedures as defined in the PJM Manuals."[218]

Therefore, while the addition of IRAS Emergency Procedures will add to the sequence of escalating steps that PJM may take to respond to an emergency and prevent Manual Load Dump, Mr. Pilong also adds that, as set forth in PJM Manual 13, "the rapidness of system events influences the timing and order of actions necessary to maintain system reliability. PJM Dispatchers 'have the flexibility to implement emergency procedures in whatever order is required to ensure system reliability. Likewise, they have the flexibility to exit emergency procedures in a different order than they were implemented.'"[219]

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[217] Operating Agreement, Schedule 1, section 1.6.2(vii).

[218] Operating Agreement, section 1, Definitions E – F (defining Emergency).

[219] Pilong Aff. ¶ 15 (quoting PJM Manual 13, section 2.3) (footnotes omitted).

Thus, while IRAS and Pre-Emergency Load Management Reductions would both be categorized as EEA1 actions, the sequence of actions is such that PJM will generally call on IRAS before Pre-Emergency Load Management Reductions to address an Emergency, to the extent the zone/area has any IRAS available.

Furthermore, as Mr. Pilong explains in his affidavit, PJM will issue MW load reduction directives to "Electric Distributors to implement reductions in load up to, and capped at, the pre-Delivery Year IRAS obligations they were assigned. Importantly, PJM will not direct specific New Large Loads to reduce load, even though Electric Distributors—in coordination, where applicable, with relevant states, Load Serving Entities, and New Large Loads—may issue more specific directives to specific retail customers. PJM will only direct load reduction of an aggregate MW IRAS within the zone or area."[220]

In addition, PJM may deploy broader or more targeted IRAS Actions, as needed. In response to an RTO-wide emergency, for example, as Mr. Pilong explains in Example 2, "based on the maximum IRAS amounts assigned to each Electric Distributor zone/area, PJM Dispatchers [may] call for some or all Electric Distributors to reduce load across the PJM RTO Region in the manner they see fit to address the system conditions."[221]

By comparison, in response to a potential Interconnection Reliability Operating Limit Violation, as described in Mr. Pilong's Example 3, the deployment of an Interim Resource Adequacy Service Action in real-time may be more targeted. In Mr. Pilong's

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[220] Pilong Aff. ¶ 52; *see id.* ¶¶ 48-55.

[221] Pilong Aff. ¶ 43.

Example 3, "the Dominion Zone is experiencing a transmission capacity scarcity event resulting from a potential IROL violation due to overloading of an IROL facility in West Virginia, e.g., AP South. In response, it makes little sense for PJM Dispatchers to curtail non-firm exports to the West or North of the PJM system. However, PJM may require curtailment of non-firm exports between PJM and areas to the South that are flowing power across the AP South IROL Reactive Interface to mediate the potential IROL violation."[222] To the extent PJM Dispatchers determine it is necessary to issue an Interim Resource Adequacy Service Action in response to the potential IROL violation, it would likely be a more targeted Interim Resource Adequacy Service Action than the pro rata load reductions across multiple Electric Distributor zones/areas issued in Example 2. As Mr. Pilong testifies, "[i]f load in a particular Electric Distributor zone/area is not negatively impacting transmission flows into the Dominion Zone, load reduction in that zone/area may not have any effect on the Dominion Zone."[223]

3. Electric Distributors must follow PJM directives to reduce megawatts of load in response to an Interim Resource Adequacy Service Action.

When PJM issues an Interim Resource Adequacy Service Action, the applicable Electric Distributor will be sent an IRAS reduction MW quantity, which will be based on the IRAS quantity PJM determined for the Delivery Year, as described above in Part II.C.7. That is, an Interim Resource Adequacy Service Action will ***not*** be specific as to which New Large Loads would need to be reduced; rather, it will be based on the aggregate MW of

[222] Pilong Aff. ¶¶ 48-55.

[223] Pilong Aff. ¶ 53.

reduction available from the Eligible New Large Loads in the zone/area. The entities sent such directive will be expected, and required, to implement it. PJM proposes that Interim Resource Adequacy Service Action be defined as "an Operating Instruction, as defined by NERC."[224] As such, Electric Distributors and LSEs would need to follow it:

- Given that PJM is the Reliability Coordinator, NERC Reliability Standard IRO-001-4 R2 would require compliance with an Interim Resource Adequacy Service Action, as that standard provides that "[e]ach Transmission Operator, Balancing Authority, Generator Operator, and Distribution Provider shall comply with its Reliability Coordinator's Operating Instructions unless compliance with the Operating Instructions cannot be physically implemented or unless such actions would violate safety, equipment, regulatory, or statutory requirements."[225]

- Similarly, given that PJM is the Transmission Operator, NERC Standard TOP-001-6 R1 would require compliance with an Interim Resource Adequacy Service Action, as that standard, provides that "[e]ach Transmission Operator shall act to maintain the reliability of its Transmission Operator Area via its own actions or by issuing Operating Instructions," and R3 requires "[e]ach Balancing Authority, Generator Operator, and Distribution Provider shall comply with each Operating Instruction issued by its Transmission Operator(s), unless such action cannot be physically implemented."[226]

- Finally, the Operating Agreement requires all Members and Market Participants, including Electric Distributors subject to unique obligations, to follow PJM Emergency procedures.[227]

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[224] In full, the proposed definition is: "'Interim Resource Adequacy Service Action' shall mean an Operating Instruction, as defined by NERC, issued from the Office of the Interconnection to reduce load prior to calling on Pre-Emergency Load Management Reductions after determining that available economic real-time supply may not be sufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits within prescribed limits and prevent cascading outages." Proposed Tariff, Definitions – Interim Resource Adequacy Service Action.

[225] *Standard IRO-001-4 Reliability Coordination - Responsibilities*, North American Electric Reliability Corporation (June 12, 2025), https://www.nerc.com/globalassets/standards/reliability-standards/iro/iro-001-4.pdf [https://perma.cc/72GK-YZG3].

[226] *TOP-001-6 - Transmission Operations*, North American Electric Reliability Corporation (June 12, 2025), https://www.nerc.com/globalassets/standards/reliability-standards/top/top-001-6.pdf [https://perma.cc/L3FQ-QBRN].

[227] *See* Operating Agreement, section 11.3.1(e) (Members shall "[c]omply with the requirements of the PJM Manuals and all directives of the Office of the Interconnection to take any action for the purpose of managing, alleviating or ending an Emergency."); Operating Agreement, section 11.3.3(c) (Electric Distributors shall

Accordingly, while PJM might not be able to directly reduce the loads of Eligible New Large Loads to the extent they are available to provide IRAS, PJM can direct others to do so with a high degree of confidence that such directives will be followed.

Given these requirements, it can be no surprise that today Electric Distributors select, consistent with their state programs, which loads to reduce in response to a PJM load reduction directive. Stated another way, PJM is not looking to change any existing approach. Currently, the manner in which an Electric Distributor reduces load is a function of their state-approved contracts and state-approved curtailment and load reduction plans.

4. *The IRAS load reduction framework is, at its core, a product of cooperative federalism that recognizes the significant role of the states in requiring New Large Loads to reduce their load to support reliability pursuant to IRAS.*

The proposed IRAS framework assigns an Eligible New Large Load Amount, which is measured in MW, to Electric Distributor zones/areas in a manner that respects the balance of authority between states, the Commission, and PJM.[228] The framework

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"[m]aintain or arrange for a portion of its connected load to be subject to control by . . . load-shedding devices at least equal to the levels established pursuant to the Reliability Assurance Agreement."); Operating Agreement, section 11.3.3(e) (Electric Distributors shall "[s]hed connected load, share Generation Capacity Resources and take such other coordination actions as may be necessary in accordance with the directions of the Office of the Interconnection in Emergencies."); Operating Agreement, Schedule 1, section 1.7.4(b) ("Market Participants shall undertake all operations in or affecting the PJM Interchange Energy Market and the PJM Region including but not limited to compliance with all Emergency procedures, in accordance with the power and authority of the Office of the Interconnection with respect to the operation of the PJM Interchange Energy Market and the PJM Region as established in this Agreement, and as specified in the Schedules to this Agreement and the PJM Manuals."); Operating Agreement, Schedule 1, section 1.7.4(g) ("Each Market Participant shall follow the directions of the Office of the Interconnection to take actions to prevent, manage, alleviate or end an Emergency in a manner consistent with this Agreement and the procedures of the PJM Region as specified in the PJM Manuals."); Operating Agreement, Schedule 1, section 1.7.11(a) ("The standards, policies and procedures of the Office of the Interconnection for declaring the existence of an Emergency, including but not limited to a Minimum Generation Emergency, and for managing, alleviating or ending an Emergency, shall apply to all Members on a non-discriminatory basis.").

[228] *See, e.g.*, *New PJM Cos.*, 107 FERC ¶ 61,272, at P 22 (2004) ("In the event of a transmission emergency, PJM is only responsible for determining the location, quantity, and timing of any curtailment. PJM is not responsible for determining or directing the manner in which load is to be curtailed during an emergency.").

recognizes the role that states and/or RERRAs play in integrating New Large Loads and managing load reductions when necessary.[229]

a. During an Interim Resource Adequacy Event, PJM will direct a MW quantity of load reduction to the relevant Electric Distributor zone(s)/area(s).

In a Delivery Year in which IRAS applies, PJM will identify, for each zone/area, the Eligible New Large Load Amounts, i.e., MW quantities that are eligible to be called upon to reduce load under IRAS. Directing an Electric Distributor, rather than a specific end-use customer, to reduce a quantity of load is in keeping with PJM's longstanding practice and reflects and respects the allocation of jurisdiction between the federal and state levels.[230]

More specifically, the Eligible New Large Load Amount assigned to each Electric Distributor will be derived from information and BYONC arrangements reported to PJM and recorded in the Large Load Registry. However, should PJM experience system conditions that require an Interim Resource Adequacy Service Action during a Delivery Year in which IRAS is in effect, PJM will instruct Electric Distributors to reduce load by a MW quantity equal to or less than the Electric Distributor's Eligible New Large Load Amount for that Delivery Year. PJM will *not* direct specific LSEs and/or specific customers of LSEs—including specific Large Loads—to reduce their load and/or switch

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[229] *See, e.g.*, 52 Pa. Code § 57.52 (2026) ("Emergency load control and energy conservation by electric utilities."); 20 Va. Admin. Code § 5-300-20 (2026) ("Virginia electric energy emergency conservation plan.").

[230] *See, e.g.*, *New PJM Cos.*, 107 FERC ¶ 61,272 at P 21 ("When such emergency circumstances arise, PJM will inform the electric distribution company serving load of the quantity and location of load that must be shed, and the distributor, which directly serves the affected load, will effectuate the load-shedding.").

to on-site backup resources. Those decisions would be worked out through revised state retail tariffs. PJM stands ready to assist states in developing those tariffs if they so desire.

Pursuant to the proposed framework, Electric Distributors will be responsible for "coordinat[ing] as appropriate, with the relevant state(s) or RERRA(s), individual Load Serving Entities, and customers served by the Load Serving Entities in its zone/area to support transparent, effective, and orderly deployment of Interim Resource Adequacy Service."[231] Thus, under the IRAS framework, the specific retail customers that must reduce load consumption or switch to backup resources will be determined by the Electric Distributor and relevant LSEs in the zone/area, in coordination with the appropriate state and/or RERRA. Indeed, while PJM has proposed definitions of Large Load, New Large Load, and Eligible New Large Load that may be subject to IRAS, PJM simultaneously recognizes that states may each define "large loads" differently for purposes of their retail tariffs, particularly those governing load reduction protocols. Thus, while PJM will determine the quantity of MW that load in a zone/area will need to be reduced by to maintain system reliability in the PJM Region, states may determine—under their own laws, policies, and definition of what constitutes "large load"—which resources will be called on to reduce load.

b. State efforts to develop load reduction programs reflect a cooperative federalism framework that is similar to that embedded in PJM's proposal.

The division of authority and responsibility between states and PJM with respect to load reduction that is embedded in PJM's proposed IRAS framework, is also reflected in

[231] Proposed Tariff, Attachment DD-4, section III(c).

the ongoing efforts of the VA SCC and DCC, with other interested states, to jointly develop model state commission tariff language "establishing emergency load reduction programs designed to protect residential customers during the most severe reliability emergencies while preserving reliable system operations[,]" by no later than February 1, 2027, prior to the applicability of the IRAS framework.[232] According to the VA SCC, the model state commission tariff language would, *inter alia*:

> (1) Establish retail mechanisms authorizing utilities to curtail designated large commercial and industrial customers, or require the use of available on-site backup generation, once PJM has exhausted all other available reliability resources, including demand response, but before implementation of broad manual load shed; [and]
>
> (2) Define operational expectations, customer obligations, and utility implementation procedures associated with load reduction programs[.][233]

The efforts of the VA SCC and DCC recognize the significant role of the states in determining which "designated large commercial and industrial customers" will be subject to load reduction programs, and the operational expectations and customer obligations associated with such programs. The efforts of the VA SCC and DCC also recognize the need to establish retail mechanisms authorizing utilities to curtail designated large commercial and industrial customers or require the use of available on-site backup generation. These mechanisms must allow PJM and utilities sufficient time to avoid the

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[232] Letter of Chair of Virginia State Corporation Commission, Kelsey Bagot and President and CEO of Data Center Coalition, Josh Levi to Ms. Paula Conboy, Chair of PJM Board of Managers, and Mr. David Mills, President and CEO of PJM Interconnection, L.L.C., 2 (June 30, 2026), https://www.pjm.com/-/media/DotCom/committees-groups/cifp-rbp/2026/20260630/20260630-written-comments---va-scc-and-data-center-coalition.pdf [https://perma.cc/S7C6-C86H] ("VA SCC and DCC Letter").

[233] VA SCC and DCC Letter at 2.

start of manual load shed well before declaration of EEA3. PJM stands ready to assist in those efforts and other related efforts and engagement.

c. The division of authority between PJM and the states and/or RERRAs is supported by relevant precedent.

PJM's proposed revisions are in line with recent Commission precedent. On October 23, 2025, the DOE ANOPR, which called on the Commission to consider "potential reforms to ensure the timely and orderly interconnection of large loads to the transmission system."[234] The ANOPR further stated that "[e]ven if the large load seeking to interconnect to the transmission system is an end-use customer, the [ANOPR] does not exert jurisdiction over any retail sales to the large load."[235] The Commission's subsequent Order Regarding Intent to Act on the ANOPR (Order on DOE ANOPR),[236] found, *inter alia*, that large loads present an urgent need for reforms to ensure their timely, orderly, and non-discriminatory connection to the transmission system.[237] Nevertheless, "the addition of and service to large loads" and the associated rates, terms, and conditions "implicate both federal and state interests."[238] Accordingly, the Commission observed, "resolution of issues related to large load additions will require the involvement of both federal and state

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[234] DOE ANOPR at P 1 (citations omitted).

[235] DOE ANOPR at P 15.

[236] *Interconnection of Large Loads to the Interstate Transmission System*, 195 FERC ¶ 61,045 (2026) ("Order on DOE ANOPR").

[237] Order on DOE ANOPR, 195 FERC ¶ 61,045 at P 2.

[238] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 44; *see also* December 2025 Show Cause Order, 193 FERC ¶ 61,217 (Issues pertaining to large loads "implicate both federal and state interests, and their resolution will require the involvement of both federal and state actors, including the Commission, state public utility commissions, and other state and local entities."); *PJM Interconnection*, 195 FERC ¶ 61,197, concur op. (Commissioner Rosner) at P 2 ("[P]ublic utility commissioners, governors' offices, and state legislatures are all necessary partners in ensuring that energy infrastructure is built at the pace needed to stay ahead of demand and keep energy affordable and reliable for PJM customers.").

actors, including the Commission, state public utility commissions, and other state and local entities."[239] Indeed, as the Commission's Order on DOE ANOPR points out, in the last several years, the Commission has accepted proposed tariffs and agreements "related to large loads connecting to the transmission system . . . while rejecting those that exceeded the Commission's jurisdiction or failed to reasonably allocate costs."[240] Likewise, an order to show cause issued by the Commission on February 20, 2025, on aspects of the co-location of large loads held that:

> states retain exclusive jurisdiction over the terms of retail sales . . . including . . . how the costs of the wholesale sale and transmission of electricity assigned to a wholesale customer are allocated among that wholesale customer's retail customers. Thus, while a State may not conclude in setting retail rates that the FERC-approved wholesale rates are unreasonable, it is within a state's exclusive jurisdiction to determine how those FERC-approved rates are collected among the relevant retail customers.[241]

At bottom, "*exclusive jurisdiction*"[242] rests with the states to ensure that the appropriate retail customers, i.e., New Large Loads, including data centers—and not residential

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[239] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 44; *see also id.* at P 48 (Notably, the Commission has expressly "recognize[d] that states will continue to regulate: (1) the specific terms of retail sales to large load; (2) which entities may make retail sales within their borders; . . . and (3) any siting decisions and construction associated with the large load project." (citations omitted)); December 2025 Show Cause Order, 193 FERC ¶ 61,217 at P 165 (Issues pertaining to large loads "implicate both federal and state interests, and their resolution will require the involvement of both federal and state actors, including the Commission, state public utility commissions, and other state and local entities."); *PJM Interconnection*, 195 FERC ¶ 61,197, concur op. (Commissioner Rosner) at P 1 ("[P]ublic utility commissioners, governors' offices, and state legislatures are all necessary partners in ensuring that energy infrastructure is built at the pace needed to stay ahead of demand and keep energy affordable and reliable for PJM customers.").

[240] Order on DOE ANOPR, 195 FERC ¶ 61,045 at P 2 (footnotes omitted).

[241] *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,115, at P 68, *order directing compliance*, December 2025 Show Cause Order, 193 FERC ¶ 61,217 (2025).

[242] *PJM Interconnection*, 190 FERC ¶ 61,115 at P 68 (emphasis added).

customers or small industrial customers—are reduced when system conditions call for PJM to require load reductions according to IRAS.

The division of authority and responsibility between PJM and the PJM states is firmly rooted in the Supreme Court of the United States' ("Supreme Court") holding in *EPSA*.[243] There, the Supreme Court held that the Commission's regulation of demand response "addresses—and addresses only—transactions occurring on the wholesale market" and takes aim at "enhanc[ing] the wholesale, not retail, electricity market."[244] The Supreme Court accordingly held that the Commission's rules for demand response withstood Electric Power Supply Association's jurisdictional challenge by respecting the division of federal/state authority set forth in the FPA.[245] Even though the FPA's drafters could not have anticipated demand response, its regulation was nevertheless consistent with the division of jurisdictional authority contemplated by the FPA—in which the Commission, and thereby RTOs/ISOs, retain authority over wholesale transactions, while states regulate retail transactions.[246] Likewise, the reforms in this filing address issues that the FPA's drafters would have certainly considered science fiction—the resource adequacy impacts of New Large Loads, including data centers, driven primarily by exponential technological advancements in artificial intelligence.

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[243] *EPSA*, 577 U.S. at 260.

[244] *EPSA*, 577 U.S. at 282, 287.

[245] *EPSA*, 577 U.S. at 288-91.

[246] *See* Matthew R. Christiansen, *FERC v. EPSA: Functionalism and the Electricity Industry of the Future*, 68 Stan. L. Rev. (Apr. 2016), https://www.stanfordlawreview.org/online/ferc-v-epsa/ [https://perma.cc/6QRP-KXET] (citing *EPSA*, 577 U.S. at 265-68).

In this case, PJM may issue directives to Electric Distributors to reduce load by a certain MW quantity during certain, limited emergency conditions. The Eligible New Large Load Amount attributable to each Electric Distributor zone/area will be guided by the Large Load Registry. Nevertheless, in recognition of the jurisdictional divide between PJM and the states and/or RERRAs, PJM will not direct reductions to specific New Large Loads pursuant to IRAS. Rather, PJM is leaving it to Electric Distributors, in coordination with the appropriate states and/or RERRAs, LSEs, and LSE customers to determine which loads should ultimately reduce subject to IRAS. Thus, the IRAS framework divides authority between PJM and the states in a manner consistent with the FPA's basic division of authority.

d. The division of authority preserves the Commission's FPA sections 205 and 206 rights over the IRAS framework.

PJM's approach also finds support in the Commission's 2025 order accepting Midcontinent Independent System Operator, Inc.'s ("MISO") Revised Expedited Resource Addition Study ("ERAS") Proposal.[247] In the ERAS order, the Commission found that RERRA participation in the ERAS process was permissible and not an improper delegation of federal authority to the states, as the participation of RERRA:

> would be wholly pursuant to a Commission-jurisdictional process . . . proposed by MISO and approved by the Commission—not by state authorities—and under which a [Generator Interconnection Procedure] is on file with the Commission and any future revisions would be subject to Commission approval. Further, the ERAS process would remain subject to the Commission's authority pursuant to FPA sections 205 and 206. In contrast, in *Talen*, the Maryland Commission established a state program that

[247] *Midcontinent Indep. Sys. Operator, Inc.*, Revisions to the Open Access Transmission, Energy and Operating Reserve Tariff Expedited Resource Addition Study Filing of Midcontinent Independent System Operator, Inc., Docket No. ER25-2454-000 (June 6, 2025).

> operated outside a Commission-jurisdictional process and "interfered" with the Commission's authority to establish interstate wholesale rates.[248]

Similarly, PJM's Tariff states that PJM will identify the MW quantity in a zone/area that will be eligible for load reduction under IRAS, but expressly places the responsibility on Electric Distributors to coordinate with relevant states and/or RERRAs, as well as LSEs and LSE customers, including Large Loads, to determine which retail customers will respond to PJM's directive to reduce load.[249] If approved by the Commission, the division of responsibility reflected in the Tariff would be on file and remain subject to the Commission's authority pursuant to FPA sections 205 and 206.

As the Commission has previously observed, PJM's resource adequacy framework requires that the Commission "recognize the traditional role of state and local entities in regulating resource adequacy" while also remaining "aware of [its] responsibilities under the FPA to ensure that adequate service is provided, and that wholesale rates are just and reasonable."[250] Thus, the Commission found that the appropriate course of action has been to "defer to state and local entities' decisions when possible on resource adequacy matters, but in doing so . . . not shirk our congressionally-mandated responsibilities."[251] The division of responsibilities embedded in the proposed IRAS framework is a balanced

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[248] *Midcontinent Indep. Sys. Operator, Inc.*, 192 FERC ¶ 61,064, at P 99 (2025) (distinguishing *Hughes v. Talen Energy Mktg., LLC*, 578 U.S. 150, 163 (2016)), *order addressing arguments raised on reh'g*, 194 FERC ¶ 61,050 (2026).

[249] Proposed Tariff, Attachment DD-4, section III(c).

[250] *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,318, at P 40 (2007) (requiring PJM to "allocate costs to data centers" in a manner similar to that as urged in the NEDC/PJM Governors' Principles at 1), *aff'd sub nom. Pub. Serv. Elec. & Gas Co. v. FERC*, 324 F.App'x 1 (D.C. Cir. 2009).

[251] *PJM Interconnection*, 119 FERC ¶ 61,318 at P 40.

approach that reflects the well-considered divide between PJM and state/RERRA authorities over load reduction programs.

5. *Reducing New Large Loads before Pre-Emergency Load Management Reductions (EEA1) is not unduly discriminatory or preferential.*

The IRAS framework strikes a straightforward bargain. In Delivery Years when the influx of Eligible New Large Loads gives rise to a PJM Region-wide Reliability Requirement shortfall, New Large Loads without arrangements with new capacity will nevertheless be permitted to interconnect, and thus achieve "speed to power," on the condition that their MW quantity of load is counted toward the MW potentially reduced during certain emergency conditions pursuant to IRAS. These Eligible New Large Load customers will be compensated under the IRAS framework to the extent that they reduce load pursuant to IRAS and do not waive compensation. The bargain is limited in scope and applies only to Eligible New Large Loads in years where their addition to the PJM system gives rise to an observed shortfall.[252] The LSEs serving these Eligible New Large Load customers, which receive NITS, will—like other NITS customers—have their transmission service curtailed *after* non-firm customers, but they may be asked to reduce load prior to other NITS customers in accordance with the Interim Resource Adequacy Service they may be asked to provide. At bottom, the IRAS framework recognizes that New Large Loads are not similarly situated to other loads, and reducing New Large Loads before Pre-Emergency Load Management Reductions (EEA1) is not unduly discriminatory or preferential. To that end, Members of Congress have expressed to PJM that "[i]t is not

[252] Proposed Tariff, Attachment DD-4, sections IV(b)(i)-(ii).

unduly discriminatory to identify and manage demand from new data centers given their incomparably large energy demands, how quickly data centers can come online, and their unique potential to impact the reliability of the electric grid as a collective class and to increase rates for all other customers."[253]

a. New Large Loads are not similarly situated to other loads in the PJM Region, constitute a separate, new class of load, and are therefore appropriately subject to different treatment.

Requiring New Large Loads to reduce load before other NITS customers is not unduly discriminatory or preferential. In accordance with longstanding precedent, "[w]hether a rate or practice is unduly discriminatory depends on whether it provides different treatment to different classes of entities and turns on whether those classes of entities are similarly situated."[254] When differences in treatment "can be explained by some factor deemed acceptable to regulators (and the courts)"[255] or "are predicated upon factual differences between customers,"[256] they are justified and therefore not unduly discriminatory nor preferential.

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[253] Letter from the Members of Congress to David E. Mills, PJM Board Chair, PJM Interconnection, L.L.C., 4 (Nov. 5, 2025), https://www.pjm.com/-/media/DotCom/about-pjm/who-we-are/public-disclosures/2025/20251106-congressional-letter-re-cifp-lla.pdf [https://perma.cc/ZKA9-Q5LZ].

[254] *Calpine Corp. v. PJM Interconnection, L.L.C.*, 171 FERC ¶ 61,035, at P 318, *order on compliance, granting waiver request, addressing arguments raised on reh'g & setting aside prior order, in part*, 173 FERC ¶ 61,0061 (2020), *order on compliance & clarification*, 174 FERC ¶ 61,036, *order setting aside prior order, in part*, 174 FERC ¶ 61,109 (2021).

[255] *Town of Norwood v. FERC*, 202 F.3d 392, 402 (1st Cir. 2000) ("[D]ifferential treatment does not necessarily amount to *undue* preference where the difference in treatment can be explained by some factor deemed acceptable by the regulators (and the courts)." (citation omitted)).

[256] *Newark v. FERC*, 763 F.2d 533, 546 (3d Cir. 1985) ("[D]ifferences in rates are justified where they are predicated upon factual differences between customers.").

New Large Loads are not similarly situated to other loads in the PJM Region. According to the Commission, large loads constitute "a separate category of load."[257] In this case, the Commission has justified the differential treatment of New Large Loads, which is predicated on factual differences between customers. In fact, in recognition of this distinction, the Commission has required all RTOs/ISOs, including PJM, to define the term "large load" in their respective tariffs.[258]

In support of large loads being treated as a separate category of load, the Commission has highlighted the uniqueness of large loads, noting specifically that their integration "poses specific challenges to transmission system operation given their size, operational behavior, and unique potential to impact the transmission system."[259] Furthermore, the Commission has found that the records in the recent proceedings involving large loads "illustrate a host of urgent challenges associated with providing the transmission service needed to serve the ongoing influx of large loads while maintaining reliability and affordability. In particular, stakeholders have expressed concerns that large loads are not efficiently and appropriately integrated onto the transmission system; have identified a number of unique challenges that large load integration poses for the reliable operation of that system; and have debated how best to ensure that the rates, terms, and conditions of transmission service remain just and reasonable as more and more large loads

[257] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 50; FPA section 215, 16 U.S.C. § 824o.

[258] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 58; *Midcontinent Indep. Sys. Operator, Inc.*, 195 FERC ¶ 61,212, at P 58 (2026); *Sw. Power Pool*, 195 FERC ¶ 61,213 at P 15 & n.54; *Cal. Indep. Sys. Operator Corp.*,195 FERC ¶ 61,214, at P 57 (2026); *ISO New Eng. Inc.*, 195 FERC ¶ 61,215, at P 56 (2026); *N.Y. Indep. Sys. Operator, Inc.*, 195 FERC ¶ 61,216, at P 64 (2026).

[259] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 58.

are onboarded onto that system."[260] Recently, the Commission, in finding SPP's CHILLS proposal for new large loads just and reasonable and not unduly discriminatory or preferential, the Commission observed that "SPP has shown that unprecedented growth in large loads in the SPP region presents significant and unique operational and planning challenges."[261] Likewise, in the last two Delivery Years, since the influx of new large loads, consisting primarily of data centers, PJM has cleared short of its PJM Region Reliability Requirement in the face of exponential load growth. Challenges that are driven by the rapid addition of New Large Loads in PJM have called for PJM to respond accordingly with the slate of initiatives discussed above in Part I.C.

b. <u>IRAS is only applicable in Delivery Years when New Large Loads without arrangements with new capacity give rise to a PJM Region Reliability Requirement shortfall and provides opportunities for New Large Loads to avoid being subject to load reduction under IRAS.</u>

The applicability of IRAS is limited and narrowly tailored. Where the Commission has found the treatment of large loads to be "tailored to the specific and unique nature of" of large loads, and "narrowly tailored to reflect the . . . unique characteristics" of such loads, the Commission has found that treatment just and reasonable and not unduly discriminatory or preferential.[262]

First, IRAS is limited to years in which the PJM Region experiences a resource adequacy shortfall. IRAS will only apply in Delivery Years where the amount of committed Capacity Resources is less than the Updated PJM Region Reliability

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[260] June 2026 Order to Show Cause, 195 FERC ¶ 61,211 at P 1.

[261] *Sw. Power Pool*, 195 FERC ¶ 61,196 at P 84.

[262] *Sw. Power Pool*, 195 FERC ¶ 61,196 at PP 85, 87.

Requirement. Thus, it is only applicable when New Large Loads that have not brought their own capacity and have not been allocated sufficient RBP UCAP MW cause a PJM Region Reliability Requirement shortfall.

Second, New Large Loads may significantly mitigate the possibility of being called on to reduce load pursuant to IRAS by, for example, entering into arrangements with new capacity and working with their states to craft retail curtailment tariffs that may minimize disruption to data centers while protecting remaining native load.[263] Thus, New Large Loads have the flexibility to engage in self-sufficiency to avoid or, at least, reduce the possibility of being called on to reduce load during an Interim Resource Adequacy Service Action.

Third, IRAS was developed to address the specific and unique issues caused by New Large Loads in the PJM Region, while also enabling New Large Loads to nevertheless be served by PJM.

Fourth, while PJM uses the Large Load Registry at the outset to establish Eligible New Large Load Amounts attributable to each zone/area in the PJM Region for each Delivery Year, PJM's reliance on the actual identities of those New Large Loads stops there. In other words, once PJM has determined, for the Delivery Year and based on the Large Load Registry, the MW quantity of resource adequacy shortfall in each zone/area based on New Large Loads in each zone/area that have not entered into arrangements with new capacity, PJM's operational directives will direct load reduction of certain MW quantities in certain zones/areas, not specific New Large Loads in those zones/areas.

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[263] *See* VA SCC and DCC Letter at 2.

During real-time operations, PJM will direct Electric Distributors to reduce MW quantities of load in specific zones/areas under pre-emergency and emergency conditions, PJM will *not* direct specific New Large Loads to be reduced—albeit, states may, of course, establish and enforce their own retail load reduction programs. The IRAS framework does not single out New Large Loads for reduction because they are new or large. Rather, IRAS is focused on the reliability shortfall that is the result of the influx of these New Large Loads. IRAS is furthermore focused on responding accordingly with appropriate load reductions in the zones/areas with load to reduce. Under conditions of tightening supply and demand, it is a measured and well-considered response to permit the new demand causing the shortfall on the system to interconnect, subject to load reduction under limited emergency conditions, but receive compensation for that load reduction.[264] While the IRAS framework gives rise to differences in the treatment of New Large Loads and other loads, the difference is meaningfully grounded in the fact that the current rapid growth in Large Loads are fundamentally different from the historical load growth, in both their inherent concentration of demand and the rapidity at which their cumulative demands have grown throughout PJM. These two factors are the cause of the recent reliability shortfall.[265]

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[264] *See, e.g.*, *Tenaska Clear Creek Wind, LLC v. Sw. Power Pool, Inc.*, 183 FERC ¶ 61,043, at P 24 (2023) (finding that an "interconnection customer is differently situated from interconnection customers that have not caused the need for the network upgrades. This difference may justify that interconnection customer's generating facility being subject to curtailment if it operates the generating facility prior to completion of the network upgrades when another is not so situated. Subjecting the interconnection customer that causes the need for upgrades in this manner ensures that the interconnection customer, bears the system-reliability burdens that flow from its decision to operate prior to completion of the required network upgrades." (footnote omitted)).

[265] *See* Independent Market Monitor for PJM, *Analysis of the 2027/2028 RPM Base Residual Auction Part A*, Monitoring Analytics, 2-3 (Jan. 5, 2026), https://www.monitoringanalytics.com/reports/Reports/2026/IMM_Analysis_of_the_20272028_RPM_Base_Residual_Auction_Part_A_20260105.pdf [https://perma.cc/SM2E-KMTW] ("The capacity shortfall in

As such and, if they do not build, buy, or bring their own capacity, should be reduced, accordingly, should emergency conditions require it. Thus, the IRAS framework is not motivated by any desire to single out New Large Loads for reduction because of their size or vintage, but rather for the valid and legitimate reason that New Large Loads have led to periods of insufficient resource adequacy and should, justifiably, play a significant role in the remedy.[266]

c. Load reduction under Interim Resource Adequacy Service appropriately treats New Large Loads as NITS customers.

LSEs, which take service under NITS, serve their Eligible New Large Load customers. In the event of an Emergency Procedure IRAS Service Alert, Warning, and Action, the LSEs serving Eligible New Large Load customers—like other NITS customers in PJM—will only be called on to reduce load *after* non-firm transmission service products. As described above in Figure 2, PJM intends to amend its Manuals to include a new category of Emergency Procedure, in which PJM may require that a load reduction up to the quantity of Eligible New Large Load (Potential EEA1) in a zone/area *before* calling for Pre-Emergency Load Management Reductions (EEA1).

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both the 2026/2027 and the 2027/2028 BRAs was a result of new data center load and forecast increases in existing data center load and the already existing demand from large data centers.").

[266] *See, e.g.*, *PJM Interconnection, L.L.C.*, 167 FERC ¶ 61,114, at P 28 (2019) (finding that limiting participation in Peak Shaving Adjustment Program to resources governed by tariff or adopted by a RERRA not unduly discriminatory "because [Electric Distribution Companies ("EDCs")] with RERRA-sponsored load curtailment programs are not similarly situated to EDCs without RERRA-sponsored load curtailment programs. . . . PJM has sufficiently demonstrated that the RERRA-sponsorship requirement is just and reasonable because it provides PJM with greater confidence in the durability of the peak-shaving program, as load reductions provided by RERRA-sponsored resources are more likely to continue over time, creating stability in load forecasts, which in turn will ensure efficient transmission planning and resource investment.").

PJM Manual 13 already requires resource types taking NITS to prevent a Manual Load Dump (at EEA3) by reducing load in a sequential order. Today, for example, sites registered in the PJM demand response program as a Demand Resource may be called on to reduce load in Pre-Emergency and Emergency Load Management Reduction Actions before firm exports are reduced in a Maximum Generation Emergency (EEA2). Nor is sequential load reduction or dispatch unique to PJM.[267] As part of IRAS, PJM is simply proposing to add another category of resources that would precede the Demand Resources and DER Capacity Aggregation Resources called on to reduce load in Pre-Emergency and Emergency Load Management Reduction Actions.

E. Compensation for Load Reduction Under Interim Resource Adequacy Service

1. The proposed IRAS compensation approach respects and reflects the federal and state division of authority and responsibilities.

As part of the proposed IRAS framework, Electric Distributors bear the responsibility to implement the compensation scheme for New Large Loads that provide the IRAS load reduction service. A representative class of these New Large Loads are signatories to the Ratepayer Protection Pledge that committed to "[c]ontribut[e] to [e]lectric and [c]ommunity [r]esilience" by "coordinat[ing] with grid operators to contribute to a more reliable grid."[268] IRAS reflects such coordination at a just and reasonable rate.

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[267] *Voltus, Inc.*, 190 FERC ¶ 61,008, at P 17 (2025) (noting that in MISO, "[Emergency Demand Resources] are dispatched after [Load Modifying Resources] in times of more acute need").

[268] Ratepayer Protection Pledge; July 2026 Ratepayer Protection Pledge Update (identifying 282 utilities, cooperatives, data centers, and 23 governors that joined the Ratepayer Protection Pledge, including 38 data centers).

PJM is proposing a rate for IRAS that is equal to 50% of the Non-Performance Charge Rate. However, the wholesale IRAS rate is flexible and can be further reduced to less than 50% of the Non-Performance Charge Rate if the Eligible New Large Load accepts in its retail rate a sum less than 50% of the Non-Performance Charge Rate. As discussed below, PJM's proposal provides Electrical Distributors and states flexibility in the applicable IRAS rate for its territory, and affords the New Large Load the ability to waive compensation. Indeed, a rate of zero dollars for IRAS would apply where Eligible New Large Loads waive in their retail rates receipt of compensation for the provision of wholesale Interim Resource Adequacy Service—an outcome that would be consistent with the Ratepayer Protection Pledge signatories' commitment "to protect American consumers from price hikes due to data center energy and infrastructure requirements, and lower electricity costs for consumers in the long term."[269]

a. <u>The proposed IRAS rate is just and reasonable.</u>

PJM proposes to extend the rate applicable for Pre-Emergency Load Response non-performance (and conversely for bonus payments)—50% of the Non-Performance Charge Rate—as the maximum rate for IRAS performance.[270] The Commission recently accepted this rate.[271] In that proceeding, PJM explained that the rate is appropriate for non-performance or under-performance by Pre-Emergency Load Response Program

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[269] Ratepayer Protection Pledge.

[270] *See* proposed Tariff, Attachment DD-4, section X(a) ("The rate for the provision of Interim Resource Adequacy Service shall be 50% of the Non-Performance Charge Rate specified in Tariff, Attachment DD, section 10A(e), unless any Eligible New Large Load elects to (i) accept in its retail rates a sum less than 50% of the Non-Performance Charge Rate as compensation for the provision of wholesale Interim Resource Adequacy Service, or (ii) waive receipt in its retail rates any compensation for the provision of wholesale Interim Resource Adequacy Service as contemplated by Tariff, Attachment DD-4, section X(c).").

[271] *PJM Interconnection, L.L.C.*, 195 FERC ¶ 61,253 (2026).

Participants as it reflects that the PJM system is at an earlier stage of emergency conditions, so the system conditions are not as severe, so the value of the load reduction, while still substantial, is also not as high as during a Performance Assessment Interval.[272] From a customer perspective, the non-performance rate appropriately reflects that load paid for capacity but did not get the benefit of the Pre-Emergency Load Response Program that PJM called upon at a time when the PJM system was in stressed system conditions.[273] The monies collected in this instance were, generally speaking, allocated to demand resources that overperformed during such events (i.e., bonus payments), if applicable, with residual monies collected in certain situations reverting to LSEs that did not get the benefit of the load response service for which they paid.[274]

This recently accepted rate is a just and reasonable analog for the wholesale rate PJM proposes here for IRAS. As Mr. Pilong explains, IRAS would be called at the emergency conditions similar to when Pre-Emergency Load Response is called today.[275] Indeed, Mr. Pilong explains that IRAS load reductions would now be introduced just before the Pre-Emergency Load Reduction Actions.[276] Thus, similar to the Pre-Emergency Load Response Program, IRAS load is reduced at an earlier stage of emergency conditions and the 50% reduction on the Non-Performance Charge Rate also reflects that the current

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[272] *PJM Interconnection, L.L.C.*, Proposal to Enhance Performance of Load Management Resources and Price Responsive Demand Providers During Non-Performance Assessment Interval Events of PJM Interconnection, L.L.C., Docket No. ER26-2319-000, Transmittal Letter at 11 (Apr. 27, 2026).

[273] *PJM Interconnection, L.L.C.*, 195 FERC ¶ 61,253.

[274] *See PJM Interconnection*, Proposal to Enhance Performance of Load Management Resources and Price Responsive Demand Providers During Non-Performance Assessment Interval Events of PJM Interconnection, L.L.C., Docket No. ER26-2319-000, Transmittal Letter at 17.

[275] *See* Pilong Aff. ¶ 26.

[276] *See* Pilong Aff. ¶ 26.

Tariff-stated value of load reductions at these system conditions, i.e., where there is not sufficient available economic real-time supply "to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits within prescribed limits and prevent cascading outages."[277]

b. Electric Distributors bear the responsibility, in conjunction with applicable state authorities and New Large Loads, to implement the compensation scheme.

The IRAS rate is compensation for a wholesale load reduction service, but the entities to be paid the rate and the loads to be charged to support such compensation must be determined at the state level consistent with the Electric Distributor's state-approved load reduction plans and other state-approved programs, rates, and rules. As such, the IRAS rate is intended to be conjoined with retail rates and ultimately paid to Eligible New Large Loads that reflects a discount on capacity costs commensurate with the impact of Interim Resource Adequacy Service on addressing resource adequacy issues. The net result is a reduced capacity charge for Eligible New Lage Loads, and thus a "practice . . . in which operators of wholesale markets pay electricity consumers for commitments *not* to use power at certain times" and thus "directly" affects wholesale capacity rates assessed.[278]

This compensation for load reduction under IRAS is not unduly discriminatory or preferential. As the Commission has recognized in recent landmark decisions (and as further discussed above), New Large Loads are a separate, unique class of load.[279] PJM's

[277] Proposed Tariff, Attachment DD-4, section I(b).

[278] *See EPSA*, 577 U.S. at 261, 265.

[279] *See, e.g.*, June 2026 Order to Show Cause, 195 FERC ¶ 61,211; December 2025 Show Cause Order, 193 FERC ¶ 61,217; *Sw. Power Pool*, 195 FERC ¶ 61,213; *Sw. Power Pool*, 195 FERC ¶ 61,196; *Sw. Power Pool*, 194 FERC ¶ 61,031.

IRAS framework advances the Commission's policy set forth in those orders that the RTO/ISO tariff should be modified to support the integration of this class of load to the PJM Region. As a term of interconnection, for loads that have not brought their own capacity and cause unprecedented strain on the system, PJM is facilitating their interconnection subject to IRAS. New Large Loads may achieve the "speed to power" they desire and interconnect to the transmission system, but must either bring their own capacity or provide IRAS—a service for which there will be a compensation mechanism. In sum, New Large Loads are eligible to take this new service at a just and reasonable rate to the extent they elect to interconnect without BYONC to meet their resource adequacy needs. Alternatively, the proposal does not foreclose Eligible New Large Loads from foregoing any available wholesale IRAS compensation through appropriate engagement with Electric Distributors.[280] This engagement would occur at the state level.[281] In these cases where IRAS credits in the retail rates are waived, the wholesale IRAS rate will be reduced to zero dollars, as allowed under the proposed language.[282] This is a just and reasonable rate. And importantly, including a zero-dollar rate aspect of the proposal is consistent with the Ratepayer Protection Pledge's tenet that New Large Loads "will voluntarily negotiate new, separate rate structures with their utilities and relevant State governments wherever they

[280] *See* proposed Tariff, Attachment DD-4, section X(a) ("If any Eligible New Large Load so elects to accept less than 50% of the Non-Performance Charge Rate or waives in its entirety receipt of compensation for the provision of wholesale Interim Resource Adequacy Service, the wholesale rate for the provision of Interim Resource Adequacy Service shall reflect the accepted sum less than 50% of the Non-Performance Charge Rate or if compensation is waived entirely, the rate shall be zero dollars.").

[281] PJM understands that in traditional, non-restructured states, the Electric Distributor also doubles as the LSE for the New Large Load, while in restructured states, the LSE may be an independent entity, not affiliated with the Electric Distributor.

[282] *See* proposed Tariff, Attachment DD-4, section X(a).

build data centers. Importantly, they will pay these rates for the power and related infrastructure that are brought online to service their data centers, whether they use the electricity or not. . . . This will protect the American people from increased utility bills as a result of the development of these data centers."[283] PJM's proposal also allows Eligible New Large Loads to agree upon a retail rate between 50% of the Non-Performance Charge Rate and zero dollars, to further facilitate implementation of the Ratepayer Protection Pledge and retail level arrangements.[284]

Under PJM's proposal, how this wholesale rate is used to compensate for IRAS and how it is used to collect monies for such compensation will be left to the Electric Distributors that directed the specific load reductions to implement IRAS, consistent with their state-approved program, and that can identify the beneficiaries in their zone/area of such load reduction. In this way, how the compensation scheme will work in practice relies on application of state retail law.[285] Whether a specific New Large Load may be entitled to compensation for provision of IRAS will be determined by state authorities under state law or RERRA as may be applicable. The program will be administered by the Electric Distributor in coordination with the relevant state authorities or RERRA. That said, PJM's proposal imposes no obligation on any state to do anything. States are free to design retail rate regimes that facilitate the recovery and allocation of wholesale IRAS rates through generally applicable retail rate tariffs. Alternatively, if states decline to act generically, they could negotiate specific retail filed rates with affected entities. Further still, if states

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[283] Ratepayer Protection Pledge.

[284] *See* proposed Tariff, Attachment DD-4, section X(a).

[285] *See* proposed Tariff, Attachment DD-4, section X(b)(i).

decline to act, Eligible New Large Loads could initiate regulatory proceedings to develop retail pathways to recover wholesale IRAS rates. Or, if states decline to act and Eligible New Large Loads decline to initiate regulatory proceedings to recover through retail rates the wholesale IRAS rate, they would effectively waive a right to compensation.[286] Under PJM's proposal, the wholesale rate can flow into retail rates outside the PJM settlements realm.[287] Alternatively, Electric Distributors, in consultation with their state regulators, can request PJM's support in implementing payment of the wholesale rate to Eligible New Large Loads and/or collection of charges to fund such compensation.[288] Other potential flexibility might exist. The key takeaway is that PJM is not mandating any action at the retail or state level.

In sum, PJM's proposal imposes responsibilities on individual entities, and not the states themselves. While it enlists and invites state action through their jurisdictional retail processes, it does not mandate any state-specific action, nor does it require any specific terms and conditions on retail service. PJM's proposed federal filed rate facilitates and respects the handoff of responsibilities between federal wholesale rate development and state retail rate implementation. PJM's proposed framework avoids the potential for conflicts with state policy determinations and jurisdictional domains. PJM's proposal advances a framework that is consistent with the Commission's decision in the demand

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[286] Indeed, PJM is proposing to include in the compensation rules the following proviso: "Nothing in this Tariff, Attachment DD-4, section X shall interfere with any Eligible New Large Load's election to (i) accept in its retail rates a sum less than 50% of the Non-Performance Charge Rate as compensation for the provision of wholesale Interim Resource Adequacy Service, or (ii) waive receipt in its retail rates any compensation for the provision of wholesale Interim Resource Adequacy Service." Proposed Tariff, Attachment DD-4, section X(c).

[287] Proposed Tariff, Attachment DD-4, section X(b)(i).

[288] Proposed Tariff, Attachment DD-4, section X(b)(ii).

response context to respect state law choices about whether and how to facilitate implementation of a wholesale paradigm, even one that indirectly affects retail rates when the wholesale rate flows back into retail rate structures.[289] As in the demand response context, PJM's proposed framework promotes durability and encourages federal-state communication and partnership without "plac[ing] an undue burden on state and local retail regulatory entities, or . . . rais[ing] new concerns regarding federal and state jurisdiction."[290]

2. *The proposed billing indemnification language is just and reasonable.*

PJM is also proposing indemnification language as part of this compensation framework to make clear that neither PJM nor the PJM membership, generally, is financially responsible for any potential defaults that may arise in association with the billing of this compensation.[291] Thus, if a state-approved rate requires collection of the compensation for interruption under an IRAS Event from other LSEs, for example, and a LSE does not pay as required (whether billed directly by the Electric Distributor or by PJM upon request of the Electric Distributor), the default will not pass to the PJM membership. In the event the Electric Distributor requests that PJM facilitates the billing for an IRAS

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[289] *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, 125 FERC ¶ 61,071, at P 154 (2008) (requiring "RTOs and ISOs to amend their market rules as necessary to permit an [aggregator of retail customers] to bid demand response on behalf of retail customers directly into the RTO's or ISO's organized markets, unless the laws or regulations of the relevant electric retail regulatory authority do not permit a retail customer to participate"); Order No. 719-B, 129 FERC ¶ 61,252 at P 5 (requiring "RTOs and ISOs to amend their market rules as necessary to permit an aggregator of retail customers (ARC) to bid demand response on behalf of retail customers directly into the RTO's or ISO's organized wholesale markets, unless the laws or regulations of the relevant electric retail regulatory authority do not permit a retail customer to participate").

[290] Order No. 719, 128 FERC ¶ 61,059 at P 155.

[291] *See* proposed Tariff, Attachment DD-4, section X(b)(iii).

Event, such billing will be viewed as a bilateral transaction between the Electric Distributor and the other party and any default shall be assessed to the Electric Distributor. This language is just and reasonable because it minimizes risk to PJM and its members, and is consistent with other similar language the Commission has accepted in other parts of PJM's Governing Agreements.[292]

F. Consistent with the Ratepayer Protection Pledge, PJM Is Proposing to Exclude New Large Loads from the VRR Curve Until They Bring New Capacity.

PJM is proposing that, beginning with the 2029/2030 Delivery Year, PJM will exclude from the demand curve (i.e., the VRR Curve used in RPM Auctions) the MW of New Large Loads that have not entered into BYONC arrangements or do not have Allocated RBP UCAP MW, over and above the MW of New Large Loads that were included in the load forecast for the 2028/2029 Delivery Year.[293]

New Large Loads have, pursuant to the Ratepayer Protection Pledge, committed to "build, bring, or buy the new generation resources and electricity needed to satisfy their new energy demands" and "add more capacity that serves the broader public by increasing supply" in order to "advance[] self-sufficiency and protect[] Americans from higher

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[292] *See, e.g.*, Tariff, Attachment K-Appendix, section 5.2.2(d)(v) ("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 such a bilateral agreement reported to the Office of the Interconnection under this" Tariff and Operating Agreement provision.).

[293] PJM Board directs that "[i]ncremental [N]ew Large Loads relative to the forecast utilized for the 2028/2029 BRA . . . from the forecast used in future RPM auctions for the 2029/2030 Delivery Year and beyond unless and until there are new supply resources offered into an RPM auction in sufficient quantity to cover the [individual] new Large Load." CIFP Framework for Service at 5.

prices."[294] Thus, to the extent that New Large Loads come online, PJM expects that these loads will either "build, bring, or buy" new generation and capacity to serve their needs.

New Large Loads that have not entered into BYONC arrangements or do not have Allocated RBP UCAP MW will be excluded from the VRR Curve starting with the 2029/2030 Delivery Year regardless of whether PJM is experiencing a shortfall that triggers IRAS in the relevant Delivery Year. *Including* the quantity of New Large Loads that have not entered into BYONC arrangements or do not have Allocated RBP UCAP MW in the VRR Curve would fail to recognize that New Large Loads have committed to "build, bring, or buy the new generation resources and electricity needed to satisfy their new energy demands" and "add more capacity that serves the broader public by increasing supply."[295] *Excluding* the quantity of New Large Loads that have not entered into BYONC arrangements or do not have Allocated RBP UCAP MW from the VRR Curve, on the other hand, recognizes the commitment of New Large Loads to cover their own energy and

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[294] Ratepayer Protection Pledge; Ratepayer Protection Pledge Announcement; July 2026 Ratepayer Protection Pledge Update (identifying 282 utilities, cooperatives, data centers, and 23 governors that joined the Ratepayer Protection Pledge, including 38 data centers: Aligned Data Centers, LLC; Amazon.com, Inc.; Beale Infrastructure Group, LLC; CleanSpark LLC; Cloud HQ LLC; Cologix, Inc.; Compass Datacenters, LLC; Core Scientific, Inc.; CoreWeave, Inc.; Corscale, LLC; Crusoe Technologies LLC; CyrusOne, Inc.; DataBank Holdings, Ltd.; Digital Realty Trust, Inc.; EdgeConnex Inc.; EdgeCore Digital Infrastructure (d/b/a EdgeCore Internet Real Estate, LLC); Equinix, Inc.; Google (d/b/a Alphabet Inc.); Iron Mountain Incorporated; Meta Platforms, Inc.; Microsoft Corporation; Nebius Group N.V.; NTT Global Data Centers (d/b/a NTT DATA, Inc.); OpenAI, L.L.C.; Oracle Corporation; Oppidan Connect Data Centers (d/b/a Oppidan Investment Company); Prologis, Inc.; Quality Technology Services, LLC; Rowan Digital Infrastructure Pty. Ltd.; Skybox Datacenters, LLC; STACK Infrastructure, Inc.; Starwood Digital Ventures (d/b/a Starwood Capital Operations, LLC); Stream Data Centers, L.P.; Switch, Inc.; T5Data Centers, LLC; TA Realty LLC; Vantage Data Centers Management Company, LLC; and x.AI LLC).

[295] Ratepayer Protection Pledge; Ratepayer Protection Pledge Announcement; July 2026 Ratepayer Protection Pledge Update.

capacity needs to "advance[] self-sufficiency and protect[] Americans from higher prices."[296]

Furthermore, in Delivery Years when there is a reliability shortfall and IRAS is triggered, to the extent these New Large Loads have not entered into BYONC arrangements or been Allocated RBP UCAP MW, their demand will be treated as Eligible New Large Load Amounts—that is, MW quantities that are eligible to provide IRAS by virtue of not having either entered into BYONC arrangements or having Allocated RBP UCAP MW. When an Eligible New Large Load interconnects subject to Interim Resource Adequacy Service, that New Large Load is, indeed, availing itself to an *interim* solution—which permits the Eligible New Large Load to obtain service while simultaneously permitting PJM to maintain grid reliability and resource adequacy—even before the New Large Loads' BYONC arrangements are online and even if the New Large Loads are without Allocated RBP UCAP MW in that particular Delivery Year.

Once New Large Loads have met their commitment to build, bring, or buy capacity to meet their own needs—whether through BYONC or an assignment of RBP UCAP MW for the Delivery Year—the VRR Curve will incorporate the demand from the New Large Load, as well as the supply that it has committed to provide for purposes of meeting the demand it creates on the PJM system. A New Large Load that was previously eligible for IRAS because it previously had not entered into BYONC arrangements will begin to be

[296] Ratepayer Protection Pledge; Ratepayer Protection Pledge Announcement; July 2026 Ratepayer Protection Pledge Update.

included in the forecast for the same RPM Auction that its BYONC arrangement will be offered into the RPM Auction.[297]

1. *Excluding incremental New Large Load Amounts from the demand curve beginning with the 2029/2030 Delivery Year*

PJM is proposing two new Tariff definitions, "Excluded RTO New Large Load Amounts" and "Excluded Locational Deliverability Area ("LDA") New Large Load Amounts" to mean the UCAP MW quantity of New Large Load that will not be reflected in the VRR Curve starting with the 2029/2030 Delivery Year. The definitions are as follows:

- "Excluded RTO New Large Load Amounts" shall mean, converted in UCAP terms by using the Forecast Pool Requirement and exclusive of any load in an FRR Service Area, [the sum of all New Large Loads across the PJM Region in the load forecast for the relevant Delivery Year] minus [New Large Loads across the PJM Region that were included in the load forecast used for the 2028/2029 Delivery Year] minus [the total MW quantity of New Large Load that is added on or after the 2029/2030 Delivery Year and is (i) in an arrangement with BYONC in the RTO or (ii) assigned Allocated RBP UCAP MW in the RTO].[298]

- "Excluded LDA New Large Load Amounts" shall mean, converted in UCAP terms by estimating the impact on required imports to a Locational Deliverability Area and exclusive of any load in an FRR Service Area, [the sum of all New Large Loads in the relevant Locational Deliverability Area that were included in the load forecast for the relevant Delivery Year] minus [New Large Loads in the relevant Locational Deliverability Area that were included in the load forecast used for the 2028/2029 Delivery Year] minus [the total MW quantity of New Large Load that is added on or after the 2029/2030 Delivery Year and is (i) in an arrangement with BYONC in the Locational Deliverability Area or (ii) assigned Allocated RBP UCAP MW in Locational Deliverability Area].[299]

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[297] Proposed Tariff, Attachment DD, section VII.

[298] Proposed Tariff, Definitions – Excluded RTO New Large Load Amounts.

[299] Proposed Tariff, Definitions – Excluded LDA New Large Load Amounts.

To calculate the Excluded RTO New Large Load Amounts and the Excluded LDA New Large Load Amounts, first, begin with the sum of all New Large Loads across the PJM Region or in the relevant LDA in the load forecast for the relevant Delivery Year.

Second, subtract out the quantity of New Large Load in the load forecast for the 2028/2029 Delivery Year for either the RTO or relevant LDA. It is necessary to subtract this amount because the BRA for the 2028/2029 Delivery Year, which took place in July 2026, was the last auction conducted prior to this proposal. Because that auction predates this proposal, it relied on a load forecast that included all loads, including New Large Loads that had not entered into BYONC arrangements or have Allocated RBP UCAP MW, in the demand curve. As a result, the quantities of New Large Loads incorporated into the load forecast for the 2028/2029 Delivery Year are an appropriate reference point for measuring the incremental quantity of New Large Loads in the load forecast, beginning with the 2029/2030 Delivery Year.[300] This results in the incremental MW value of New Large Load for the relevant Delivery Year.

Third, subtract the total MW quantity of New Large Load for the RTO or relevant LDA that is added on or after the 2029/2030 Delivery Year that has either entered into a BYONC arrangement or has Allocated RBP UCAP MW for that Delivery Year.

Fourth, as the above definitions reflect, Excluded RTO New Large Load Amounts and Excluded LDA New Large Load Amounts will be represented in UCAP terms. Thus, to determine the Excluded RTO New Large Load Amounts, the resulting value of the above

[300] PJM proposes to maintain the inclusion of all New Large Loads in the demand curve for the remaining Incremental Auctions associated with the 2027/2028 and 2028/2029 Delivery Years to maintain consistency with those loads being included in the demand curve for the corresponding BRAs that have already been completed.

steps will be converted into UCAP terms by multiplying the calculated amount by the Forecast Pool Requirement. Likewise, to determine the Excluded LDA New Large Load Amounts, the resulting value of the above steps will be converted into UCAP terms by multiplying the value by an estimated impact factor on required imports to an LDA.

Load in FRR Service Areas will continue to not be included in the VRR Curve, as FRR Entities already provide capacity for all load, including New Large Loads, in their FRR Service Areas.

The Excluded RTO New Large Load Amounts and Excluded LDA New Large Load Amounts, which are the UCAP MW that are not reflected in the RTO-wide VRR Curve and the VRR Curve for each LDA, respectively, should only reflect the incremental MW value of New Large Loads without BYONC or Allocated RBP UCAP MW in the PJM Region or the relevant LDA. As noted above, the quantity of New Large Loads will be reflected in the VRR Curve beginning with the same RPM Auction that the associated BYONC is offered for the first time.

The UCAP MW of New Large Loads that are not associated with qualifying BYONC or Allocated RBP UCAP MW are expected to build, bring, or buy their own generation and capacity to support their needs. During a Delivery Year in which IRAS is in effect, these quantities of New Large Loads that have not entered into BYONC arrangements or does not have Allocated RBP UCAP MW may, in the interim, be subject to load reduction pursuant to IRAS. Nevertheless, as proposed, the UCAP MW of New Large Loads without BYONC or Allocated RBP UCAP MW—whether or not subject to IRAS—will be excluded from the VRR Curve starting with the 2029/2030 Delivery Year.

Therefore, in accordance with the Ratepayer Protection Pledge, New Large Loads would ultimately "add more capacity that serves the broader public by increasing supply."[301]

2. New Large Loads with BYONC arrangements or Allocated RPB UCAP MW will be reflected in the demand curve.

PJM's proposed Tariff revisions provide that only the UCAP MW of New Large Loads without BYONC arrangements or Allocated RBP UCAP MW will be excluded from the demand curve, but New Large Loads are not expected to be indefinitely excluded. Rather, where New Large Loads have arrangements for capacity within the same RPM Auction, these quantities of New Large Loads will no longer be excluded from the VRR Curve. As explained above in Part II.C.3, BYONC resources with which New Large Load has entered into arrangements would be required to be offered in the RPM Auction as supply and as price takers.

Furthermore, the quantities of New Large Load would begin to be included in the VRR Curve in the same RPM Auction as the associated BYONC capacity. In this way, the impact of including such load in the demand curve is counterbalanced by the inclusion of a commensurate amount of additional Capacity Resources that are added to the supply curve. If a BYONC resource is offered into an RPM Auction *before* the quantity of New Large Load with which it has an arrangement is added to the demand curve, the RPM Auction would not reflect actual supply and demand fundamentals. Thus, to qualify as BYONC, the Capacity Resource must not have been offered and cleared in a prior RPM Auction where the load was not represented in the demand curve.[302] Notably, if a New

[301] Ratepayer Protection Pledge.

[302] Proposed Tariff, Attachment DD-4, section VI(a)(iii). Given that New Large Loads are included in the RPM Auctions through the 2028/2029 Delivery Year and eligible BYONC that previously cleared an RPM

Large Load ramps up over time and arranges for a BYONC that is for the eventual full load, such BYONC would be allowed to be offered for the full amount into the first RPM Auction that the portion of the New Large Load will be included in the load forecast. This is appropriate because such BYONC is being brought to the system by the New Large Load and should not be partially offered when it is available to serve as capacity for the full accredited quantity.

On the supply side, the LSE that serves the New Large Load would report to PJM any BYONC arrangements with the New Large Loads in the zone/area at least 30 days prior to the deadline for PJM to post the planning parameters for the relevant RPM Auction.[303] PJM will therefore have sufficient time to confirm that the reported Capacity Resources meets all of the BYONC eligibility requirements before including the quantity of New Large Load in the VRR Curve that will be posted as part of the planning parameters.

Furthermore, on the supply side, the BYONC resource, with which the New Large Load has entered into an arrangement must adhere to existing RPM Auction rules to ensure that the resource can be offered as a price taker in the relevant RPM Auction that the quantity of New Large Load would be included in demand curve. This includes, but is not limited to, meeting all the requirements to be offered as a Capacity Resource, submitting

Auction through the 2028/2029 Delivery Year was not on notice of this limitation, any eligible BYONC that is offered in RPM Auctions through the 2028/2029 Delivery Year can be procured by New Large Loads to avoid IRAS.

[303] Proposed Tariff, Attachment DD-4, section VII(c).

timely binding notice of intent to offer, and certifying that no buyer-side market power will be exercised in accordance with the existing rules and timelines.[304]

If an LSE does not timely report the New Large Load's arrangement with eligible BYONC to PJM by the specified deadline, then PJM would not include the quantity of New Large Load in the demand curve. This is because PJM will post the VRR Curve used for the relevant RPM Auction as part of the planning parameters so any submissions received after the deadline would not be timely incorporated into the demand curve.

To remove potential incentives for LSEs to not timely report New Large Loads in arrangements with BYONC resources, the quantity of those New Large Loads that have not been timely reported to PJM will continue to be subject to the IRAS in Delivery Years when IRAS is triggered, until the relevant LSEs have reported New Large Load arrangement with a BYONC Capacity Resource to PJM at least 30 days prior to the deadline for PJM to post the planning parameters[305] for a subsequent RPM Auction.

3. Each of the three points on the VRR Curve would be reduced by the Quantities of New Large Loads for the relevant Base Residual Auction.

In addition to the two new definitions described above in Part II.F.1, PJM proposes to modify the existing rules in Tariff, Attachment DD, section 5.10(a) to specify that, for each of the three points on the VRR Curve, the Excluded RTO New Large Load Amounts would be deducted from the PJM Region Reliability Requirement, and the relevant

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304 *See generally* Tariff, Attachment DD, section 5.3; Tariff, Attachment DD, section 5.14(h-2); RAA, Schedule 9.2; RAA, Schedule 10.

305 Proposed Tariff, Attachment DD-4, section VII(d). For the 2029/2030 Delivery Year, the arrangement must be reported 50 days prior to the commencement of the BRA or 30 days prior to the posting of the planning parameters for the Scheduled Incremental Auctions. *See* Proposed Tariff, Attachment DD-4, section VII(c).

Excluded LDA New Large Load Amounts would be deducted from the respective LDA Reliability Requirements before being multiplied by the relevant existing percentages.[306] Given that the Commission accepted the extension of the price collar through the 2029/2030 Delivery Year, the proposed Tariff revisions maintain the distinctions between the VRR Curve for the 2029/2030 Delivery Year and the VRR Curve associated with the subsequent Delivery Years. Similarly, the respective points on the LDA VRR Curves would be reduced by the relevant Excluded LDA New Large Load Amounts.[307]

4. The Incremental Auctions will reflect adjustments of capacity previously committed, including any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts.

As with the BRAs, PJM would similarly exclude Eligible New Large Load Amounts from the Demand Curve for Scheduled Incremental Auctions. To do this, PJM proposes to modify the definition of Updated VRR Curve to account for the Excluded RTO New Large Load Amounts and Excluded LDA New Large Load Amounts.[308] This definition will then be incorporated by reference in the existing definitions of Updated VRR Curve Increment and Updated VRR Curve Decrement, which are used in the optimization algorithm for clearing the Scheduled Incremental Auctions.[309]

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[306] Proposed Tariff, Attachment DD, section 5.10(a)(i).

[307] Proposed Tariff, Attachment DD, section 5.10(a)(ii)(C).

[308] Proposed Tariff, Definitions – 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 changes in the Reliability Requirement, Excluded RTO New Large Load Amounts, and/or Excluded LDA New Large Load Amounts from the Base Residual Auction to the relevant Incremental Auction.").

[309] *See* Tariff, Attachment DD, section 5.12(b).

PJM also proposes to modify the existing rules in Tariff, Attachment DD, section 5.4 to specify that each LDA Reliability Requirement will be updated to reflect adjustments to the Excluded LDA New Large Load Amounts. Similarly, PJM is proposing to modify the existing rules in Tariff, Attachment DD, section 5.4 to specify that each LDA Reliability Requirement will be updated to reflect adjustments to the Excluded LDA New Large Load Amounts. These revisions conform the treatment of Excluded LDA New Large Load Amounts and Excluded RTO New Large Load Amounts in Incremental Auctions to their treatment in BRAs, starting with the 2029/2030 Delivery Year.

5. PJM will maintain transparency by posting the Variable Resource Requirement Curve in advance of the RPM Auctions.

Consistent with the existing practice of posting VRR Curves as part of the broader planning parameters that are posted as part of the pre-auction process, PJM proposes to memorialize the posting requirement by specifying that the VRR Curves will be "posted on the same timeline with the PJM Region Reliability Requirement and the Locational Deliverability Area Reliability Requirement."[310] Since the VRR Curve for the 2029/2030 Delivery Year will be posted as part of the planning parameters under the existing Tariff rules by August 31, 2026, PJM makes clear in the proposed Tariff that an Updated VRR Curve for the 2029/2030 BRA will be posted one month prior to the commencement of the RPM Auction.

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[310] Proposed Tariff, Attachment DD, section 5.10(a)(vi)(B). This deadline would typically be February 1 prior to the conduct of a BRA when it is conducted on a normal three-year schedule. However, until the 2030/2031 BRA, the RPM Auctions are still on a compressed auction schedule with the deadline for posting the planning parameters subject to a Commission waiver order. *See PJM Interconnection, L.L.C.*, 189 FERC ¶ 61,105 (2024).

Posting an Updated VRR Curve for the 2029/2030 BRA is entirely distinguishable from the underlying facts in the United States Court of Appeals for the Third Circuit's order finding that updating the LDA Reliability Requirement after the auction commenced was barred by the filed-rate doctrine.[311] Because PJM will post the Updated VRR Curve for the 2029/2030 BRA 30 days *before* the auction commences and binding offers are submitted by Capacity Market Sellers, no legal consequences attach after PJM posts the initial VRR Curve on August 31, 2026, especially as this filing provides notice that the yet-to-be posted VRR Curve is subject to change in accordance with the proposal set forth in this filing.

Finally, in addition to specifying that the VRR Curve will be posted prior to the auction, PJM also proposes to specify that the Excluded RTO New Large Load Amounts and Excluded LDA New Large Load Amounts used in establishing the VRR Curve will be included in the posting requirement beginning with the 2029/2030 BRA.[312]

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[311] *PJM Power Providers Grp. v. FERC*, 96 F.4th 390, 400 (3d Cir. 2024).

[312] Proposed Tariff, Attachment DD, section 5.11(a)(iii).

III. CORRESPONDENCE

The following individuals are designated for inclusion on the official service list in this proceeding and for receipt of any communications regarding this filing:

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IV. REQUESTED EFFECTIVE DATE AND CONSENT TO MODIFICATION OR SEVERANCE OF ISSUES

PJM requests that the Commission issue an order on this filing and make the enclosed proposed Tariff and RAA revisions effective by no later than October 12, 2026, 2026, which is 60 days after the date of this filing, and to make the Large Load Registry rules effective October 12, 2026, which is 60 days from the date of filing. Such an effective date will allow PJM to start building the Large Load Registry and accept reports of arrangements between New Large Loads and BYONC in time to expeditiously develop and post a new VRR Curve with the New Load Loads removed to the extent they do not have BYONC arrangements. An October 12, 2026 effective date will not affect when PJM will call an Interim Resource Adequacy Service Action. As the enclosed revisions make clear, IRAS starts being available with the 2027/2028 Delivery Year, i.e., June 1, 2027.

Further, allowing the revisions to be effective on the date requested, and allowing IRAS to commence June 1, 2027, would enable the states and other interested entities to put in place the appropriate state-level tools to complement and implement IRAS. As discussed, PJM understands that some states have begun proceedings to evaluate how to best facilitate coordination with PJM on implementing IRAS. PJM welcomes all such efforts.

In addition, as noted above, however, to facilitate Commission approval and smooth implementation of the IRAS on June 1, 2027, PJM consents to the Commission's exercise of authority to modify and/or sever the proposed Tariff and RAA language, as needed and permitted under the FPA and *NRG Power Marketing*,[313] where such modification is consistent with PJM's overarching objectives in this filing.[314] In addition, PJM provides the following requests and observations:

First, should the Commission exercise its authority to modify the proposed Tariff language herein pursuant to the FPA and *NRG Power Marketing*, PJM respectfully requests that the Commission expressly prescribe the revised rate or rule in its order. Prescriptive revised language from the Commission would provide the "necessary predictability" to

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[313] *NRG Power Mktg.*, 862 F.3d at 108. As the Commission has repeatedly stated, "[t]he United States Court of Appeals for the District of Columbia Circuit has held that, in certain circumstances, the Commission has 'authority to propose modifications to a utility's [FPA section 205] proposal if the utility consents to the modifications.'" *N.Y. Indep. Sys. Operator*, 188 FERC ¶ 61,051 at P 22 n.36 (second alteration in original) (citing *NRG Power Mktg.*, 862 F.3d at 114-15); *see Midcontinent Indep. Sys. Operator*, 180 FERC ¶ 61,141 at P 26 n.29 (same); *ISO New England*, 175 FERC ¶ 61,172 at P 16 n.20 (same).

[314] PJM is not, for example, suggesting that the Commission may modify or sever provisions of its proposal to result in an "entirely different rate design." *NRG Power Mktg.*, 862 F.3d at 115 ("Our decisions in *City of Winnfield* and *Western Resources* indicate that Section 205 does not allow FERC to suggest modifications that result in an 'entirely different rate design' than the utility's original proposal or the utility's prior rate scheme."); *see also id.* at 116 (holding that the Commission's modifications resulted in an entirely different rate design where Commission's modifications: (1) replaced PJM's proposal to permit exemption where generators demonstrate on a case-by-case basis that their costs fell below the price floor with one in which generators can claim exemptions even if they cannot demonstrate that their price falls below the floor; (2) undid the compromise between LSEs and Generators and thus "eviscerated the terms of the bargain").

allow PJM to implement such changes to elements of the Large Load Registry or IRAS in a timely manner.[315] PJM's submittal of any compliance filing implementing such modifications would constitute PJM's consent and acceptance of the Commission's modifications.

Second, PJM observes that the facts underlying the PJM proposal at issue in *NRG Power Marketing* are distinguishable from the facts here. In *NRG Power Marketing*, the FPA section 205 filing with the Commission was one in which "PJM asked the Commission 'to view this filing not as a list of discrete Tariff changes, but . . . a hard-fought compromise package, and to approve it as such.'"[316] By contrast, the proposal put forth here is not a stakeholder compromise package. Unlike *NRG Power Marketing*, there is no danger of undoing the compromise between LSEs and Generators and thus "eviscerat[ing] the terms of the bargain."[317] Rather, this filing is the product of an RBP proposal that was independently endorsed by the PJM Board following the CIFP stakeholder process. Moreover, through this pre-emptive grant of authority pursuant to

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[315] *PJM Interconnection, L.L.C.*, 175 FERC ¶ 61,137, at P 110 (2021) (first quoting *Aera Energy LLC v. FERC*, 789 F.3d 184, 190-92 (D.C. Cir. 2015) ("affirming the Commission, finding 'FERC's conditional acceptance . . . simply required Kern River to substitute one number for another when allocating costs to the rolled-in shippers. . . . Because this mechanical change gave Kern River no discretion to adjust its rate models, FERC provided sufficient notice to ratepayers'"); and then quoting *Elec. Dist. No. 1 v. FERC*, 774 F.2d 490, 493 (D.C. Cir. 1985) ("vacating when the 'effective date of an order set[] forth no more than the basic principles pursuant to which the new rates are to be calculated'") (alteration in original)). As the Commission elaborated further in *PJM Interconnection*, mere "direction" without "sufficient detail on each element [of the replacement rate] that [customers/market participants] could determine when their transactions would be subject to [the new rule]," would mean that implementation of the compliance directive prior Commission approval would violate the filed rate doctrine. *Id.* (quoting *Elec. Dist. No. 1*, 774 F.2d at 493 ("[P]urchasers of electricity cannot plan their activities unless they know the cost of what they are receiving, 'providing the necessary predictability is the whole purpose of the well-established filed rate doctrine.'" (citing *Ark. La. Gas Co. v. Hall*, 453 U.S. 571, 577 (1981)))).

[316] *NRG Power Mktg.*, 862 F.3d at 113 (citation omitted).

[317] *NRG Power Mktg.*, 862 F.3d at 116.

which the Commission may sever and modify each element of the proposal, stakeholders are on notice of potential changes to the proposal as filed, and will have the opportunity to comment as they feel necessary and appropriate.

Third, although PJM consents to make each element of the proposed revisions to the Tariff and RAA severable, PJM has demonstrated that each element of its proposal is just and reasonable. Notwithstanding PJM's grant of authority to sever, PJM urges the Commission to accept all revisions as proposed so that the elements of the Large Load Registry can commence on October 12, 2026; would allow PJM to expeditiously post an Updated VRR Curve for the December 2029/2030 BRA; and IRAS can begin June 1, 2027.

To the extent the Commission does sever and modify any element, the Commission should recognize that, while the RAA and Tariff revisions together advance a means for addressing the resource adequacy issues resulting from new large loads interconnecting to the transmission system faster than new capacity is being placed in service. The elements of this proposal were developed together and designed to work in lockstep and provide complementary pieces to a multi-prong approach to incent New Large Loads to bring their own capacity to meet their resource adequacy needs and avoid imposing costs on ratepayers. Indeed, the VRR Curve changes are predicated on the BYONC proposed as part of the IRAS framework. Conversely, the general obligation that Load Serving Entities bring new capacity in an amount that equals or exceeds its New Large Loads' peak load and Large Load Registry are each discrete from the other elements of this filing and would provide an independent value of informing PJM's operations, planning, and load forecasting activities.

Finally, PJM continues to discuss with states and other stakeholders how to address these issues, particularly the federal-state handoff of responsibilities. To that end, PJM may, at the behest of the states, host workshops with states and other stakeholders, which may result in amendments to the proposals submitted herein and, if necessary, additional time for comments and consideration as may be necessary or appropriate.

V. DOCUMENTS ENCLOSED

This filing consists of the following:

1. This transmittal letter;
2. Revisions to the PJM Tariff and Resource Adequacy Agreement (in redlined and non-redlined format (as Attachments A and B, respectively) and in electronic tariff filing format as required by Order No. 714);[318] and
3. Affidavit of Christopher Pilong on Behalf of PJM Interconnection, L.L.C. as Attachment C.

VI. SERVICE

PJM has served a copy of this filing on all PJM members and on all state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the Commission's regulations,[319] PJM will post a copy of this filing to the Commission filings section of its internet site, located at the following link: https://www.pjm.com/library/filing-order.aspx with a specific link to the newly filed document, and will send an e-mail on the same date as this filing to all PJM members and all state utility regulatory commissions in the PJM Region[320] alerting them that this filing

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

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

[320] PJM already maintains, updates, and regularly uses e-mail lists for all PJM members and affected state commissions.

has been made by PJM and is available by following such link. PJM also serves the parties listed on the Commission's official service list for this docket. If the document is not immediately available by using the referenced link, the document will be available through the referenced link within 24 hours of the filing. Also, a copy of this filing will be available on the Commission's eLibrary website located at the following link: http://www.ferc.gov/docs-filing/elibrary.asp in accordance with the Commission's regulations and Order No. 714.

VII. CONCLUSION

Based on the foregoing, PJM requests that the Commission accept the enclosed proposed Tariff and RAA revisions by October 12, 2026, effective as requested.

Respectfully submitted,

/s/ Ryan J. Collins

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August 13, 2026

Attachment A

Revisions to the
PJM Open Access Transmission Tariff
and Resource Adequacy Agreement

(Marked/Redline Format)

Definitions – A - B

30-minute Reserve:

"30-minute Reserve" shall mean the reserve capability of generation resources that can be converted fully into energy or Economic Load Response Participant resources whose demand can be reduced within 30 minutes of a request from the Office of the Interconnection dispatcher, and is comprised of Synchronized Reserve, Non-Synchronized Reserve and Secondary Reserve.

30-minute Reserve Requirement:

"30-minute Reserve Requirement" shall mean the megawatts required to be maintained in a Reserve Zone or Reserve Sub-zone, as Secondary Reserve, absent any increase to account for additional reserves scheduled to address operational uncertainty. The 30-minute Reserve Requirement is calculated in accordance with the PJM Manuals. The requirement can be satisfied by any combination of Synchronized Reserve, Non Synchronized Reserve or Secondary Reserve resources.

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.

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.

Allocated RBP UCAP MW:

"Allocated RBP UCAP MW" shall mean the RBP UCAP MW allocated to a New Large Load in accordance with Tariff, Attachment DD-4, section IX.

Ambient-Adjusted Rating:

"Ambient-Adjusted Rating" (AAR) shall mean a Transmission Facility Rating that:

(a) Applies to a time period of not greater than one hour.
(b) Reflects an up-to-date forecast of ambient air temperature across the time period to which the rating applies.
(c) Reflects the absence of solar heating during nighttime periods, where the local sunrise/sunset times used to determine daytime and nighttime periods are updated at least monthly, if not more frequently.
(d) Is evaluated at least each hour, if not more frequently.

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 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 Economic Load Response Participant Resource:

"Batch Load Economic Load Response Participant Resource" shall mean an Economic Load Response Participant 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.

Bring Your Own New Capacity:

"Bring Your Own New Capacity" or "BYONC" shall mean megawatts of Unforced Capacity that meet the eligibility criteria set forth in Tariff, Attachment DD-4, section VI. Megawatts of Unforced Capacity that have been previously included in an FRR Capacity Plan prior to the 2027/2028 Delivery Year do not qualify as BYONC. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then BYONC that has been included previously in an FRR Capacity Plan prior to the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met and (2) meet the eligibility criteria set forth in Tariff, Attachment DD-4, section VI do not qualify as BYONC.

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.

Buyer-Side Market Power:

“Buyer-Side Market Power” shall mean the ability of Capacity Market Sellers with a Load Interest to suppress RPM Auction clearing prices for the overall benefit of their (and/or affiliates) portfolio of generation and load.

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 Load Response Regulation Only Participant:

"Economic Load Response Regulation Only 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, and is only eligible to participate in the PJM Regulation market.

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.

Eligible Fast-Start Resource:

"Eligible Fast-Start Resource" shall mean a Fast-Start Resource that is eligible for the application of Integer Relaxation during the calculation of Locational Marginal Prices as set forth in Tariff, Attachment K-Appendix, section 2.2.

Eligible New Large Loads:

"Eligible New Large Loads" shall mean a New Large Load eligible to provide Interim Resource Adequacy Service in accordance with Tariff, Attachment DD-4, section V.

Eligible New Large Load Amount:

"Eligible New Large Load Amount" shall mean the total megawatt value of load an Eligible New Large Load may be required to make available for Interim Resource Adequacy Service in an Electric Distributor zone/area.

Emergency Action:

"Emergency Action" shall mean (1) any megawatt shortage of the Primary Reserve Requirement (as specified in the PJM Manuals) in a Reserve Zone or Reserve Sub-zone, inclusive of any adjustments to such requirement to account for system conditions, as determined by the dispatch run from the security constrained economic dispatch and where, as specified in the PJM Manuals, there is also a Voltage Reduction Warning and reduction of non-critical plant load, Manual Load Dump Warning, Maximum Generation Emergency Action, or the curtailment of non-essential building loads and Voltage Reduction Warning that encompasses such Reserve Zone or Reserve Sub-zone or (2) anytime the Office of Interconnection identifies an emergency and issues a load shed directive, Manual Load Dump Action, Voltage Reduction Action, or deploy all resources action for an entire Reserve Zone or Reserve Sub-zone.

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 an operational limitation 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. Open-Loop Hybrid Resources are not Energy Storage Resources.

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.

Entity Providing Supply Services to Default Retail Service Provider:

"Entity Providing Supply Services to Default Retail Service Provider" shall mean any entity, including but not limited to a load aggregator or power marketer, providing supply services to an electric distribution company when that electric distribution company is serving as the default retail service provider, and that enters into a contract or similar obligation with such electric distribution company to serve retail customers who have not selected a competitive retail service provider.

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.

Excluded LDA New Large Load Amounts:

"Excluded LDA New Large Load Amounts" shall mean, converted in UCAP terms by estimating the impact on required imports to a Locational Deliverability Area and exclusive of any load in an FRR Service Area, [the sum of all New Large Loads in the relevant Locational Deliverability Area that were included in the load forecast for the relevant Delivery Year] minus [New Large Loads in the relevant Locational Deliverability Area that were included in the load forecast used for the 2028/2029 Delivery Year] minus [the total MW quantity of New Large Load that is added on or after the 2029/2030 Delivery Year and is (i) in an arrangement with BYONC in the Locational Deliverability Area or (ii) assigned Allocated RBP UCAP MW in Locational Deliverability Area].

Excluded RTO New Large Load Amounts

"Excluded RTO New Large Load Amounts" shall mean, converted in UCAP terms by using the Forecast Pool Requirement and exclusive of any load in an FRR Service Area, [the sum of all New Large Loads across the PJM Region in the load forecast for the relevant Delivery Year] minus [New Large Loads across the PJM Region that were included in the load forecast used for the 2028/2029 Delivery Year] minus [the total MW quantity of New Large Load that is added on or after the 2029/2030 Delivery Year and is (i) in an arrangement with BYONC in the RTO or (ii) assigned Allocated RBP UCAP MW in the RTO].

Exercise of Buyer-Side Market Power:

"Exercise of Buyer-Side Market Power" shall mean anti-competitive behavior of a Capacity Market Seller with a Load Interest, or directed by an entity with a Load Interest, to uneconomically lower RPM Auction Sell Offer(s) in order to suppress RPM Auction clearing prices for the overall benefit of the Capacity Market Seller's (and/or affiliates of Capacity Market Seller) portfolio of generation and load or that of the directing entity with a Load Interest as determined pursuant to Tariff, Attachment DD, section 5.14(h-2)(2)(B). A bilateral contract between the Capacity Market Seller and an entity with a Load Interest with the express purpose of lowering capacity market clearing prices shall be evidence of the Exercise of Buyer-Side Market Power.

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 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.

Extended 30-minute Reserve Requirement:

"Extended 30-minute Reserve Requirement" shall equal the 30-minute 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 30-minute 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.

Fast-Start Resource:

"Fast-Start Resource" shall have the meaning set forth in Tariff, Attachment K-Appendix, section 2.2A

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, Part II, section 13 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.

Forward Daily Natural Gas Prices:

"Forward Daily Natural Gas Prices" shall have the meaning provided in Tariff, Attachment DD, section 5.10(a)(v-1)(E).

Forward Hourly Ancillary Services Prices:

"Forward Hourly Ancillary Services Prices" shall have the meaning provided in Tariff, Attachment DD, section 5.10(a)(v-1)(D).

Forward Hourly LMPs:

"Forward Hourly LMPs" shall have the meaning provided in Tariff, Attachment DD, section 5.10(a)(v-1)(C).

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 – 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 the cost in dollars per MWh of providing an additional MWh from a synchronized unit. It consists primarily of the cost of fuel, as determined by the unit's incremental heat rate (adjusted by the performance factor) times the fuel cost. It also includes operating costs, Maintenance Adders, emissions allowances, tax credits, and energy market opportunity costs.

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).

Integer Relaxation:

"Integer Relaxation" shall mean the process by which the commitment status variable for an Eligible Fast-Start Resource is allowed to vary between zero and one, inclusive of zero and one, as further described in Tariff, Attachment K-Appendix, section 2.2.

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.

Interim Resource Adequacy Service:

"Interim Resource Adequacy Service" shall mean a load reduction service through which New Large Loads reduce load as directed by the applicable Electric Distributor in response to an Interim Resource Adequacy Service Action requested by the Office of the Interconnection. Such reductions in load may be eligible for compensation pursuant to Attachment DD-4, section X.

Interim Resource Adequacy Service Action:

"Interim Resource Adequacy Service Action" shall mean an Operating Instruction, as defined by NERC, issued from the Office of the Interconnection to reduce load prior to calling on Pre-Emergency Load Management Reductions after determining that available economic real-time supply may not be sufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits within prescribed limits and prevent cascading outages.

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.

IROL Critical Resource:

"IROL Critical Resource" shall mean a generation resource that the Office of the Interconnection designates, pursuant to NERC Reliability Standards, as having an interconnection reliability operating limit that, if violated, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk electric system.

Jointly Owned Cross-Subsidized Capacity Resource:

"Jointly Owned Cross-Subsidized Capacity Resource" shall mean a Capacity Resource that is supported by a facility that is jointly owned, where at least one owner is entitled to or receives a State Subsidy associated with such Capacity Resource, and therefore shall be considered a Capacity Resource with State Subsidy; provided however, in the event that the material rights and obligations of such generating facility are in pari passu, meaning that such rights and obligations are allocated among the owners pro rata based on ownership share, only Capacity Resources of those owners entitled to receive or receiving a State Subsidy shall have their share of such resource considered a Capacity Resource with a State Subsidy and Capacity Resources of owners not entitled to a State Subsidy shall not be considered a Capacity Resource with a State Subsidy. Each of these designations may be overcome by either Capacity Market Seller demonstrating to the Office of Interconnection, with advice and input from the Market Monitoring Unit, that there is no cross-subsidization or the Office of the Interconnection, with review and input from the Market Monitor, finds based on sufficient evidence, that there is cross-subsidization.

Definitions – L – M – N

Large Load:

“Large Load” shall have the meaning provided in the Reliability Assurance Agreement.

Legacy Policy:

“Legacy Policy” shall mean any legislative, executive, or regulatory action that specifically directs a payment outside of PJM Markets to a designated or prospective Generation Capacity Resource and the enactment of such action predates October 1, 2021, regardless of when any implementing governmental action to effectuate the action to direct payment outside of PJM Markets occurs.

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 Interest:

"Load Interest" shall mean, for the purposes of the minimum offer price rule, responsibility for serving load within the PJM Region, whether by the Capacity Market Seller, an affiliate of the Capacity Market Seller, or by an entity with which the Capacity Market Seller is in contractual privity with respect to the subject Generation Capacity Resource.

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 or Open-Loop Hybrid 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 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 reduction in megawatts due to Regulation, Synchronized Reserve, or Secondary 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, an Economic Load Response 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 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 Revenue Neutrality Offset:

"Market Revenue Neutrality Offset" shall mean the revenue in excess of the cost for a resource from the energy, Synchronized Reserve, Non-Synchronized Reserve, and Secondary Reserve markets realized from an increase in real-time market megawatt assignment from a day-ahead market megawatt assignment in any of these markets due to the decrease in the real-time reserve market megawatt assignment from a day-ahead reserve market megawatt assignment in any of the reserve markets.

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 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 State of Charge:

"Maximum State of Charge" shall mean the maximum State of Charge that should not be exceeded, measured in units of megawatt-hours.

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 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 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 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, section 38.

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 herein and in the Form of Annual Certification set forth as Tariff, Attachment Q, Appendix 1. Participants transacting in FTRs in certain circumstances will be required to demonstrate additional 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.

Minimum State of Charge:

"Minimum State of Charge" shall mean the minimum State of Charge that should be maintained in units of megawatt-hours.

MISO:

"MISO" shall mean the Midcontinent Independent System Operator, Inc. or any successor thereto.

Mixed Technology Facility:

"Mixed Technology Facility" shall mean a facility composed of distinct generation and/or electric storage technology types behind the same Point of Interconnection. Co-Located Resources and Hybrid Resources form all or part of Mixed Technology Facilities.

MOPR Floor Offer Price:

"MOPR Floor Offer Price" shall mean a minimum offer price applicable to certain Market Seller's Capacity Resources under certain conditions, as determined in accordance with Tariff, Attachment DD, sections 5.14(h), 5.14(h-1), and 5.14(h-2).

Multi-Driver Project:

"Multi-Driver Project" shall have the same meaning provided in the Operating Agreement.

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.

Near-Term Transmission Service:

"Near-Term Transmission Service" shall mean Transmission Service which ends not more than 10 days after the Transmission Service request date. When the description of obligations below refers to either a request for information about the availability of potential Transmission Service (including, but not limited to, a request for ATC), or to the posting of ATC or other information related to potential service, the date that the information is requested or posted will serve as the Transmission Service request date. "Near-Term Transmission Service" includes any Point-To-Point Transmission Service and Network Integration Transmission Service where the start and end date of the designation or request is within the next 10 days.

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 Entry Capacity Resource with State Subsidy:

"New Entry Capacity Resource with State Subsidy" shall mean (1) starting with the 2022/2023 Delivery Year, the MWs (in installed capacity) comprising a Capacity Resource with State Subsidy that have not cleared in an RPM Auction pursuant to its Sell Offer at or above its resource-specific MOPR Floor Offer Price or the applicable default New Entry MOPR Floor Offer Price or (2) starting with the Base Residual Auction for the 2022/2023 Delivery Year, any of those MWs (in installed capacity) comprising a Capacity Resource with State Subsidy that was not included in an FRR Capacity Plan at the time of the Base Residual Auction or the subject of a Sell Offer in a Base Residual Auction occurring for a Delivery Year after it last cleared an RPM Auction and since then has yet to clear an RPM Auction pursuant to its Sell Offer at or above its resource-specific MOPR Floor Offer Price or the applicable default New Entry MOPR Floor Offer Price. Notwithstanding the foregoing, any Capacity Resource that previously cleared an RPM Auction before it became entitled to receive a State Subsidy shall not be deemed a New Entry Capacity Resource, unless, starting with the Base Residual Auction for the 2022/2023 Delivery Year, the Capacity Resource with State Subsidy was not the subject of a

Sell Offer in a Base Residual Auction or included in an FRR Capacity Plan at the time of the Base Residual Auction for a Delivery Year after it last cleared an RPM Auction.

New Large Load:

"New Large Load" shall mean end-use customer load that is either (a) a Large Load that goes into service after June 1, 2027, or (b) incremental load in-service after June 1, 2027, that increases the existing end-use customer load at a single electrical site that, prior to such incremental load, did not previously meet the definition of Large Load. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then New Large Load shall mean end-use customer load that is either (a) a Large Load that goes into service after June 1 of the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met or (b) incremental load in-service after June 1 of the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met that increases the existing end-use customer load at a single electrical site that, prior to such incremental load, did not previously meet the definition of Large Load.

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 Services Queue" shall mean all Interconnection Requests, Completed Applications, and Upgrade Requests that are received within each six-month period ending on March 31 and September 30 of each year shall collectively comprise a New Services Queue.

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 theoretically operate a synchronized unit at zero MW. It consists primarily of the cost of fuel, as determined by the unit's no load heat (adjusted by the performance factor) times the fuel cost. It also includes operating costs, Maintenance Adders, and emissions allowances.

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-Curtailment Charge:

"Non-Curtailment Charge" shall mean the charge applicable to Demand Resources and Price Responsive Demand as defined in Tariff, Attachment DD, section 10B(b).

Non-Dispatched Charging Energy:

"Non-Dispatched Charging Energy" shall mean all Direct Charging Energy that an Energy Storage Resource Model Participant or Open-Loop Hybrid Resource 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-PAI Event:

"Non-PAI Event" shall mean, effective for the 2028/2029 Delivery Year and subsequent Delivery Years, any intervals when a Demand Resource is dispatched or when Price Responsive Demand is required to respond and a Performance Assessment Interval is not in effect for such intervals for the same registration.

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 – 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 Facility Rating:

"Transmission Facility Rating" shall mean the maximum transfer capability, or the maximum or minimum voltage, current, frequency, or real or reactive power flow, through a Transmission Facility that does not violate the applicable rating of relevant transmission equipment.

Transmission Facility Ratings are computed in accordance with a written Transmission Facility Rating methodology and consistent with Good Utility Practice, considering the technical limitations on conductors and relevant transmission equipment (such as thermal flow limits). Relevant transmission equipment may include, but is not limited to, circuit breakers, line traps, and transformers. Transmission Facility Ratings also encompass AARs, AAR Exceptions, and Temporary Conditional Transmission Facility Ratings.

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 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 changes in the Reliability Requirement, Excluded RTO New Large Load Amounts, and/or Excluded LDA New Large Load Amounts from the Base Residual Auction to ~~such~~ 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 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 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.

5.4 Reliability Pricing Model Auctions

The Office of the Interconnection shall conduct the following Reliability Pricing Model Auctions:

a) Base Residual Auction.

PJM shall conduct for each Delivery Year a Base Residual Auction to secure commitments of Capacity Resources as needed to satisfy the portion of the RTO Unforced Capacity Obligation not satisfied through Self-Supply of Capacity Resources for such Delivery Year. All Self-Supply Capacity Resources must be offered in the Base Residual Auction. As set forth in Tariff, Attachment DD, section 6.6, all other Capacity Resources, and certain other existing generation resources, must be offered in the Base Residual Auction. The Base Residual Auction shall be conducted in the month of May that is three years prior to the start of such Delivery Year. Notwithstanding, the Base Residual Auction for the 2026/2027 Delivery Year shall be conducted in July 2025; the Base Residual Auction for the 2027/2028 Delivery Year shall be conducted in December 2025; the Base Residual Auction for the 2028/2029 Delivery Year shall be conducted in June 2026; and the Base Residual Auction for the 2029/2030 Delivery Year shall be conducted in December 2026. The cost of payments to Capacity Market Sellers for Capacity Resources that clear such auction shall be paid by PJMSettlement from amounts collected by PJMSettlement from Load Serving Entities through the Locational Reliability Charge during such Delivery Year. PJMSettlement shall be the Counterparty to the sales that clear in such auction and to the obligations to pay, and the payments, by Load Serving Entities; provided, however, that PJMSettlement shall not be a Counterparty to committed Self-Supply Capacity Resources.

b) Scheduled Incremental Auctions.

PJM shall conduct for each Delivery Year a First, a Second, and a Third Incremental Auction. The First Incremental Auction shall be conducted in the month of September that is twenty months prior to the start of the Delivery Year; the Second Incremental Auction shall be conducted in the month of July that is ten months prior to the start of the Delivery Year; and the Third Incremental Auction shall be conducted in the month of February that is three months prior to the start of the Delivery Year. Notwithstanding, for the 2025/2026 Delivery Year, only the Third Incremental Auction shall be conducted, which will commence on February 2025; for the 2026/2027 Delivery Year, only the Third Incremental Auction shall be conducted, which will commence on February 2026; for the 2027/2028 Delivery Year, only the Second Incremental Auction and Third Incremental Auction shall be conducted, which will commence on July 2026 and February 2027, respectively; for the 2028/2029 Delivery Year, only the Second Incremental Auction and Third Incremental Auction shall be conducted, which shall commence on July 2027 and February 2028, respectively.

c) Adjustment through Scheduled Incremental Auctions of Capacity Previously Committed.

The Office of the Interconnection shall recalculate the PJM Region Reliability Requirement and each LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) prior to each Scheduled Incremental Auction, based on an updated peak load forecast, updated Installed Reserve Margin and an updated Capacity Emergency Transfer Objective; shall update such reliability requirements (and inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) for the Third Incremental Auction to reflect any change from such recalculation; and shall update such reliability requirements (and inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) for the First Incremental Auction or Second Incremental Auction only if the change is greater than or equal to the lesser of: (i) 500 MW or (ii) one percent of the applicable prior reliability requirement. Based on such update, the Office of the Interconnection shall, under certain conditions, seek through the Scheduled Incremental Auction to secure additional commitments of capacity or release sellers from prior capacity commitments. Specifically, the Office of the Interconnection shall:

1) seek additional capacity commitments to serve the PJM Region or an LDA if the PJM Region Reliability Requirement or LDA Reliability Requirement utilized in the most recent prior auction conducted for the Delivery Year (including any reductions to such reliability requirements as a result of any Price Responsive Demand with a PRD Reservation Price equal to or lower than the clearing price in the Base Residual Auction for such Delivery Year and any adjustments associated with Excluded RTO New Large Load Amounts or Excluded LDA New Large Load Amounts) is less than, respectively, the updated PJM Region Reliability Requirement or updated LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts); provided, however, that in the First Incremental Auction or Second Incremental Auction the Office of the Interconnection shall seek such additional capacity commitments only if such shortfall is in an amount greater than or equal to the lesser of: (i) 500 MW or (ii) one percent of the applicable prior reliability requirement;

2) seek additional capacity commitments to serve the PJM Region or an LDA if:

i) the updated PJM Region Reliability Requirement or the LDA Reliability Requirement (inclusive of any adjustments associated with Excluded RTO New Large Load Amounts or Excluded LDA New Large Load Amounts) applicable to such auction, exceeds the total capacity committed in all prior auctions in such region or area, respectively, for such Delivery Year by an amount greater than or equal to the lesser of: (A) 500 MW or (B) one percent of the applicable prior reliability requirement;

ii) PJM conducts a Conditional Incremental Auction for such Delivery Year and does not obtain all additional commitments of Capacity Resources sought in such Conditional Incremental Auction, in which case, PJM shall seek in the Incremental Auction the commitments that were sought in the Conditional Incremental Auction but not obtained; or

iii) regarding a Generation Capacity Resource that is subject to Tariff, Attachment DD, section 5.3(b), (a) the Office of Interconnection determines prior to the Third Incremental Auction that such resource will not meet the criteria set forth in Tariff, Attachment DD, section 5.3(b)(i) for the relevant Delivery Year or (b) such resource's final Accredited UCAP is less than the UCAP amount considered in the Base Residual Auction in which the resource was deemed to be the subject of a Sell Offer.

3) seek agreements to release prior capacity commitments to the PJM Region or to an LDA if:

i) the PJM Region Reliability Requirement or LDA Reliability Requirement utilized in the most recent prior auction conducted for the Delivery Year (including any reductions to such reliability requirements as a result of any Price Responsive Demand with a PRD Reservation Price equal to or lower than the clearing price in the Base Residual Auction for such Delivery Year and any adjustments associated with Excluded RTO New Large Load Amounts or Excluded LDA New Large Load Amounts) exceeds, respectively, the updated PJM Region Reliability Requirement or updated LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts); provided, however, that in the First Incremental Auction or Second Incremental Auction the Office of the Interconnection shall seek such agreements only if such excess is in an amount greater than or equal to the lesser of: (A) 500 MW or (B) one percent of the applicable prior reliability requirement; or

ii) PJM obtains additional commitments of Capacity Resources in a Conditional Incremental Auction, in which case PJM shall seek release of an equal number of megawatts (comparing the total purchase amount for all LDAs and the PJM Region related to the delay in Backbone Transmission with the total sell amount for all LDAs and the PJM Region related to the delay in Backbone Transmission) of prior committed capacity that would not have been committed had the delayed Backbone Transmission upgrade that prompted the Conditional Incremental Auction not been assumed, at the time of the Base Residual Auction, to be in service for the relevant Delivery Year; and if PJM obtains additional commitments of capacity in an incremental auction pursuant to subsection c.2.ii above, PJM shall seek in such Incremental Auction to release an equal amount of capacity (in total for all LDAs and the PJM Region related to the delay in Backbone Transmission) previously committed that would not have been committed absent the Backbone Transmission upgrade.

4) The cost of payments to Market Sellers for additional Capacity Resources cleared in such auctions, and the credits from payments from Market Sellers for the release of previously committed Capacity Resources, shall be apportioned to Load Serving Entities in the

PJM Region or LDA, as applicable, through adjustments to the Locational Reliability Charge for such Delivery Year.

5) PJMSettlement shall be the Counterparty to the sales (including releases) of Capacity Resources that clear in such auctions and to the obligations to pay, and the payments, by Load Serving Entities, provided, however, that PJMSettlement shall not be a Counterparty to committed Self-Supply Capacity Resources.

d) Commitment of Replacement Capacity through Scheduled Incremental Auctions.

Each Scheduled Incremental Auction for each Delivery Year shall allow Capacity Market Sellers that committed Capacity Resources in any prior Reliability Pricing Model Auction for such Delivery Year to submit Buy Bids for replacement Capacity Resources. Capacity Market Sellers that submit Buy Bids into an Incremental Auction must specify the type of Unforced Capacity desired, i.e., Annual Resource. The need to purchase replacement Capacity Resources may arise for any reason, including but not limited to resource retirement, resource cancellation or construction delay, resource derating, EFORd increase, decrease in Accredited UCAP Factor, a decrease in the Nominated Demand Resource Value of a Planned Demand Resource, delay or cancellation of a Qualifying Transmission Upgrade, or similar occurrences. The cost of payments to Capacity Market Sellers for Capacity Resources that clear such auction shall be paid by PJMSettlement from amounts collected by PJMSettlement from Capacity Market Buyers that purchase replacement Capacity Resources in such auction. PJMSettlement shall be the Counterparty to the sales and purchases that clear in such auction, provided, however, PJMSettlement shall not be a Counterparty to committed Self-Supply Capacity Resources.

e) Conditional Incremental Auction.

PJM shall conduct for any Delivery Year a Conditional Incremental Auction if the in service date of a Backbone Transmission Upgrade that was modeled in the Base Residual Auction is announced as delayed by the Office of the Interconnection beyond July 1 of the Delivery Year for which it was modeled and if such delay causes a reliability criteria violation. If conducted, the Conditional Incremental Auction shall be for the purpose of securing commitments of additional capacity for the PJM Region or for any LDA to address the identified reliability criteria violation. If PJM determines to conduct a Conditional Incremental Auction, PJM shall post on its website the date and parameters for such auction (including whether such auction is for the PJM Region or for an LDA, and the type of Capacity Resources required) at least one month prior to the start of such auction. The cost of payments to Market Sellers for Capacity Resources cleared in such auction shall be collected by PJMSettlement from Load Serving Entities in the PJM Region or LDA, as applicable, through an adjustment to the Locational Reliability Charge for such Delivery Year. PJMSettlement shall be the Counterparty to the sales that clear in such auction and to the obligations to pay, and payments, by Load Serving Entities, provided, however, that PJMSettlement shall not be a Counterparty to committed Self-Supply Capacity Resources.

5.10 Auction Clearing Requirements

The Office of the Interconnection shall clear each Base Residual Auction and Incremental Auction for a Delivery Year in accordance with the following:

a) Variable Resource Requirement Curve

The Office of the Interconnection shall determine Variable Resource Requirement Curves for the PJM Region and for such Locational Deliverability Areas as determined appropriate in accordance with subsection (a)(iii) for such Delivery Year to establish the level of Capacity Resources that will provide an acceptable level of reliability consistent with the Reliability Principles and Standards. It is recognized that the variable resource requirement reflected in the Variable Resource Requirement Curve can result in an optimized auction clearing in which the level of Capacity Resources committed for a Delivery Year exceeds the PJM Region Reliability Requirement or Locational Deliverability Area Reliability Requirement for such Delivery Year. For any auction, the Updated Forecast Peak Load applicable to such auction, shall be used, and Price Responsive Demand from any applicable approved PRD Plan, including any associated PRD Reservation Prices, shall be reflected in the derivation of the Variable Resource Requirement Curves, in accordance with the methodology specified in the PJM Manuals.

i) Methodology to Establish the Variable Resource Requirement Curve

Prior to the Base Residual Auction, in accordance with the schedule in the PJM Manuals, the Office of the Interconnection shall establish the Variable Resource Requirement Curve for the PJM Region as follows:

- Each Variable Resource Requirement Curve shall be plotted on a graph on which Unforced Capacity is on the x-axis and price is on the y-axis.
- For the 2025/2026 Delivery Year, the Variable Resource Requirement curve for the PJM Region shall be plotted by combining (i) a horizontal line from the y-axis to point (1), (ii) a straight line connecting points (1) and (2), and (iii) a straight line connecting points (2) and (3), where:
    - For point (1), price equals: {the greater of [the Cost of New Entry] or [1.5 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 98.9%];
    - For point (2), price equals: [0.75 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 101.6%]; and

- For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 106.8%].

- For the 2026/2027 Delivery Year and 2027/2028 Delivery Years, the Variable Resource Requirement Curve for the PJM Region shall be plotted by a horizontal line from the y-axis equal to $256.75/MW-day ICAP divided by the applicable ELCC Class Rating for the Reference Resource until such line intersects the curve that is based on the following: (i) a straight line connecting points (1) and (2), and (ii) a straight line connecting points (2) and (3), where:

  - For point (1), price equals: {the greater of [the Cost of New Entry] or [1.75 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 99%];

  - For point (2), price equals: [0.75 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 101.5%]; and

  - For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 104.5%].

- Once the horizontal line intersects the above curve, the Variable Resource Requirement Curve shall follow the lines that are based on the above points until the price reaches $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource, at which point it shall be extended as a horizontal line at $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource for the remainder of the curve.

- For the 2028/2029 ~~and 2029/2030~~ Delivery Year~~s~~, the Variable Resource Requirement curve for the PJM Region shall be plotted by a horizontal line from the y-axis equal to the lesser of $256.75/MW-day ICAP divided by the applicable ELCC Class Rating for the Reference Resource or the value of point 1, until such line intersects the curve that is based on the following: (i) a straight line connecting points (1) and (2), and (ii) a straight line connecting points (2) and (3), where:

  - For point (1), price equals: {the greater of [1.15 times Cost of New Entry minus 0.75 times the Net Energy and Ancillary Service Revenue Offset] or [0.2 times Cost of New Entry)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 99%];

- For point (2), price equals: [0.5 times the price calculated for point 1] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 101.5%]; and

- For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 106.0%].

- Once the horizontal line intersects the above curve, the Variable Resource Requirement Curve shall follow the lines that are based on the above points until the price reaches $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource, at which point it shall be extended as a horizontal line at $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource for the remainder of the curve.

- For the 2029/2030 Delivery Year, the Variable Resource Requirement curve for the PJM Region shall be plotted by a horizontal line from the y-axis equal to the lesser of $256.75/MW-day ICAP divided by the applicable ELCC Class Rating for the Reference Resource or the value of point 1, until such line intersects the curve that is based on the following: (i) a straight line connecting points (1) and (2), and (ii) a straight line connecting points (2) and (3), where:

  - For point (1), price equals: {the greater of [1.15 times Cost of New Entry minus 0.75 times the Net Energy and Ancillary Service Revenue Offset] or [0.2 times Cost of New Entry)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 99%);

  - For point (2), price equals: [0.5 times the price calculated for point 1] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 101.5%; and

  - For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 106.0%.

- Once the horizontal line intersects the above curve, the Variable Resource Requirement Curve shall follow the lines that are based on the above points until the price reaches $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource, at which point it shall be extended as a horizontal line at $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource for the remainder of the curve.

- For the 2030/2031 Delivery Year and for subsequent Delivery Years, the Variable Resource Requirement curve for the PJM Region shall be plotted by combining (i) a horizontal line from the y-axis to point (1), (ii) a straight line connecting points (1) and (2), and (iii) a straight line connecting points (2) and (3), where:

  - For point (1), price equals: {the greater of [1.15 times Cost of New Entry minus 0.75 times the Net Energy and Ancillary Service Revenue Offset] or [0.2 times Cost of New Entry)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 99%];

  - For point (2), price equals: [0.5 times the price calculated for point 1] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 101.5%~~]~~; and

  - For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 106.0%].

ii) For any Delivery Year, the Office of the Interconnection shall establish a separate Variable Resource Requirement Curve for each LDA for which:

A. the Capacity Emergency Transfer Limit is less than 1.15 times the Capacity Emergency Transfer Objective, as determined by the Office of the Interconnection in accordance with NERC and Applicable Regional Entity guidelines; or

B. such LDA had a Locational Price Adder in any one or more of the three immediately preceding Base Residual Auctions; or

C. such LDA is determined in a preliminary analysis by the Office of the Interconnection to be likely to have a Locational Price Adder, based on historic offer price levels; provided however that for the Base Residual Auction conducted for the Delivery Year, the Eastern Mid-Atlantic Region

("EMAR"), Southwest Mid-Atlantic Region ("SWMAR"), and Mid-Atlantic Region ("MAR") LDAs shall employ separate Variable Resource Requirement Curves regardless of the outcome of the above three tests; and provided further that the Office of the Interconnection may establish a separate Variable Resource Requirement Curve for an LDA not otherwise qualifying under the above three tests if it finds that such is required to achieve an acceptable level of reliability consistent with the Reliability Principles and Standards, in which case the Office of the Interconnection shall post such finding, such LDA, and such Variable Resource Requirement Curve on its internet site no later than the March 31 last preceding the Base Residual Auction for such Delivery Year. The same process as set forth in subsection (a)(i) shall be used to establish the Variable Resource Requirement Curve for any such LDA, except that the Locational Deliverability Area Reliability Requirement for such LDA shall be substituted for the PJM Region Reliability Requirement and, beginning with the 2029/2030 Delivery Year, the points on the LDA Variable Resource Requirement Curves will be reduced by the relevant Excluded LDA New Large Load Amounts. For purposes of calculating the Capacity Emergency Transfer Limit under this section, all generation resources located in the PJM Region that are, or that qualify to become, Capacity Resources, shall be modeled at their full capacity rating, regardless of the amount of capacity cleared from such resource for the immediately preceding Delivery Year.

For Delivery Years up to and including the 2027/2028 Delivery Year for each such LDA, the Office of the Interconnection shall (a) determine the Net Cost of New Entry for each Zone in such LDA, with such Net Cost of New Entry equal to the applicable Cost of New Entry value for such Zone minus the Net Energy and Ancillary Services Revenue Offset value for such Zone, and (b) compute the average of the Net Cost of New Entry values of all such Zones to determine the Net Cost of New Entry for such LDA.

For the 2028/2029 Delivery Year and for subsequent Delivery Years for each such LDA, the Office of the Interconnection shall determine the applicable Cost of New Entry and Net Energy and Ancillary Services Revenue Offset value for each LDA, with such Cost of New Entry equal to the average of all five Cost of New Entry areas for RTO and the average of the Cost of New Entry for all zones in an LDA, and the Net Energy and Ancillary Services Revenue Offset value equal to the 67th percentile of the Net Energy and Ancillary Services Revenue Offset for all zones in such LDA.

iii) Procedure for ongoing review of Variable Resource Requirement Curve shape.

Beginning with the Delivery Year that commences June 1, 2018, and continuing no later than for every fourth Delivery Year thereafter, the Office of the Interconnection shall perform a review of the shape of the Variable Resource Requirement Curve, as established by the requirements of the foregoing subsection. Such analysis shall be based on simulation of market conditions to quantify the ability of the market to invest in new Capacity Resources and to meet the applicable reliability requirements on a probabilistic basis. Based on the results of such review, PJM shall prepare a recommendation to either modify or retain the existing Variable Resource Requirement Curve shape. The Office of the Interconnection shall post the recommendation and shall review the recommendation through the stakeholder process to solicit stakeholder input. If a modification of the Variable Resource Requirement Curve shape is recommended, the following process shall be followed:

A) If the Office of the Interconnection determines that the Variable Resource Requirement Curve shape should be modified, Staff of the Office of the Interconnection shall propose a new Variable Resource Requirement Curve shape on or before May 15, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

B) The PJM Members shall review the proposed modification to the Variable Resource Requirement Curve shape.

C) The PJM Members shall either vote to (i) endorse the proposed modification, (ii) propose alternate modifications or (iii) recommend no modification, by August 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

D) The PJM Board of Managers shall consider a proposed modification to the Variable Resource Requirement Curve shape, and the Office of the Interconnection shall file any approved modified Variable Resource Requirement Curve shape with the FERC by October 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

iv) Cost of New Entry

A) For the Incremental Auctions, the Cost of New Entry for the PJM Region and for each LDA shall be the respective value used in the Base Residual Auction for each corresponding Delivery Year and LDA. For the Delivery Year commencing on June 1, 2022 through and including the Delivery Year commencing on June 1, 2025, the Cost of New Entry for the PJM Region shall be the average of the Cost of New Entry for each CONE Area listed in this section as adjusted pursuant to subsection (a)(iv)(B).

Geographic Location Within the PJM Region Encompassing These Zones	Cost of New Entry in $/MW-Year
PS, JCP&L, AE, PECO, DPL, RECO ("CONE Area 1")	108,000
BGE, PEPCO ("CONE Area 2")	109,700
AEP, Dayton, ComEd, APS, DQL, ATSI, DEOK, EKPC, Dominion, OVEC ("CONE Area 3")	105,500
PPL, MetEd, Penelec ("CONE Area 4")	105,500

A-1) Cost of New Entry for 2025/2026 Delivery Year

A new CONE Area 5 encompassing only the ComEd Zone shall be established and the ComEd Zone will be removed from CONE Area 3. For the 2025/2026 Delivery Year, the Cost of New Entry for CONE Area 5 will be equal to the product of the Cost of New Entry determined for CONE Area 3 for the 2025/2026 Delivery Year multiplied by an asset life factor of 1.0069. For the 2025/2026 Delivery Year, the Cost of New Entry for the PJM Region shall be the average of the Cost of New Entry for all CONE Areas.

B) Beginning with the 2023/2024 Delivery Year through and including the 2025/2026 Delivery Year, the CONE for each CONE Area (except for CONE Area 5) shall be adjusted to reflect changes in generating plant construction costs based on changes in the Applicable United States Bureau of Labor Statistics ("BLS") Composite Index, and then adjusted further by a factor of 1.022 to reflect the annual decline in bonus depreciation scheduled under federal corporate tax law, in accordance with the following:

(1) The Applicable BLS Composite Index for any Delivery Year and CONE Area shall be the most recently published twelve-month change, at the time CONE values are required to be posted for the Base Residual Auction for such Delivery Year, in a composite of the BLS Quarterly Census of Employment and Wages for Utility System Construction (weighted 20%), the BLS Producer Price Index for Construction Materials and Components (weighted 55%), and the BLS Producer Price Index Turbines and Turbine Generator Sets (weighted 25%), as each such index

is further specified for each CONE Area in the PJM Manuals.

(2) The CONE in a CONE Area shall be adjusted prior to the Base Residual Auction for each Delivery Year by applying the Applicable BLS Composite Index for such CONE Area to the Benchmark CONE for such CONE Area, and then multiplying the result by 1.022.

(3) The Benchmark CONE for a CONE Area shall be the CONE used for such CONE Area in the Base Residual Auction for the prior Delivery Year (provided, however that the Gross CONE values stated in subsection (a)(iv)(A) above shall be the Benchmark CONE values for the 2022/2023 Delivery Year to which the Applicable BLS Composite Index shall be applied to determine the CONE for subsequent Delivery Years), and then multiplying the result by 1.022.

(4) Notwithstanding the foregoing, CONE values for any CONE Area for any Delivery Year shall be subject to amendment pursuant to appropriate filings with FERC under the Federal Power Act, including, without limitation, any filings resulting from the process described in section 5.10(a)(vi)(C) or any filing to establish new or revised CONE Areas.

C) For the 2026/2027 Delivery Year and 2027/2028 Delivery Year, the Cost of New Entry for the PJM Region shall be the average of the Cost of New Entry for each CONE Area listed in this section as adjusted pursuant to subsection (a)(iv)(C)(1).

Geographic Location Within the PJM Region Encompassing These Zones	**Cost of New Entry in $/MW-Year (ICAP)**
PS, JCP&L, AE, PECO, DPL, RECO (“CONE Area 1”)	136,000
BGE, PEPCO (“CONE Area 2”)	142,000
AEP, Dayton, APS, DQL, ATSI, DEOK, EKPC, Dominion, OVEC (“CONE Area 3”)	147,600
PPL, MetEd, Penelec (“CONE Area	143,500

4”)	
ComEd (“CONE Area 5”)	150,800

(1) For the 2027/2028 Delivery Year, the CONE for each CONE Area shall be adjusted to reflect changes in generating plant construction costs based on changes in the Applicable United States Bureau of Labor Statistics (“BLS”) Composite Index, in accordance with the following:

(a) The Applicable BLS Composite Index for any Delivery Year and CONE Area shall be the most recently published twelve-month change, at the time CONE values are required to be posted for the Base Residual Auction for such Delivery Year, in a composite of the BLS Quarterly Census of Employment and Wages for Utility System Construction (weighted 40%), the BLS Producer Price Index for Construction Materials and Components (weighted 45%), and the BLS Producer Price Index Turbines and Turbine Generator Sets (weighted 15%), as each such index is further specified for each CONE Area in the PJM Manuals.

(b) For CONE Areas 1 through 4, the Benchmark CONE for each CONE Area shall be the CONE used for such CONE Area in the Base Residual Auction for the prior Delivery Year (provided, however that the Gross CONE values stated in subsection (a)(iv)(C) above shall be the Benchmark CONE values for the 2026/2027 Delivery Year to which the Applicable BLS Composite Index shall be applied to determine the CONE for subsequent Delivery Years).

(c) For the 2027/2028 Delivery Year, the CONE for CONE Area 5 for a given Delivery Year shall be set equal to the product of the CONE of CONE Area 3 as determined for the relevant Delivery Year in accordance with (a) and (b) above, multiplied by the asset life factor applicable to that Delivery Year where such asset life factors is 1.0376 for the 2027/2028 Delivery Year.

(d) Notwithstanding the foregoing, CONE values for any CONE Area for any Delivery Year shall be subject to amendment pursuant to appropriate filings with FERC under the Federal Power Act, including, without limitation, any filings resulting from the process described in section 5.10(a)(vi)(C) or any filing to establish new or revised CONE Areas.

D) For the 2028/2029 Delivery Year and for subsequent Delivery Years, the Cost of New Entry for the PJM Region shall be the average of the Cost of New Entry for each CONE Area listed in this section.

Geographic Location Within the PJM Region Encompassing These Zones	**Cost of New Entry in \$/MW-Year (ICAP)**
PS, JCP&L, AE, PECO, DPL, RECO (“CONE Area 1”)	218,000
BGE, PEPCO (“CONE Area 2”)	222,000
AEP, Dayton, APS, DQL, ATSI, DEOK, EKPC, Dominion, OVEC (“CONE Area 3”)	215,000
PPL, MetEd, Penelec (“CONE Area 4”)	216,000
ComEd (“CONE Area 5”)	248,000

(1) Beginning with the 2029/2030 Delivery Year, the Cost of New Entry for each CONE Area shall be adjusted to reflect changes in generating plant construction costs based on changes in the Applicable United States Bureau of Labor Statistics (“BLS”) Composite Index, in accordance with the following:

(a) The Applicable BLS Composite Index for any Delivery Year and CONE Area shall be the most recently published twelve-month change, at the time Cost of New Entry values are required to be posted for the Base Residual Auction for such Delivery Year, in a composite of the Quarterly Census of Employment and Wages, which shall use NAICS

2371 Utility System Construction, Private, All Establishment Sizes (weighted 15%), BLS Producer Price Index for Commodities, Not Seasonally Adjusted, Intermediate Demand by Commodity Type, Materials and Components for Construction (weighted 10%), BLS Producer Price Index for Commodities, Not Seasonally Adjusted, Machinery and Equipment, Turbines and Turbine Generator Sets (weighted 46%), and the Bureau of Economic Analysis: Gross Domestic Product Implicit Price Deflator, Index 2017=100, Seasonally Adjusted (weighted 29%), as each such index is further specified for each CONE Area in the PJM Manuals.

(b) For CONE Areas 1 through 5, the Benchmark CONE for each CONE Area shall be the Cost of New Entry used for such CONE Area in the Base Residual Auction for the prior Delivery Year (provided, however that the Cost of New Entry values stated in subsection (a)(iv)(C) above shall be the Benchmark CONE values for the 2028/2029 Delivery Year to which the Applicable BLS Composite Index shall be applied to determine the Cost of New Entry for subsequent Delivery Years).

(c) For the 2029/2030 Delivery Year through and including the 2031/2032 Delivery Year, the Cost of New Entry for CONE Area 5 for a given Delivery Year shall be multiplied by the asset life factor applicable to that Delivery Year where such asset life factors are 1.025 for the 2029/2030 Delivery Year, 1.054 for the 2030/2031 Delivery Year, and 1.088 for the 2031/2032 Delivery Year.

v) Net Energy and Ancillary Services Revenue Offset for 2023/2024 Delivery Year through and including the 2025/2026 Delivery Years (except that the calculation of the MOPR Floor Price pursuant to Tariff, Attachment DD, section 5.14(h-2) for combustion turbine resources shall remain applicable beyond the 2025/2026 Delivery Year):

A) The Office of the Interconnection shall determine the Net Energy and Ancillary Services Revenue Offset each year for the PJM Region as (A) the annual average of the revenues that would have been received by the Reference Resource from the PJM energy markets during a period of three consecutive calendar years preceding the time of the determination, based on (1) the heat rate and other characteristics of such Reference Resource; (2) fuel prices reported during such period at an appropriate pricing point for the PJM Region with a fuel transmission adder appropriate for such region, as set forth in the PJM Manuals, assumed variable operation and maintenance expenses for such resource of $6.93 per MWh, and actual PJM hourly average Locational Marginal Prices recorded in the PJM Region during such period; and (3) an assumption that the Reference Resource would be dispatched for both the Day-Ahead and Real-Time Energy Markets on a Peak-Hour Dispatch basis; plus (B) ancillary service revenues of $2,199 per MW-year to be included through the 2025/2026 Delivery Year.

B) The Office of the Interconnection also shall determine a Net Energy and Ancillary Service Revenue Offset each year for each Zone, using the same procedures and methods as set forth in the previous subsection; provided, however, that: (1) the average hourly LMPs for such Zone shall be used in place of the PJM Region average hourly LMPs; (2) if such Zone was not integrated into the PJM Region for the entire applicable period, then the offset shall be calculated using only those whole calendar years during which the Zone was integrated; and (3) a posted fuel pricing point in such Zone, if available, and (if such pricing point is not available in such Zone) a fuel transmission adder appropriate to such Zone from an appropriate PJM Region pricing point shall be used for each such Zone.

v-1) Net Energy and Ancillary Services Revenue Offset for the 2026/2027 Delivery Year and subsequent Delivery Years:

A) For the 2026/2027 and the 2027/2028 Delivery Years, the Office of the Interconnection shall determine the Net Energy and Ancillary Services Revenue Offset each year for the PJM Region as the average of the net energy and ancillary services revenues that the Reference Resource is projected to receive from the PJM energy and ancillary service markets for the applicable Delivery Year from three separate simulations, with each such simulation using forward prices shaped using historical data from one of the three consecutive calendar years preceding the time of the determination for the RPM Auction to take account of year-to-year variability in such hourly shapes. Each net energy and ancillary services revenue simulation is based on (a) the heat rate and other characteristics of such Reference Resource such as assumed variable operation and maintenance expenses of $1.19 per MWh and $21,170 per start-up, and emissions costs; (b) Forward Hourly LMPs for the PJM Region; (c) Forward Hourly Ancillary Services Prices, (d) Forward Daily Natural Gas Prices at an appropriate pricing point for the PJM Region with a fuel transmission adder appropriate for such region, as set forth in the PJM Manuals; and

(e) an assumption that the Reference Resource would be dispatched on a Projected EAS Dispatch basis.

A-1) For the 2028/2029 and subsequent Delivery Years, the Office of the Interconnection shall determine the Net Energy and Ancillary Services Revenue Offset each year for the PJM Region as the 67th percentile of all of the calculated zonal Net Energy and Ancillary Services Revenues Offsets that the Reference Resource is projected to receive from the PJM energy and ancillary service markets for the applicable Delivery Year from three separate simulations, with each such simulation using forward prices shaped using historical data from one of the three consecutive calendar years preceding the time of the determination for the RPM Auction to take account of year-to-year variability in such hourly shapes. Each Net Energy and Ancillary Service Revenue Offset simulation is based on (a) the heat rate and other characteristics of such Reference Resource such as assumed variable operation and maintenance expenses of $2.65 per MWh, and emissions costs; (b) Forward Hourly LMPs for the PJM Region; (c) Forward Hourly Ancillary Services Prices, (d) Forward Daily Natural Gas Prices at an appropriate pricing point for the PJM Region with a fuel transmission adder appropriate for such region, as set forth in the PJM Manuals; and (e) an assumption that the Reference Resource would be dispatched on a Projected EAS Dispatch basis.

B) The Office of the Interconnection also shall determine a Net Energy and Ancillary Service Revenue Offset each year for each Zone, using the same procedures and methods as set forth in the previous subsection; provided, however, that: (1) the Forward Hourly LMPs for such Zone shall be used in place of the Forward Hourly LMP for the PJM Region; (2) if such Zone was not integrated into the PJM Region for the entire three calendar years preceding the time of the determination for the RPM Auction, then simulations shall rely on only those whole calendar years during which the Zone was integrated; and (3) Forward Daily Natural Gas Prices for the fuel pricing point mapped to such Zone.

C) "Forward Hourly LMPs" shall be determined as follows:

(1) Identify the liquid hub to which each Zone is mapped, as specified in the PJM Manuals.

(2) For each liquid hub, calculate the average day-ahead on-peak and day-ahead off-peak energy prices for each month during the Delivery Year over the most recent thirty trading days as of 180 days prior to the Base Residual Auction.

For each of the remaining steps, the historical prices used herein shall be taken from the most recent three calendar years preceding the time of the determination for the RPM Auction:

(3) Determine and add monthly basis differentials between the hub and each of its mapped Zones to the forward monthly day-ahead on-peak and off-peak energy prices for the hub. This differential is developed using the prices for the Planning Period closest in time to the Delivery Year from the most recent long-term Financial Transmission Rights auction conducted prior to the Base Residual Auction. The difference between the annual long-term Financial Transmission Rights auction prices for the Zone and the hub are converted to monthly values by adding, for each month of the year, the difference between (a) the historical monthly average day-ahead congestion price differentials between the Zone and relevant hub and (b) the historical annual average day-ahead congestion price differentials between the Zone and hub. This step is only used when developing forward prices for locations other than the liquid hubs;

(4) Determine and add marginal loss differentials to the forward monthly day-ahead on-peak and off-peak energy prices for the hub. For each month of the year, calculate the marginal loss differential, which is the average of the difference between the loss components of the historical on peak or off peak day-ahead LMPs for the Zone and relevant hub in that month across the three year period scaled by the ratio of (a) the forward monthly average on-peak or off-peak day-ahead LMP at such hub to (b) the average of the historical on-peak or off-peak day-ahead LMPs for such hub in that month across the three year period. This step is only used when developing forward prices for locations other than the liquid hubs;

(5) Shape the forward monthly day-ahead on-peak and off-peak prices to (a) forward hourly day-ahead LMPs using historic hourly day-ahead LMP shapes for the Zone and (b) forward hourly real-time LMPs using historic hourly real-time LMP shapes for the Zone. The historic hourly shapes are based on the ratio of the historic day-ahead or real-time LMP for the Zone for each given hour in a monthly on-peak or off-peak period to the average of the historic day-ahead or real-time LMP for the Zone for all hours in such monthly on-peak or off-peak period. The historical prices

used in this step shall be taken from one of each of the most recent three calendar years preceding the time of the determination for the RPM Auction;

(6) For unit-specific energy and ancillary service offset calculations, determine and apply basis differentials from the Zone to the generation bus to the forward day-ahead and real-time hourly LMPs for the Zone. The differential for each hour of the year is developed using the difference between the historical DA or RT LMP for the generation bus and the historical DA or RT LMP for the Zone in which the generation bus is located for that same hour; and

(7) Develop the Forward Hourly LMPs for the PJM Region pricing point. Calculate the load-weighted average of the monthly on-peak and off-peak Zonal LMPs developed in step (4) above, using the historical average load within each monthly on-peak or off-peak period. The load-weighted average monthly on-peak or off-peak Zonal LMPs are then shaped to forward hourly day-ahead and real-time LMPs using the same procedure as defined in step (5) above, except using historical LMPs for the PJM Region pricing point.

D) Forward Hourly Ancillary Services Prices shall include prices for Synchronized Reserve, Non-Synchronized Reserve and Secondary Reserve and shall be determined as follows. The historical prices used herein shall be taken from one of each of the most recent three calendar years preceding the time of the determination for the RPM Auction:

(1) For Synchronized Reserve, the forward real-time Synchronized Reserve market clearing price shall be calculated by multiplying the historical RTO real-time hourly Synchronized Reserve market clearing price for each hour of the Delivery Year by the ratio of the real-time Forward Hourly LMP at an appropriate pricing point, as defined in the PJM manuals, to the historic hourly real-time LMP at such pricing point for the corresponding hour of the year;

(2) For Non-Synchronized Reserve, the forward real-time Non-Synchronized Reserve market clearing price shall be calculated by multiplying the historical RTO real-time hourly Non-Synchronized Reserve market clearing price for each hour of the Delivery Year by the ratio of the real-time Forward Hourly LMP at an appropriate pricing point,

as defined in the PJM manuals, to the historic hourly real-time LMP at such pricing point for the corresponding hour of the year; and

(3) For Secondary Reserve, the forward day-ahead and real-time Secondary Reserve market clearing price shall be \$0.00/MWh for all hours.

E) Forward Daily Natural Gas Prices shall be determined as follows:

(1) Map each Zone to the appropriate natural gas hub in the PJM Region, as listed in the PJM Manuals;

(2) Map each natural gas hub lacking sufficient liquidity to the liquid hub to which it has the highest historic price correlation;

(3) For each sufficiently liquid natural gas hub, calculate the simple average natural gas monthly settlement prices over the most recent thirty trading days as of 180 days prior to the Base Residual Auction;

(4) Calculate the forward monthly prices for each illiquid hub by scaling the forward monthly price of the mapped liquid hub by the average ratio of historical monthly prices at the insufficiently liquid hub to the historical monthly prices at the sufficiently liquid over the most recent three calendar years preceding the time of determination for the RPM Auction;

(5) Shape the forward monthly prices for each hub to Forward Daily Natural Gas Prices using historic daily natural gas price shapes for the hub. The historic daily shapes are based on the ratio of the historic price for the hub for each given day in a month to the average of the historic prices for the hub for all days in such month. The daily prices are then assigned to each hour starting 10am Eastern Prevailing Time each day. The historical prices used in this step shall be taken from one of each of the most recent three calendar years preceding the time of the determination for the RPM Auction.

vi) Process for Establishing Parameters of Variable Resource Requirement Curve

A) The parameters of the Variable Resource Requirement Curve will be established prior to the conduct of the Base Residual Auction for a Delivery Year and will be used for such Base Residual Auction.

B) The Office of the Interconnection shall determine the PJM Region Reliability Requirement and the Locational Deliverability Area Reliability Requirement for each Locational Deliverability Area for which a Variable Resource Requirement Curve has been established for such Base Residual Auction on or before February 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values will be applied, in accordance with the Reliability Assurance Agreement. The Variable Resource Requirement Curve shall be posted on the same timeline with the PJM Region Reliability Requirement and the Locational Deliverability Area Reliability Requirement. Notwithstanding, for the 2029/2030 Delivery Year, the updated VRR Curve that incorporates any Excluded RTO New Large Load Amounts and Excluded LDA New Large Load Amounts shall be posted one month prior to the commencement of the relevant RPM Auction.

C) Beginning with the Delivery Year that commences June 1, 2018, and continuing no later than for every fourth Delivery Year thereafter, the Office of the Interconnection shall review the calculation of the Cost of New Entry for each CONE Area.

1) If the Office of the Interconnection determines that the Cost of New Entry values should be modified, the Staff of the Office of the Interconnection shall propose new Cost of New Entry values on or before May 15, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

2) The PJM Members shall review the proposed values.

3) The PJM Members shall either vote to (i) endorse the proposed values, (ii) propose alternate values or (iii) recommend no modification, by August 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

4) The PJM Board of Managers shall consider Cost of New Entry values, and the Office of the Interconnection shall file any approved modified Cost of New Entry values with the FERC by October 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

D) Beginning with the Delivery Year that commences June 1, 2018, and continuing no later than for every fourth Delivery Year thereafter, the Office of the Interconnection shall review the methodology set forth in this Attachment for determining the Net Energy and Ancillary Services Revenue Offset for the PJM Region and for each Zone.

1) If the Office of the Interconnection determines that the Net Energy and Ancillary Services Revenue Offset methodology should be modified, Staff of the Office of the Interconnection shall propose a new Net Energy and Ancillary Services Revenue Offset methodology on or before May 15, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new methodology would be applied.

2) The PJM Members shall review the proposed methodology.

3) The PJM Members shall either vote to (i) endorse the proposed methodology, (ii) propose an alternate methodology or (iii) recommend no modification, by August 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new methodology would be applied.

4) The PJM Board of Managers shall consider the Net Revenue Offset methodology, and the Office of the Interconnection shall file any approved modified Net Energy and Ancillary Services Revenue Offset values with the FERC by October 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

b) Locational Requirements

The Office of Interconnection shall establish locational requirements prior to the Base Residual Auction to quantify the amount of Unforced Capacity that must be committed in each Locational Deliverability Area, in accordance with the Reliability Assurance Agreement.

c) [Reserved]

d) Preliminary PJM Region Peak Load Forecast for the Delivery Year

The Office of the Interconnection shall establish the Preliminary PJM Region Load Forecast for the Delivery Year in accordance with the PJM Manuals by February 1, prior to the conduct of the Base Residual Auction for such Delivery Year.

e) Updated PJM Region Peak Load Forecasts for Incremental Auctions

The Office of the Interconnection shall establish the updated PJM Region Peak Load Forecast for a Delivery Year in accordance with the PJM Manuals by February 1, prior to the conduct of the First, Second, and Third Incremental Auction for such Delivery Year.

5.11 Posting of Information Relevant to the RPM Auctions

a) In accordance with the schedule provided in the PJM Manuals, PJM will post the following information for a Delivery Year prior to conducting the Base Residual Auction for such Delivery Year:

i) The Preliminary PJM Region Peak Load Forecast (for the PJM Region, and allocated to each Zone);

ii) The PJM Region Installed Reserve Margin, the Pool-wide average EFORd, (through the 2024/2025 Delivery Year), the pool-wide average Accredited UCAP Factor (beginning with the 2025/2026 Delivery Year), the Forecast Pool Requirement, and all applicable Capacity Import Limits;

iii) Beginning with the 2029/2030 Delivery Year, the quantity of Excluded RTO New Large Load Amounts and Excluded LDA New Large Load Amounts used in establishing the Variable Resource Requirement Curve~~For the Delivery Years through May 31, 2018, the Demand Resource Factor~~;

iv) The PJM Region Reliability Requirement, and the Variable Resource Requirement Curve for the PJM Region, including the details of any adjustments to account for Price Responsive Demand and any associated PRD Reservation Prices;

v) The Locational Deliverability Area Reliability Requirement and the Variable Resource Requirement Curve for each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction, including the details of any adjustments to account for Price Responsive Demand and any associated PRD Reservation Prices, and the CETO and CETL values for all Locational Deliverability Areas;

vi) Any Transmission Upgrades that are expected to be in service for such Delivery Year, provided that a Transmission Upgrade that is Backbone Transmission satisfies the project development milestones set forth in Tariff, Attachment DD, section 5.11A;

vii) The bidding window time schedule for each auction to be conducted for such Delivery Year; and

viii) The Net Energy and Ancillary Services Revenue Offset values for the PJM Region for use in the Variable Resource Requirement Curves for the PJM Region and each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction.

b) The information listed in (a) will be posted and applicable for the First, Second, Third, and Conditional Incremental Auctions for such Delivery Year, except to the extent updated or adjusted as required by other provisions of this Tariff.

c) In accordance with the schedule provided in the PJM Manuals, PJM will post the Final PJM Region Peak Load Forecast and the allocation to each zone of the obligation resulting from such final forecast, following the completion of the final Incremental Auction (including any Conditional Incremental Auction) conducted for such Delivery Year;

d) In accordance with the schedule provided in the PJM Manuals, PJM will advise owners of Generation Capacity Resources of the updated EFORd values for such Generation Capacity Resources prior to the conduct of the Third Incremental Auction for such Delivery Year.

e) After conducting the Reliability Pricing Model Auctions, PJM will post the results of each auction as soon thereafter as possible, including any adjustments to PJM Region or LDA Reliability Requirements to reflect Price Responsive Demand with a PRD Reservation Price equal to or less than the applicable Base Residual Auction clearing price. The posted results for each Base Residual Auction shall include graphical supply curves that are (a) provided for the entire PJM Region, (b) provided for any Locational Deliverability Area for which there are four (4) or more suppliers, and (c) developed using a formulaic approach to smooth the curves using a statistical technique that fits a smooth curve to the underlying supply curve data while ensuring that the point of intersection between supply and demand curves is at the market clearing price.

If PJM discovers a potential error in the initial posting of auction results for a particular Reliability Pricing Model Auction, it shall notify Market Participants as soon as possible after it is found, but in no event later than 5:00 p.m. of the fifth Business Day following the initial publication of the results of the auction. After this initial notification, if PJM determines it is necessary to post modified results, it shall provide notification of its intent to do so, along with a description detailing the cause and scope of the error, by no later than 5:00 p.m. of the seventh Business Day following the initial publication of the results of the auction. The provided description will not contain information that is market sensitive or confidential. Thereafter, PJM must post on its Web site any corrected auction results by no later than 5:00 p.m. of the tenth Business Day following the initial publication of the results of the auction. Should any of the above deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted results will be considered final. Notwithstanding the foregoing, the deadlines set forth above shall not apply if the referenced auction results are under publicly noticed review by the FERC.

5.12 Conduct of RPM Auctions

The Office of the Interconnection shall employ an optimization algorithm for each Base Residual Auction and each Incremental Auction to evaluate the Sell Offers and other inputs to such auction to determine the Sell Offers that clear such auction.

a) Base Residual Auction

For each Base Residual Auction, the optimization algorithm shall consider:

- all Sell Offers submitted in such auction;
- the Variable Resource Requirement Curves for the PJM Region and each LDA;
- any constraints resulting from the Locational Deliverability Requirement and any applicable Capacity Import Limit;
- For the 2018/2019 Delivery Year and subsequent Delivery Years, the PJM Reliability Requirement; and
- For the 2020/2021 Delivery Year and subsequent Delivery Years, the requirement that the cleared quantity of Summer-Period Capacity Performance Resources equal the cleared quantity of Winter-Period Capacity Performance Resources for the PJM Region.

The optimization algorithm shall be applied to calculate the overall clearing result to minimize the cost of satisfying the reliability requirements across the PJM Region, regardless of whether the quantity clearing the Base Residual Auction is above or below the applicable target quantity, while respecting all applicable requirements and constraints, including any restrictions specified in any Credit-Limited Offers. Where the supply curve formed by the Sell Offers submitted in an auction falls entirely below the Variable Resource Requirement Curve, the auction shall clear at the price-capacity point on the Variable Resource Requirement Curve corresponding to the total Unforced Capacity provided by all such Sell Offers. Where the supply curve consists only of Sell Offers located entirely below the Variable Resource Requirement Curve and Sell Offers located entirely above the Variable Resource Requirement Curve, the auction shall clear at the price-capacity point on the Variable Resource Requirement Curve corresponding to the total Unforced Capacity provided by all Sell Offers located entirely below the Variable Resource Requirement Curve. In determining the lowest-cost overall clearing result that satisfies all applicable constraints and requirements, the optimization may select from among multiple possible alternative clearing results that satisfy such requirements, including, for example (without limitation by such example), accepting a lower-priced Sell Offer that intersects the Variable Resource Requirement Curve and that specifies a minimum capacity block, accepting a higher-priced Sell Offer that intersects the Variable Resource Requirement Curve and that contains no minimum-block limitations, or rejecting both of the above alternatives and clearing the auction at the higher-priced point on the Variable Resource Requirement Curve that corresponds to the Unforced Capacity provided by all Sell Offers located entirely below the Variable Resource Requirement Curve. For the 2020/2021 Delivery Year and subsequent Delivery Years, the supply curve formed by the Sell Offers submitted within an LDA for which a separate VRR Curve is established, shall only consider the quantity of MW from Summer-Period Capacity Performance Resources that are equally matched with Winter-Period Capacity Performance Resources within the LDA, such that only the equally matched quantity of opposite-season Sell Offers are considered in satisfying the LDA's reliability requirement.

The Sell Offer price of a Qualifying Transmission Upgrade shall be treated as a capacity price differential between the LDAs specified in such Sell Offer between which CETL is increased, and the Import Capability provided by such upgrade shall clear to the extent the difference in clearing prices between such LDAs is greater than the price specified in such Sell Offer. The Capacity Resource clearing results and Capacity Resource Clearing Prices so determined shall be applicable for such Delivery Year. The Capacity Resource clearing results and Capacity Resource Clearing Prices determined for Summer-Period Capacity Performance Resources shall be applicable for the calendar months of June through October and the following May of such Delivery Year; and shall be applicable for Winter-Period Capacity Performance Resources for the calendar months of November through April of such Delivery Year.

b) Scheduled Incremental Auctions.

For purposes of a Scheduled Incremental Auction, the optimization algorithm shall consider:

- For the 2018/2019 Delivery Year and subsequent Delivery Years, the PJM Reliability Requirement;
- Updated LDA Reliability Requirements taking into account any updated Capacity Emergency Transfer Objectives;
- The Capacity Emergency Transfer Limit used in the Base Residual Auction, or any updated value resulting from a Conditional Incremental Auction;
- All applicable Capacity Import Limits;
- For the 2018/2019 Delivery Year and subsequent Delivery Years, for each LDA, such LDA's updated Reliability Requirement;
- For the 2020/2021 Delivery Year and subsequent Delivery Years, the requirement that the cleared quantity of Summer-Period Capacity Performance Resources equal the cleared quantity of Winter-Period Capacity Performance Resources for the PJM Region;
- A demand curve consisting of the Buy Bids submitted in such auction and, if indicated for use in such auction in accordance with the provisions below, the Updated VRR Curve Increment;

- The Sell Offers submitted in such auction; and

- The Unforced Capacity previously committed for such Delivery Year.

(i) When the requirement to seek additional resource commitments in a Scheduled Incremental Auction is triggered by Tariff, Attachment DD, section 5.4(c)(2), the Office of the Interconnection shall employ in the clearing of such auction the Updated VRR Curve Increment.

(ii) When the requirement to seek additional resource commitments in a Scheduled Incremental Auction is triggered by Tariff, Attachment DD, section 5.4(c)(1), and the conditions stated in Tariff, Attachment DD, section 5.4(c)(2) do not apply, the Office of the Interconnection first shall determine the total quantity of (A) the amount that the Office of the Interconnection sought to procure in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, minus (B) the amount that the Office of the Interconnection sought to sell back in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, plus (C) the difference between the updated PJM Region Reliability Requirement or updated LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) and, respectively, the PJM Region Reliability Requirement, or LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts), utilized in the most recent prior auction conducted for such Delivery Year plus any amount required by section 5.4(c)(2)(ii), plus (D) the reduction in Unforced Capacity commitments associated with the transition provisions of Tariff, Attachment DD, section 5.5A(c)(i)(B) and RAA, Schedule 6, section L.9. If the result of such equation is a positive quantity, the Office of the Interconnection shall employ in the clearing of such auction a portion of the Updated VRR Curve Increment extending right from the left-most point on that curve in a megawatt amount equal to that positive quantity defined above, to seek to procure such quantity. If the result of such equation is a negative quantity, the Office of the Interconnection shall employ in the clearing of the auction a portion of the Updated VRR Curve Decrement, extending and ascending to the left from the right-most point on that curve in a megawatt amount corresponding to the negative quantity defined above, to seek to sell back such quantity.

(iii) When the possible need to seek agreements to release capacity commitments in any Scheduled Incremental Auction is indicated for the PJM Region or any LDA by Tariff, Attachment DD, section 5.4(c)(3)(i), the Office of the Interconnection first shall determine the total quantity of (A) the amount that the Office of the Interconnection sought to procure in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, minus (B) the amount that the Office of the Interconnection sought to sell back in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, plus (C) the difference between the updated PJM Region Reliability Requirement or updated LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) and, respectively, the PJM Region Reliability Requirement, or LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts), utilized in the most recent prior auction conducted for such Delivery Year minus any capacity sell-back amount determined by PJM to be required for the PJM Region or such LDA by Tariff, Attachment DD, section 5.4(c)(3)(ii), plus (D) the reduction in Unforced Capacity commitments associated with the transition provisions of Tariff, Attachment DD, section 5.5A(c)(i)(B) and RAA, Schedule 6, section L.9, provided, however, that the amount sold in total for all LDAs and the PJM Region related to a delay in a Backbone Transmission upgrade may not exceed the amounts purchased in total for all LDAs and the PJM Region related to a delay in a Backbone Transmission upgrade. If the result of such equation is a positive quantity, the Office of the Interconnection shall employ in the clearing of such auction a portion of the Updated VRR Curve Increment extending right from the left-most point on that curve in a megawatt amount equal to that positive quantity defined above, to seek to procure such quantity. If the result of such equation is a negative quantity, the Office of the Interconnection shall employ in the clearing of the auction a portion of the Updated VRR Curve Decrement, extending and ascending to the left from the right-most point on that curve in a megawatt amount corresponding to the negative quantity defined above, to seek to sell back such quantity.

(iv) If none of the tests for adjustment of capacity procurement in subsections (i), (ii), or (iii) is satisfied for the PJM Region or an LDA in a Scheduled Incremental Auction, the Office of the Interconnection first shall determine the total quantity of (A) the amount that the Office of the Interconnection sought to procure in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, minus (B) the amount that the Office of the Interconnection sought to sell back in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction. If the result of such equation is a positive quantity, the Office of the Interconnection shall employ in the clearing of such auction a portion of the Updated VRR Curve Increment extending right from the left-most point on that curve in a megawatt amount equal to that positive quantity defined above, to seek to procure such quantity. If the result of such equation is a negative quantity, the Office of the Interconnection shall employ in the clearing of the auction a portion of the Updated VRR Curve Decrement, extending and ascending to the left from the right-most point on that curve in a megawatt amount corresponding to the negative quantity defined above, to seek to sell back such quantity.

(v) (reserved)

(vi) If the above tests are triggered for an LDA and for another LDA wholly located within the first LDA, the Office of the Interconnection may adjust the amount of any Sell Offer or Buy Bids otherwise required by subsections (i), (ii), or (iii) above in one LDA as appropriate to take into account any reliability impacts on the other LDA.

(vii) The optimization algorithm shall calculate the overall clearing result to minimize the cost to satisfy the Unforced Capacity Obligation of the PJM Region to account for the updated PJM Peak Load Forecast and the cost of committing replacement capacity in response to the Buy Bids submitted, while satisfying or honoring such reliability requirements and constraints, in the same manner as set forth in subsection (a) above.

(viii) Load Serving Entities may be entitled to certain credits ("Excess Commitment Credits") under certain circumstances as follows:

(A) [Reserved]

(B) For any Delivery Year beginning with the Delivery Year that commences June 1, 2012, the total amount that the Office of the Interconnection sought to sell back pursuant to subsection (b)(iii) above in the Scheduled Incremental Auctions for such Delivery Year that does not clear such auctions, less the total amount that the Office of the Interconnection sought to procure pursuant to subsections (b)(i) and (b)(ii) above in the Scheduled Incremental Auctions for such Delivery Years that does not clear such auctions, will be allocated to Load Serving Entities as set forth below;

(C) the amount from (A) or (B) above for the PJM Region shall be allocated among Locational Deliverability Areas pro rata based on the reduction for each such Locational Deliverability Area in the peak load forecast from the time of the Base Residual Auction to the time of the Third Incremental Auction; provided, however, that the amount allocated to a Locational Deliverability Area may not exceed the reduction in the corresponding Reliability Requirement for such Locational Deliverability Area; and provided further that any LDA with an increase in its load forecast shall not be allocated any Excess Commitment Credits;

(D) the amount, if any, allocated to a Locational Deliverability Area shall be further allocated among Load Serving Entities in such areas that are charged a Locational Reliability Charge based on the Daily Unforced Capacity Obligation of such Load Serving Entities as of June 1 of the Delivery Year and shall be constant for the entire Delivery Year. Excess Commitment Credits may be used as Replacement Capacity or traded bilaterally.

c) Conditional Incremental Auction

For each Conditional Incremental Auction, the optimization algorithm shall consider:

- The quantity and location of capacity required to address the identified reliability concern that gave rise to the Conditional Incremental Auction;

- All applicable Capacity Import Limits;

- the same Capacity Emergency Transfer Limits that were modeled in the Base Residual Auction, or any updated value resulting from a Conditional Incremental Auction; and

- the Sell Offers submitted in such auction.

The Office of the Interconnection shall submit a Buy Bid based on the quantity and location of capacity required to address the identified reliability violation at a Buy Bid price equal to 1.5 times Net CONE.

The optimization algorithm shall calculate the overall clearing result to minimize the cost to address the identified reliability concern, while satisfying or honoring such reliability requirements and constraints.

d) Equal-priced Sell Offers

If two or more Sell Offers submitted in any auction satisfying all applicable constraints include the same offer price, and some, but not all, of the Unforced Capacity of such Sell Offers is required to clear the auction, then the auction shall be cleared in a manner that minimizes total costs, including total make-whole payments if any such offer includes a minimum block and, to the extent consistent with the foregoing, in accordance with the following additional principles:

1) as necessary, the optimization shall clear such offers that have a flexible megawatt quantity, and the flexible portions of such offers that include a minimum block that already has cleared, where some but not all of such equal-priced flexible quantities are required to clear the auction, pro rata based on their flexible megawatt quantities; and

2) when equal-priced minimum-block offers would result in equal overall costs, including make-whole payments, and only one such offer is required to clear the auction, then the offer that was submitted earliest to the Office of the Interconnection, based on its assigned timestamp, will clear.

ATTACHMENT DD-4

INTERIM RESOURCE ADEQUACY SERVICE

I. INTRODUCTION

This Attachment DD-4 sets forth the terms and conditions governing the provision of Interim Resource Adequacy Service. As more fully set forth in this Attachment and the PJM Manuals, and in conjunction with the Reliability Assurance Agreement:

(a) Interim Resource Adequacy Service is a load reduction service, effective starting with the 2027/2028 Delivery Year, through which Eligible New Large Loads may be compensated for providing load reductions requested by the Office of the Interconnection to maintain system reliability for the purpose of supporting the integration of New Large Loads to the PJM Region that are not in arrangements with new capacity additions to the PJM Region;

(b) Starting with the 2027/2028 Delivery Year, the Office of the Interconnection may, in accordance with the Manuals, instruct the implementation of an Interim Resource Adequacy Service Action prior to calling on Pre-Emergency Load Management Reductions Actions after determining that available economic real-time supply may not be sufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits within prescribed limits and prevent cascading outages;

(c) The Large Load Registry maintained by the Office of the Interconnection, pursuant to the Reliability Assurance Agreement, shall inform which New Large Loads are eligible to be called on to provide Interim Resource Adequacy Service; and

(d) The Office of the Interconnection shall coordinate with Electric Distributors, and other Members as appropriate, on the provision of Interim Resource Adequacy Service and the compensation for providing Interim Resource Adequacy Service.

II. RESPONSBILITIES OF THE OFFICE OF THE INTERCONNECTION

The Office of the Interconnection shall:

(a) maintain the Large Load Registry, pursuant to Reliability Assurance Agreement, Schedule 11;

(b) identify Eligible New Large Loads;

(c) determine the megawatt quantity of New Large Loads eligible to provide Interim Resource Adequacy Service in each Electric Distributor zone/area for a given Delivery Year;

(d) starting with the 2027/2028 Delivery Year, issue an Interim Resource Adequacy Service Action based on system conditions; and

(e) request Electric Distributors to direct that a quantity of Eligible New Large Load Amounts in their respective zone(s)/area(s) be reduced in accordance with an Interim Resource Adequacy Service Action.

III. RESPONSBILITIES OF ELECTRIC DISTRIBUTORS

Electric Distributors shall:

(a) execute the Office of the Interconnection's directives to implement Interim Resource Adequacy Service Actions among the Eligible New Large Loads in the Electric Distributor's zone/area, which is an area within a Zone for which the relevant Electric Distributor specifies a separate Obligation Peak Load MW value and is a service area of an Electric Distributor that is a separately identifiable, geographic area bounded by wholesale metering;

(b) coordinate with the Office of the Interconnection in developing and maintaining the Large Load Registry by providing the Office of the Interconnection any information or data the Electric Distributor believes appropriate to facilitate an accurate Large Load Registry, including applicable state or RERRA retail tariff or contractual obligations;

(c) coordinate, as appropriate, with the relevant state(s) or RERRA(s), individual Load Serving Entities, and customers served by the Load Serving Entities in its zone/area to support transparent, effective, and orderly deployment of Interim Resource Adequacy Service; and

(d) implement compensation program consistent with Tariff, Attachment DD-4, section X.

IV. DETERMINATION OF MAXIMUM INTERIM RESOURCE ADEQUACY SERVICE EACH ELIGIBLE NEW LARGE LOAD MAY PROVIDE IN A DELIVERY YEAR

(a) All Eligible New Large Loads shall be available to be requested to provide Interim Resource Adequacy Service by the Office of the Interconnection.

(b) The amount of Interim Resource Adequacy Service available to the Office of the Interconnection may change for each Delivery Year depending on the relationship of the amount of Capacity Resources committed, through Tariff, Attachment DD, for a given Delivery Year, and the Eligible New Large Load Amounts.

(i) In the event ([the amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) is less than the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor) by an amount greater than the sum (in MW) of all Eligible New Large Load Amounts, then all Eligible New Large Load Amounts is needed by the Office of the Interconnection to be available to provide Interim Resource Adequacy Service for that Delivery Year;

(ii) In the event ([the amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) is less than the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor) by an amount less than the sum (in MW) of all Eligible New Large Load Amounts, then the difference (in MW) shall be the cumulative amount (in MW) of Eligible New Large Load Amounts that the Office of the Interconnection needs to be available to provide Interim Resource Adequacy Service for that Delivery Year; and

(iii) In the event ([the amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) equals or exceeds the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor), then the Office of the Interconnection does not need any Eligible New Large Loads to be available to provide Interim Resource Adequacy Service for that Delivery Year.

(c) For each Delivery Year that meets the requirements of Tariff, Attachment DD-4, sections IV(b)(i) or IV(b)(ii), the Office of the Interconnection shall determine:

(i) the total amount of Interim Resource Adequacy Service (in MW) needed to be available on a daily basis across the PJM Region for the Delivery Year; and

(ii) the total amount of Interim Resource Adequacy Service (in MW) needed to be available on a daily basis in each Electric Distributor zone/area for the Delivery Year, which shall be equal to the product of the sum of all Eligible New Large Load Amounts needed in the PJM Region pursuant to Attachment DD-4, section IV(b) multiplied by the quotient of [(the sum of all Eligible New Large Load Amounts in the Electric Distributor's zone/area) divided by (the sum of all Eligible New Large Load Amounts in the PJM Region)].

V. DETERMINATION OF NEW LARGE LOADS ELIGIBILITY TO PROVIDE INTERIM RESOURCE ADEQUACY SERVICE

(a) All New Large Loads shall be Eligible New Large Loads to the extent that the sum of a New Large Load's Eligible New Large Load Amount is less than the New Large Load's registered peak load (in MW), as provided in the Large Load Registry. New Large Loads with a cumulative installed capacity equivalent of their BYONC arrangements and assigned Allocated RBP UCAP MW that equals or exceeds the New Large Load's registered peak load, as provided in the Large Load Registry, shall not be Eligible New Large Loads. New Large Loads that are located within an FRR Service Area cannot be Eligible New Large Loads.

(b) A New Large Load's Eligible New Large Load Amount shall be determined as follows:

> (New Large Load's registered peak load (in MW), as provided in the Large Load Registry) minus (the sum of all BYONC arrangements with the New Large Load in accordance with Tariff, Attachment DD-4, section VII divided by the Forecast Pool Requirement for the first Delivery Year in which the BYONC cleared an RPM Auction, plus Allocated RBP UCAP MW assigned to the New Large Load, in accordance with Tariff, Attachment DD-4, section IX divided by the Forecast Pool Requirement for the first Delivery Year in which the Allocated RBP UCAP MW cleared an RPM Auction).

(c) For purposes of removing its eligibility to provide Interim Resource Adequacy Service, a New Large Load may enter into arrangements with BYONC supported by one or more resources.

VI. BRING YOUR OWN NEW CAPACITY CRITERIA

(a) (i) Capacity Resources that cleared an RPM Auction for the first time in the Base Residual Auction for the 2027/2028, 2028/2029, and 2029/2030 Delivery Years may qualify as BYONC to the extent the underlying resource meets the criteria in subsection (b) below.

(ii) Megawatts of Unforced Capacity that have not cleared an RPM Auction, other than those specified in subsection (a)(i) above, may qualify as BYONC to the extent the underlying resource meets the criteria in subsection (b) below. To the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then megawatts of Unforced Capacity may qualify as BYONC to the extent the underlying resource meets the criteria in subsection (b) below and such megawatts (1) have not cleared in an RPM Auction conducted for a Delivery Year prior to the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met and (2) meet the eligibility criteria set forth in Tariff, Attachment DD-4, section VI.

(iii) With the exception of the RPM Auctions listed in subsection (a)(i) above, to the extent megawatts of Unforced Capacity that have cleared an RPM Auction before any arrangement with a New Large Load based on such megawatts was reported to the Office of the Interconnection, then such megawatts of Unforced Capacity cannot qualify as BYONC even if the underlying resource meets the criteria in subsection (b) below.

(b) To qualify as Bring Your Own New Capacity, resources must meet the following eligibility requirements:

(i) For generation and storage resources, the resource must be supported by one of the following:

(1) a new-build generation resource including new resources that obtain Capacity Interconnection Rights transferred from deactivated resources or resources that have announced deactivation as of April 10, 2026;

(2) the incremental capacity created by an uprate of Existing Generation Capacity Resources, but only to the extent such incremental capacity is created through an increase in such Generation Capacity Resource's installed capacity and increase in Capacity Interconnection Rights associated with that Generation Capacity Resource;

(3) the incremental capacity created by the utilization of Surplus Interconnection Service;

(4) repowering of a deactivated generation resource that deactivated prior to April 10, 2026; or

(5) incremental capacity, whether due to greater Unforced Capacity or a higher level of Capacity Interconnection Rights, created by an Existing Generation Capacity Resource's changing fuel type to a more efficient fuel type.

(ii) For Demand Resources or DER Capacity Aggregation Resources, the resource must qualify as a Planned Demand Resource or DER Capacity Aggregation Resource, as described in the RAA, Schedule 6 and Schedule 6.2 and:

(1) be composed of, or reliant on, any location not registered in or prior to the 2026/2027 Delivery Year at which an incremental amount at that location is the result of the registration of new generation or storage assets at the location. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then will be composed of, or reliant on, any location registered in the Delivery Year prior to the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met; and/or

(2) be composed of, or reliant on, locations that were not previously supported a Capacity Resource, a Peak Shaving Adjustment, or Price Responsive Demand for or prior to the 2026/2027 Delivery Year. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then will be composed of, or reliant on, locations that were not previously supported a Capacity Resource, a Peak Shaving Adjustment, or Price Responsive Demand for the Delivery Year prior to the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met.

VII. BRING YOUR OWN NEW CAPACITY ARRANGEMENTS WITH NEW LARGE LOADS

(a) For any BYONC to be in an arrangement with a New Large Load,

(i) the Load Serving Entity serving the New Large Load or the applicable Electric Distributor shall report the BYONC in an arrangement with the New Large Load, in accordance with the PJM Manuals. The Office of the Interconnection may also accept information to the extent interconnection customers, Large Loads, Transmission Owners, or other entities voluntarily report any BYONC that may be in an arrangement with a New Large Load; and

(ii) the resource owner or entity with contractual authority to enter into a BYONC arrangement must certify to the Office of Interconnection, in accordance with the PJM Manuals, attesting to the arrangement with the New Large Load and that the BYONC will follow the requirements of Tariff, Attachment DD-4, section VIII.

(b) For an arrangement between a New Large Load and BYONC to be effective for the 2027/2028 and 2028/2029 Delivery Years, for any BYONC arrangement to be considered, the requirements of Tariff, Attachment DD-4, section VII(a) must be met by April 1 for the first Delivery Year such arrangement is to result in a reduction in the New Large Load's Eligible New Large Load Amount. By April 15, the Office of the Interconnection shall update the Large Load Registry to reflect any verified arrangements between New Large Loads and BYONC.

(c) For an arrangement between a New Large Load and BYONC to be effective for the 2029/2030 Delivery Year, for any BYONC arrangement to be considered, the requirements of Tariff, Attachment DD-4, section VII(a) must be reported to the Office of the Interconnection no later than by 50 days prior to the commencement of the 2029/2030 Base Residual Auction or by 30 days prior to the posting of the planning parameters for the Incremental Auctions arrangement for the 2029/2030 Delivery Year. The Office of the Interconnection shall update the Large Load Registry to reflect any verified arrangements between New Large Loads and BYONC after the relevant RPM Auction.

(d) For an arrangement between a New Large Load and BYONC to be effective for the 2030/2031 Delivery Year and subsequent Delivery Years, the requirements of Tariff, Attachment DD-4, section VII(a) must be reported to the Office of the Interconnection no later than by 30 days prior to the posting of the planning parameters for the relevant RPM Auction for the initial Delivery Year the BYONC enters into an arrangement with the New Large Load. The Office of the Interconnection shall update the Large Load Registry to reflect any verified arrangements between New Large Loads and BYONC after the relevant RPM Auction.

(e) BYONC that is in an arrangement with a New Large Load must remain in such arrangement with that New Large Load unless and until the New Large Load is permanently out-of-service.

(f) A physical resource may support multiple BYONC, each of which may be in an arrangement with different New Large Loads, as long as no BYONC is in an arrangement with more than one New Large Load.

(g) A New Large Load may enter into an arrangement with discrete BYONC supported by different physical resources.

(h) A New Large Load may enter into an arrangement with BYONC in excess of its current Eligible Large Load Amount, e.g., to allow for expected growth in the New Large Load, and the full megawatt quantity of such BYONC shall be offered in the first RPM Auction for which the New Large Load is included in the Variable Resource Requirement Curve~~,~~.

(i) (i) For any generation or storage resource, the Accredited UCAP of any BYONC shall be the Accredited UCAP for the RPM Auction in which the BYONC cleared for the initial Delivery Year the BYONC is in an arrangement with the New Large Load.

(ii) For Demand Resources or DER Capacity Aggregation Resources, the Accredited UCAP shall be the Accredited UCAP for the RPM Auction in which the BYONC cleared for the initial Delivery Year the BYONC is in an arrangement with the New Large Load and must be demonstrated each year for a 10-year period using the Demand Response or DER Capacity Aggregation Resources installed capacity for the first Delivery Year after the BYONC is in an arrangement with the New Large Load. For Demand Resources or DER Capacity Aggregation Resources that are also the actual New Large Load, there is no demonstration required for the initial Delivery Year only to not be an Eligible New Large Load.

VIII. BRING YOUR OWN NEW CAPACITY PARTICIPATION IN THE RELIABILITY PRICING MODEL

(a) All BYONC in an arrangement with a New Large Load must meet the requirements in Tariff, Attachment DD, section 5.5A and become Capacity Resources eligible to participate in RPM Auctions.

(b) All BYONC in an arrangement with a New Large Load must be offered into the RPM Auctions as Capacity Resources consistent with and pursuant to the capacity must-offer requirements and exceptions set forth in Tariff, Attachment DD, sections 6.6 and 6.6A. BYONC may not seek an exception to the capacity must-offer requirement to provide an external sale, as available under Tariff, Attachment DD, section 6.6(g) for a 10-year period starting with the first Delivery Year which the BYONC is in an arrangement with the New Large Load.

(c) All BYONC in an arrangement with a New Large Load and committed through RPM Auctions will be subject to all capacity market rules, as set forth in Tariff, Attachments DD and DD-1.

(d) To the extent the resource supporting a BYONC arrangement is unavailable in a given Delivery Year, the seller of such resource will be subject to all relevant deficiency charges under Tariff, Attachment DD.

(e) All BYONC in an arrangement with a New Large Load and not qualifying for an exception pursuant to Tariff, Attachment DD, section 6.6(g), must be offered into the applicable RPM Auctions as price takers, i.e., $0/MW-day UCAP for a 10-year period starting with the first Delivery Year which the BYONC is in an arrangement with the New Large Load. To the extent the resource is a Demand Resource or DER Capacity Aggregation Resource, the BYONC shall participate in RPM Auctions for ten (10) consecutive Delivery Years as an Annual Demand Resource or DER Capacity Aggregation Resource, as applicable; provided, however, the seller of such Demand Resource or DER Capacity Aggregation Resource may, in accordance with Tariff, Attachment DD-4, section VII(a)(i) report to the Office of the Interconnection BYONC that replaces such BYONC, where such replacement shall be for the remainder of the replaced BYONC's ten-year RPM Auction participation commitment and the replaced BYONC (and its supporting registrations) may no longer provide BYONC. In such event, the replacement BYONC would need to be supported by the certification required by Tariff, Attachment DD-4, section VII(a)(ii), and such replacement arrangement must be effective coincident with the initial BYONC releasing its arrangement.

(f) To the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then any existing BYONC are relieved of the obligations under this Tariff, Attachment DD-4, section VIII.

IX. ALLOCATION OF RBP UCAP MW

(a) Each Electric Distributor zone/area allocated RBP Charges pursuant to Tariff, Attachment DD, section 18.3(a) shall be allocated RBP UCAP MW on a pro-rata basis using the Electric Distributor zone/area's assigned share of the total Final RBP Target MW across all zone/areas.

(b) Each New Large Load's Allocated RBP UCAP MW shall be determined as follows:

(i) Each Electric Distributor allocated RBP UCAP MW shall inform the Office of the Interconnection how such RBP UCAP MW should be further allocated among the New Large Loads located in the Electric Distributor's zone/area; or

(ii) In the event the Electric Distributor has not informed the Office of the Interconnection how its RBP UCAP MW should be further allocated by April 1 before a given Delivery Year, the Office of the Interconnection shall allocate such RBP UCAP MW to the Electric Distributor's zone/area pro-rata among all New Large Loads located in the zone/area.

(c) The Office of the Interconnection shall list in the Large Load Registry each New Large Load's Allocated RBP UCAP MW.

X. COMPENSATION FOR PROVIDING INTERIM RESOURCE ADEQUACY SERVICE

(a) The rate for the provision of Interim Resource Adequacy Service shall be 50% of the Non-Performance Charge Rate specified in Tariff, Attachment DD, section 10A(e), unless any Eligible New Large Load elects to (i) accept in its retail rates a sum less than 50% of the Non-Performance Charge Rate as compensation for the provision of wholesale Interim Resource Adequacy Service, or (ii) waive receipt in its retail rates any compensation for the provision of wholesale Interim Resource Adequacy Service as contemplated by Tariff, Attachment DD-4, section X(c). If any Eligible New Large Load so elects to accept less than 50% of the Non-Performance Charge Rate or waives in its entirety receipt of compensation for the provision of wholesale Interim Resource Adequacy Service, the wholesale rate for the provision of Interim Resource Adequacy Service shall reflect the accepted sum less than 50% of the Non-Performance Charge Rate or if compensation is waived entirely, the rate shall be zero dollars.

(b) (i) Following an Interim Resource Adequacy Event, unless the Electric Distributor informs the Office of the Interconnection otherwise in accordance with Tariff, Attachment DD-4, section X(b)(ii), the Electric Distributor shall be responsible for compensating all Eligible New Large Loads that provided Interim Resource Adequacy Service for up to the amount of such service provided. The Electric Distributor shall be responsible for charging customers in its zone/area to fund any such compensation.

(ii) The Electric Distributor may request the Office of the Interconnection to compensate certain Members for the provision of Interim Resource Adequacy Service and to assess charges on certain Load Serving Entities within the Electric Distributor's zone/area to fund such compensation. In support of such request, as further set forth in the PJM Manuals, the Electric Distributor shall (1) identify each Member to be compensated and provide the level of compensation and (2) identify each Load Serving Entity to be charged and the level of charge.

(iii) The Office of the Interconnection, PJMSettlement, and the Members will not assume financial responsibility for the failure of a party to pay any amounts owed to another party under this section. In the event the Electric Distributor requests the Office of the Interconnection facilitate the billing associated with an Interim Resource Adequacy Event, such billing shall be considered a bilateral transaction between the Electric Distributor and the identified Members and PJMSettlement shall not be a contracting party to the settlement.

(c) Nothing in this Tariff, Attachment DD-4, section X shall interfere with any Eligible New Large Load's election to (i) accept in its retail rates a sum less than 50% of the Non-Performance Charge Rate as compensation for the provision of wholesale Interim Resource Adequacy Service, or (ii) waive receipt in its retail rates any compensation for the provision of wholesale Interim Resource Adequacy Service.

ARTICLE 1 – DEFINITIONS

Unless the context otherwise specifies or requires, capitalized terms used herein shall have the respective meanings assigned herein or in the Schedules hereto, or in the PJM Tariff or PJM Operating Agreement if not otherwise defined in this Agreement, for all purposes of this Agreement (such definitions to be equally applicable to both the singular and the plural forms of the terms defined). Unless otherwise specified, all references herein to Articles, Sections or Schedules, are to Articles, Sections or Schedules of this Agreement. As used in this Agreement:

Accredited UCAP:

"Accredited UCAP" shall mean the quantity of Unforced Capacity, as denominated in Effective UCAP, that an ELCC Resource is capable of providing in a given Delivery Year.

Accredited UCAP Factor:

"Accredited UCAP Factor" shall mean, through the 2024/2025 Delivery Year, one minus EFORd, and for 2025/2026 Delivery Year and subsequent Delivery Years, the ratio of the Capacity Resource's Accredited UCAP to the Capacity Resource's installed capacity.

Agreement:

"Agreement" shall mean this Reliability Assurance Agreement, together with all Schedules hereto, as amended from time to time.

Annual Demand Resource:

"Annual Demand Resource" shall mean a resource that is placed under the direction of the Office of the Interconnection during the Delivery Year, and will be available for an unlimited number of interruptions during such Delivery Year by the Office of the Interconnection, and will be capable of maintaining each such interruption between the hours of 10:00AM to 10:00PM Eastern Prevailing Time for the months of June through October and the following May, and 6:00AM through 9:00PM Eastern Prevailing Time for the months of November through April unless there is an Office of the Interconnection approved maintenance outage during October through April. The Annual Demand Resource must be available in the corresponding Delivery year to be offered for sale or Self-Supplied in an RPM Auction, or included as an Annual Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Annual Energy Efficiency Resource:

"Annual Energy Efficiency Resource" shall mean a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of Reliability Assurance Agreement, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the summer and winter periods described in such Schedule 6 and the PJM Manuals) reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention.

Applicable Regional Entity:

"Applicable Regional Entity" shall have the same meaning as in the PJM Tariff.

Base Capacity Demand Resource:

"Base Capacity Demand Resource" shall mean, for the 2018/2019 and 2019/2020 Delivery Years, a resource that is placed under the direction of the Office of the Interconnection and that will be available June through September of a Delivery Year, and will be available to the Office of the Interconnection for an unlimited number of interruptions during such months, and will be capable of maintaining each such interruption for at least a 10-hour duration between the hours of 10:00AM to 10:00PM Eastern Prevailing Time. The Base Capacity Demand Resource must be available June through September in the corresponding Delivery Year to be offered for sale or self-supplied in an RPM Auction, or included as a Base Capacity Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Base Capacity Energy Efficiency Resource:

"Base Capacity Energy Efficiency Resource" shall mean, for the 2018/2019 and 2019/2020 Delivery Years, a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of RAA, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the summer peak periods as described in Reliability Assurance Agreement, Schedule 6 and the PJM Manuals) reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the Base Capacity Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention.

Base Capacity Resource:

"Base Capacity Resource" shall have the same meaning as in Tariff, Attachment DD.

Base Residual Auction:

"Base Residual Auction" shall have the same meaning as in Tariff, Attachment DD.

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 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 DER Capacity Aggregation 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.

Black Start Capability:

"Black Start Capability" shall mean the ability of a generating unit or station to go from a shutdown condition to an operating condition and start delivering power without assistance from the power system.

Bring Your Own New Capacity:

"Bring Your Own New Capacity" or "BYONC" shall have the meaning provided in the Tariff.

Capacity Emergency Transfer Objective (CETO):

"Capacity Emergency Transfer Objective" or "CETO" shall mean, through the 2024/2025 Delivery Year, the amount of electric energy that a given area must be able to import in order to remain within a loss of load expectation of one event in 25 years when the area is experiencing a localized capacity emergency, as determined in accordance with the PJM Manuals. Without limiting the foregoing, CETO shall be, for Delivery Years through 2024/2025, calculated based in part on EFORD determined in accordance with Reliability Assurance Agreement, Schedule 5, Paragraph C. Beginning with the 2025/2026 Delivery Year, CETO shall mean the amount of electric energy that a given area must be able to import in order to satisfy a normalized expected unserved energy for the area that is equal to forty percent of the normalized expected unserved energy for the RTO when at the annual reliability criteria, where normalized expected unserved energy is the expected unserved energy (for the area or RTO, as appropriate) divided by the forecasted annual energy (for the area or RTO, as appropriate), when the area is experiencing a localized capacity emergency, as determined in accordance with the PJM Manuals.

Capacity Emergency Transfer Limit (CETL):

Capacity Emergency Transfer Limit" or "CETL" shall mean the capability of the transmission system to support deliveries of electric energy to a given area experiencing a localized capacity emergency as determined in accordance with the PJM Manuals.

Capacity Import Limit:

For any Delivery Year up to and including the 2019/2020 Delivery Year, "Capacity Import Limit" shall mean, (a) for the PJM Region, (1) the maximum megawatt quantity of external Generation Capacity Resources that PJM determines for each Delivery Year, through appropriate modeling and the application of engineering judgment, the transmission system can receive, in aggregate at the interface of the PJM Region with all external balancing authority areas and deliver to load in the PJM Region under capacity emergency conditions without violating applicable reliability criteria on any bulk electric system facility of 100kV or greater, internal or external to the PJM Region, that has an electrically significant response to transfers on such interface, minus (2) the then-applicable Capacity Benefit Margin; and (b) for certain source zones identified in the PJM manuals as groupings of one or more balancing authority areas, (1) the maximum megawatt quantity of external Generation Capacity Resources that PJM determines the transmission system can receive at the interface of the PJM Region with each such source zone and deliver to load in the PJM Region under capacity emergency conditions without violating applicable reliability criteria on any bulk electric system facility of 100kV or greater, internal or external to the PJM Region, that has an electrically significant response to transfers on such interface, minus the then-applicable Capacity Benefit Margin times (2) the ratio of the maximum import quantity from each such source zone divided by the PJM total maximum import quantity. As more fully set forth in the PJM Manuals, PJM shall make such determination based on the latest peak load forecast for the studied period, the same computer simulation model of loads, generation and transmission topography employed in the determination of Capacity Emergency Transfer Limit for such Delivery Year, including external facilities from an industry standard model of the loads, generation, and transmission topography of the Eastern Interconnection under peak conditions. PJM shall specify in the PJM Manuals the areas and minimum distribution factors for identifying monitored bulk electric system facilities that have an electrically significant response to such transfers on the PJM interface. Employing such tools, PJM shall model increased power transfers from external areas into PJM to determine the transfer level at which one or more reliability criteria is violated on any monitored bulk electric system facilities that have an electrically significant response to such transfers. For the PJM Region Capacity Import Limit, PJM shall optimize transfers from other source areas not experiencing any reliability criteria violations as appropriate to increase the Capacity Import Limit. The aggregate megawatt quantity of transfers into PJM at the point where any increase in transfers on the interface would violate reliability criteria will establish the Capacity Import Limit. Notwithstanding the foregoing, a Capacity Resource located outside the PJM Region shall not be subject to the Capacity Import Limit if the Capacity Market Seller seeks an exception thereto by demonstrating to PJM, by no later than five (5) business days prior to the commencement of the offer period for the relevant RPM Auction, that such resource meets all of the following requirements:

(i) it has, at the time such exception is requested, met all applicable requirements to be pseudo-tied into the PJM Region, or the Capacity Market Seller has committed in writing that it will meet such requirements, unless prevented from doing so by circumstances beyond the control of the Capacity Market Seller, prior to the relevant Delivery Year;

(ii) at the time such exception is requested, it has long-term firm transmission service confirmed on the complete transmission path from such resource into PJM; and

(iii) it is, by written commitment of the Capacity Market Seller, subject to the same obligations imposed on Generation Capacity Resources located in the PJM Region by Tariff, Attachment DD, section 6.6 to offer their capacity into RPM Auctions; provided, however, that (a) the total megawatt quantity of all exceptions granted hereunder for a Delivery Year, plus the Capacity Import Limit for the applicable interface determined for such Delivery Year, may not exceed the total megawatt quantity of Network External Designated Transmission Service on such interface that PJM has confirmed for such Delivery Year; and (b) if granting a qualified exception would result in a violation of the rule in clause (a), PJM shall grant the requested exception but reduce the Capacity Import Limit by the quantity necessary to ensure that the total quantity of Network External Designated Transmission Service is not exceeded.

Capacity Only Option:

"Capacity Only Option" shall mean participation in Emergency Load Response Program or Pre-Emergency Program which allows, pursuant to Tariff, Attachment DD and as applicable, a capacity payment for the ability to reduce load during a pre-emergency or emergency event.

Capacity Performance Resource:

"Capacity Performance Resource" shall have the same meaning as in Tariff, Attachment DD.

Capacity Resources:

"Capacity Resources" shall mean megawatts of (i) net capacity from Existing Generation Capacity Resources or Planned Generation Capacity Resources meeting the requirements of the Reliability Assurance Agreement, Schedules 9 and Reliability Assurance Agreement, Schedule 10 that are or will be owned by or contracted to a Party and that are or will be committed to satisfy that Party's obligations under the Reliability Assurance Agreement, or to satisfy the reliability requirements of the PJM Region, for a Delivery Year; (ii) net capacity from Existing Generation Capacity Resources or Planned Generation Capacity Resources not owned or contracted for by a Party which are accredited to the PJM Region pursuant to the procedures set forth in such Schedules 9 and 10; or (iii) load reduction capability provided by Demand Resources or Energy Efficiency Resources that are accredited to the PJM Region pursuant to the procedures set forth in the Reliability Assurance Agreement, Schedule 6; or (iv) generation and load reduction capability provided by a DER Capacity Aggregation Resource, pursuant to the procedures set forth in the Reliability Assurance Agreement, Schedule 6.2 and the PJM Manuals.

Capacity Resource Provider:

"Capacity Resource Provider" shall mean a Member that (1) owns, or has the contractual authority to control the output of, a Generation Capacity Resource, that has not transferred such authority to another entity; (2) or a DER Aggregator that has a contractual relationship to use a Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource.

Capacity Storage Resource Class:

"Capacity Storage Resource Class" shall mean the ELCC Classes specified in Schedules 9.1 and 9.2, section B of this Agreement, each of which is composed of (1) Capacity Storage Resources with the same specified characteristic duration of 4, 6, 8, and 10 hours or; (2) storage device Component DER. The characteristic duration of an Energy Storage Resource Class is the ratio of the modeled MWh energy storage capability of members of the class to the modeled MW power capability of members of the class.

Capacity Transfer Right:

"Capacity Transfer Right" shall have the meaning specified in Tariff, Attachment DD.

Coal Class:

"Coal Class" shall mean an ELCC Class consisting of Unlimited Resources primarily fueled by coal.

Combination Resource:

"Combination Resource" shall mean a Generation Capacity Resource, or a generation Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, that has a component that has the characteristics of a Limited Duration Resource combined with (i) a component that has the characteristics of an Unlimited Resource or (ii) a component that has the characteristics of a Variable Resource.

Compliance Aggregation Area (CAA):

"Compliance Aggregation Area" or "CAA" shall have the same meaning as in the Tariff.

Complex Hybrid Class:

"Complex Hybrid Class" shall mean an ELCC Class composed of Combination Resources that combine three or more components, whereby one component is a class of Limited Duration Resource, and the other components are different Variable Resource classes, and such Combination Resources cannot be included in any other Combination Resource class. A resource that is a member of a Complex Hybrid Class has a single Point Of Interconnection, unless the resource is controlled in an integrated fashion, is at a single site, and is approved by PJM to be considered a single resource in accordance with the PJM Manuals.

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.

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 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.

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

Delivery Year:

“Delivery Year” shall mean a 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 RAA, Schedule 8.1.

Demand Resource (DR):

“Demand Resource” or “DR” shall mean a Limited Demand Resource, Extended Summer Demand Resource, Annual Demand Resource, Base Capacity Demand Resource or Summer-Period Demand Resource with a demonstrated capability to provide a reduction in demand or otherwise control load in accordance with the requirements of RAA, Schedule 6 that offers and that clears load reduction capability in a Base Residual Auction or Incremental Auction or that is committed through an FRR Capacity Plan.

Demand Resource Factor or DR Factor:

“Demand Resource Factor” or “DR Factor” shall mean, for Delivery Years through May 31, 2018, that factor approved from time to time by the PJM Board used to determine the unforced capacity value of a Demand Resource in accordance with Reliability Assurance Agreement, Schedule 6

Demand Resource Officer Certification Form:

“Demand Resource Officer Certification Form” shall mean a certification as to an intended Demand Resource Sell Offer, in accordance with Reliability Assurance Agreement, Schedule 6 and Reliability Assurance Agreement, Schedule 8.1 and the PJM Manuals.

Demand Resource Registration:

“Demand Resource Registration” shall mean a registration in the Full Program Option or Capacity Only Option of the Emergency or Pre-Emergency Load Resource Program in accordance with Tariff, Attachment K-Appendix, section 8.

Demand Resource Sell Offer Plan:

“Demand Resource Sell Offer Plan” shall mean the plan required by Reliability Assurance Agreement, Schedule 6 and Reliability Assurance Agreement, Schedule 8.1 in support of an intended offer of Demand Resources in an RPM Auction, or an intended inclusion of Demand Resources in an FRR Capacity Plan.

Diesel Utility Class:

"Diesel Utility Class" shall mean an ELCC Class consisting of Unlimited Resources of the diesel technology type that is not primarily fueled by landfill gas.

DER Aggregator Officer Certification Form:

“DER Aggregator Officer Certification Form” shall mean a DER Aggregator’s certification as to an intended DER Capacity Aggregation Resource Sell Offer, in accordance with Reliability Assurance Agreement, Schedule 6.2 and Reliability Assurance Agreement, Schedule 8.1 and the PJM Manuals.

DER Capacity Aggregation Resource Sell Offer Plan:

“DER Capacity Aggregation Resource Sell Offer Plan” shall mean the plan required by Reliability Assurance Agreement, Schedule 6.2 and Reliability Assurance Agreement, Schedule 8.1 in support of an intended offer of a DER Capacity Aggregation Resource in an RPM Auction, or an intended inclusion of a DER Capacity Aggregation Resource in an FRR Capacity Plan.

Effective Nameplate Capacity:

"Effective Nameplate Capacity" shall mean (i) for each Variable Resource and Combination Resource that is a Generation Capacity Resource, the resource's Maximum Facility Output (or, for a Co-Located Resource, the applicable share of the Mixed Technology Facility's Maximum Facility Output); (ii) for each Variable Resource and Combination Resource, that is an individual Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, the device's maximum energy production capability, as defined by the resource's state interconnection agreement; or (iii) for each Limited Duration Resource, the sustained level of output that the device can provide and maintain over a continuous period, whereby the duration of that continuous period matches the characteristic duration of the corresponding ELCC Class, with consideration given to ambient conditions expected to exist at the time of PJM system peak load, to the extent that such conditions impact such resource's capability, not to exceed the Maximum Facility Output (or, for a Co-Located Resource, the applicable share of the Mixed Technology Facility's Maximum Facility Output). For the 2025/2026 Delivery Year and subsequent Delivery Years, the Effective Nameplate Capacity of each Limited Duration Resource shall not exceed the greater of the Capacity Interconnection Rights of such Limited Duration Resource, or the transitional system capability as limited by the transitional resource MW ceiling as defined in the PJM Manuals, awarded for the applicable Delivery Year.

Effective UCAP:

"Effective UCAP" shall mean a unit of measure that represents the capacity product transacted in the Reliability Pricing Model and included in FRR Capacity Plans. One megawatt of Effective UCAP has the same capacity value of one megawatt of Unforced Capacity.

ELCC Class:

"ELCC Class" shall mean a defined group of ELCC Resources that share a common set of operational characteristics and for which effective load carrying capability analysis, as set forth in RAA, Schedules 9.1 and 9.2, will establish a unique ELCC Class UCAP and corresponding ELCC Class Rating(s). ELCC Classes shall be defined in the Schedules 9.1 and 9.2, section B of this Agreement. Members of an ELCC Class shall share a common method of calculating the ELCC Resource Performance Adjustment, provided that the individual ELCC Resource Performance Adjustment values will generally differ among ELCC Resources.

ELCC Class Rating:

"ELCC Class Rating" shall mean the rating factor, based on effective load carrying capability analysis, that applies to ELCC Resources that are members of an ELCC Class as part of the calculation of their Accredited UCAP.

ELCC Class UCAP:

"ELCC Class UCAP" shall mean the aggregate Effective UCAP all modeled ELCC Resources in a given ELCC Class are capable of providing in a given Delivery Year.

ELCC Portfolio UCAP:

"ELCC Portfolio UCAP" shall mean the aggregate Effective UCAP that all modeled ELCC Resources are capable of providing in a given Delivery Year.

ELCC Resource:

"ELCC Resource" shall mean a Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, a Generation Capacity Resource or a Demand Resource.

ELCC Resource Performance Adjustment:

"ELCC Resource Performance Adjustment" shall mean the performance of a specific ELCC Resource relative to the aggregate performance of the ELCC Class to which it belongs as further described in RAA, Schedule 9.1, section F and RAA, Schedule 9.2, section D.

Electric Cooperative:

"Electric Cooperative" shall mean an entity owned in cooperative form by its customers that is engaged in the generation, transmission, and/or distribution of electric energy.

Electric Distributor:

"Electric Distributor" shall mean a Member that 1) owns or leases with rights equivalent to ownership of electric distribution facilities that are used to provide electric distribution service to electric load within the PJM Region; or 2) is a generation and transmission cooperative or a joint municipal agency that has a member that owns electric distribution facilities used to provide electric distribution service to electric load within the PJM Region.

Emergency:

"Emergency" shall mean (i) an abnormal system condition requiring manual or automatic action to maintain system frequency, or to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; or (ii) a fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel; or (iii) a condition that requires implementation of emergency procedures as defined in the PJM Manuals.

End-Use Customer:

"End-Use Customer" shall mean a Member that is a retail end-user of electricity within the PJM Region. For purposes of Members Committee sector classification, a Member that is a retail end-user that owns generation may qualify as an End-Use customer if: (1) the average physical unforced capacity owned by the Member and its affiliates in the PJM region over the five Planning Periods immediately preceding the relevant Planning Period does not exceed the average PJM capacity obligation for the Member and its affiliates over the same time period; or (2) the average energy produced by the Member and its affiliates within the PJM region over the five Planning Periods immediately preceding the relevant Planning Period does not exceed the average energy consumed by that Member and its affiliates within the PJM region over the same time period. The foregoing notwithstanding, taking retail service may not be sufficient to qualify a Member as an End-Use Customer.

Energy Efficiency Resource:

"Energy Efficiency Resource" shall mean a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of RAA, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the periods described in Reliability Assurance Agreement, Schedule 6 and the PJM Manuals) reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention. Annual Energy Efficiency Resources, Base Capacity Energy Efficiency Resources and Summer-Period Energy Efficiency Resources are types of Energy Efficiency Resources.

Exigent Water Storage:

"Exigent Water Storage" shall mean water stored in the pondage or reservoir of a hydropower resource which is not typically available during normal operating conditions (as those conditions are described in the relevant FERC hydropower license), but which can be drawn upon during emergency conditions (as described in the FERC hydropower license), including in order to avoid a load shed. In an effective load carrying capability analysis, exigent storage capability from an upstream hydro facility can be considered relative to a downstream hydro facility by assessing cascading storage and flows.

Existing Demand Resource:

"Existing Demand Resource" shall mean a Demand Resource for which the Demand Resource Provider has identified existing end-use customer sites that are registered for the current Delivery Year with PJM (even if not registered by such Demand Resource Provider) and that the Demand Resource Provider reasonably expects to have under a contract to reduce load based on PJM dispatch instructions by the start of the Delivery Year for which such resource is offered.

Existing DER Capacity Aggregation Resource:

"Existing DER Capacity Aggregation Resource" shall mean a DER Capacity Aggregation Resource for which the DER Aggregator has identified existing Component DER that are registered in a DER Capacity Aggregation Resource for the current Delivery Year with PJM (even if not registered by such DER Aggregator) and that the DER Aggregator reasonably expects to have under a contract to generate or reduce load based on PJM dispatch instructions by the start of the Delivery Year for which such DER Capacity Aggregation Resource is offered.

Existing Generation Capacity Resource:

"Existing Generation Capacity Resource" shall mean, for purposes of the must-offer requirement and mitigation of offers for any RPM Auction for a Delivery Year, a Generation Capacity Resource that, as of the date on which bidding commences for such auction: (a) is in service; or (b) is not yet in service, but has cleared any RPM Auction for any prior Delivery Year. A Generation Capacity Resource shall be deemed to be in service if interconnection service has ever commenced (for resources located in the PJM Region), or if it is physically and electrically interconnected to an external Control Area and is in full commercial operation (for resources not located in the PJM Region). The additional megawatts of a Generation Capacity Resource that is being, or has been, modified to increase the number of megawatts of available installed capacity thereof shall not be deemed to be an Existing Generation Capacity Resource until such time as those megawatts (a) are in service; or (b) are not yet in service, but have cleared any RPM Auction for any prior Delivery Year.

Extended Summer Demand Resource:

"Extended Summer Demand Resource" shall mean, for Delivery Years through May 31, 2018, and for FRR Capacity Plans Delivery Years through May 31, 2019, a resource that is placed under the direction of the Office of the Interconnection and that will be available June through October and the following May, and will be available for an unlimited number of interruptions during such months by the Office of the Interconnection, and will be capable of maintaining each such interruption for at least a 10-hour duration between the hours of 10:00AM to 10:00PM Eastern Prevailing Time. The Extended Summer Demand Resource must be available June through October and the following May in the corresponding Delivery Year to be offered for sale or Self-Supplied in an RPM Auction, or included as an Extended Summer Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Facilities Study Agreement:

"Facilities Study Agreement" shall have the same meaning as in Tariff, Part VI, section 206.

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.

Firm Point-To-Point Transmission Service:

"Firm Point-To-Point Transmission Service" shall have the meaning specified in the Tariff.

Firm Service Level:

“Firm Service Level” or “FSL” of Price Responsive Demand shall mean the level, determined at a PRD Substation level, to which Price Responsive Demand shall be reduced during the Delivery Year when the Locational Marginal Price exceeds the price associated with such Price Responsive Demand identified by the PRD Provider in its PRD Plan. “Firm Service Level” or “FSL” of Demand Resource shall mean the pre-determined level to which an end-use customer’s load shall be reduced, upon notification from the Curtailment Service Provider’s market operations center or its agent.

Firm Transmission Service:

“Firm Transmission Service” shall mean transmission service that is intended to be available at all times to the maximum extent practicable, subject to an Emergency, an unanticipated failure of a facility, or other event beyond the control of the owner or operator of the facility or the Office of the Interconnection.

Fixed Resource Requirement Alternative or FRR Alternative:

“Fixed Resource Requirement Alternative” or “FRR Alternative” shall mean an alternative method for a Party to satisfy its obligation to provide Unforced Capacity hereunder, as set forth in the Reliability Assurance Agreement, Schedule 8.1.

Fixed-Tilt Solar Class:

“Fixed-Tilt Solar Class” shall mean an ELCC Class consisting of Variable Resources that produce electrical energy with solar panels that are primarily mounted in a fixed orientation.

Forecast Pool Requirement:

“Forecast Pool Requirement” or “FPR” shall mean the amount equal to one plus the unforced reserve margin (stated as a decimal number) for the PJM Region required pursuant to this Reliability Assurance Agreement, as approved by the PJM Board pursuant to Reliability Assurance Agreement, Schedule 4.1.

FRR Capacity Plan or FRR Plan:

“FRR Capacity Plan” or “FRR Plan” shall mean a long-term plan for the commitment of Capacity Resources and Price Responsive Demand to satisfy the capacity obligations of a Party that has elected the FRR Alternative, as more fully set forth in the Reliability Assurance Agreement, Schedule 8.1.

FRR Entity:

“FRR Entity” shall mean, for the duration of such election, a Party that has elected the FRR Alternative hereunder.

FRR Service Area:

"FRR Service Area" shall mean (a) the service territory of an IOU as recognized by state law, rule or order; (b) the service area of a Public Power Entity or Electric Cooperative as recognized by franchise or other state law, rule, or order; or (c) a separately identifiable geographic area that is: (i) bounded by wholesale metering, or similar appropriate multi-site aggregate metering, that is visible to, and regularly reported to, the Office of the Interconnection, or that is visible to, and regularly reported to an Electric Distributor and such Electric Distributor agrees to aggregate the load data from such meters for such FRR Service Area and regularly report such aggregated information, by FRR Service Area, to the Office of the Interconnection; and (ii) for which the FRR Entity has or assumes the obligation to provide capacity for all load (including load growth) within such area. In the event that the service obligations of an Electric Cooperative or Public Power Entity are not defined by geographic boundaries but by physical connections to a defined set of customers, the FRR Service Area in such circumstances shall be defined as all customers physically connected to transmission or distribution facilities of such Electric Cooperative or Public Power Entity within an area bounded by appropriate wholesale aggregate metering as described above.

Full Program Option:

"Full Program Option" shall mean participation in Emergency Load Response Program or Pre-Emergency Program which allows, pursuant to Tariff, Attachment DD and as applicable, (i) an energy payment for load reductions during a pre-emergency or emergency event, and (ii) a capacity payment for the ability to reduce load during a pre-emergency or emergency event.

Full Requirements Service:

"Full Requirements Service" shall mean wholesale service to supply all of the power needs of a Load Serving Entity to serve end-users within the PJM Region that are not satisfied by its own generating facilities.

Gas Combined Cycle Class:

"Gas Combined Cycle Class" shall mean an ELCC Class consisting of Unlimited Resources of the combined cycle technology type that is primarily fueled by natural gas, but does not meet the requirements to be included in the Gas Combined Cycle Dual Fuel Class.

Gas Combined Cycle Dual Fuel Class:

"Gas Combined Cycle Dual Fuel Class" shall mean an ELCC Class consisting of Unlimited Resources of the combined cycle technology type that is primarily fueled by natural gas, and that attests that it has the capability to start independently using onsite sources and operate independently on alternate onsite fuel source(s) up to its maximum capacity level during the winter season of the applicable Delivery Year in which it is providing capacity, and capable of operating on the alternate fuel for two 16-hour periods over two consecutive days at its maximum capacity level.

Gas Combustion Turbine Class:

“Gas Combustion Turbine Class” shall mean an ELCC Class consisting of Unlimited Resources of the combustion turbine technology type that is primarily fueled by natural gas, but does not meet the requirements to be included in the Gas Combustion Turbine Dual Fuel Class.

Gas Combustion Turbine Dual Fuel Class:

“Gas Combustion Turbine Dual Fuel Class” shall mean an ELCC Class consisting of Unlimited Resources of the combustion turbine technology type that is primarily fueled by natural gas, and attests that it has the capability to start independently using onsite sources and operate independently on alternate onsite fuel source(s) up to its maximum capacity level during the winter season of the applicable Delivery Year in which it is providing capacity, and capable of operating on the alternate fuel for two 16-hour periods over two consecutive days at its maximum capacity level.

Generation Capacity Resource:

“Generation Capacity Resource” shall mean a Generating Facility, or the contractual right to capacity from a specified Generating Facility, that meets the requirements of RAA, Schedule 9 and RAA, Schedule 10, and, for Generating Facilities that are committed to an FRR Capacity Plan, that meets the requirements of RAA, Schedule 8.1. A Generation Capacity Resource may be an Existing Generation Capacity Resource or a Planned Generation Capacity Resource.

Generation Owner:

“Generation Owner” shall mean a Member that owns or 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.

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 repairs on specific components of the facility, if removal of the facility qualifies as a maintenance outage pursuant to 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).

Hybrid Resource Class:

"Hybrid Resource Class" shall mean the ELCC Classes specified in RAA Schedules 9.1 and 9.2 Section B. Each Hybrid Resource Class has a specified combination of two components, whereby, absent being part of a Combination Resource, the individual components would be in a Capacity Storage Resource Class, a Variable Resource Class or would be an Unlimited Resource. A resource that is a member of a Hybrid Resource Class has a single Point Of Interconnection, unless the resource is controlled in an integrated fashion, is at a single site, and is approved by PJM to be considered a single resource in accordance with the PJM Manuals.

Hydropower With Non-Pumped Storage:

"Hydropower With Non-Pumped Storage" shall mean a hydropower facility that can capture and store incoming stream flow, without use of pumps, in pondage or a reservoir, and the Generation

Owner has the ability, within the constraints available in the applicable operating license, to exert material control over the quantity of stored water and output of the facility throughout an Operating Day.

Hydropower With Non-Pumped Storage Class:

"Hydropower With Non-Pumped Storage Class" shall mean an ELCC Class consisting of Combination Resources that are Hydropower With Non-Pumped Storage resources.

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, Accredited UCAP Factor decrease, 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.

Intermittent Hydropower Class:

"Intermittent Hydropower Class" shall mean an ELCC Class consisting of Variable Resources that are run-of-river hydropower generators that must generally pass incoming water and therefore cannot appreciably store water to later increase the output of the facility. Resources in the Intermittent Hydropower Class are not Hydropower with Non-Pumped Storage resources.

IOU:

"IOU" shall mean an investor-owned utility with substantial business interest in owning and/or operating electric facilities in any two or more of the following three asset categories: generation, transmission, distribution.

Intermittent Landfill Gas Class:

"Intermittent Landfill Gas Class" shall mean an ELCC Class consisting of Variable Resources fueled by landfill gas that, because of fuel availability patterns, cannot run consistently at installed capacity levels for 24 or more hours.

Large Load:

"Large Load" shall mean end-use customer(s) load that has a cumulative peak load of 50 megawatts or greater at a single electrical site behind one or more points of interconnection, where for configurations involving multiple affiliated load facilities or multiple points of interconnection with affiliated load facilities behind them, all affiliated load facilities within a one-mile radius will be considered a single electrical site as further described in the PJM Manuals.

Large Load Adjustment:

"Large Load Adjustment" shall mean any MW quantity of adjustments to summer peak load at the "zone/area" level and summed by Zone as further detailed in PJM Manuals. For purposes of this definition, a "zone/area" is an area within a Zone for which the relevant Electric Distributor specifies a separate Obligation Peak Load MW value. A zone/area is a service area of an Electric Distributor that is a separately identifiable, geographic area bounded by wholesale metering (e.g., the service territory of an operating company of a Transmission Owner).

Limited Demand Resource:

"Limited Demand Resource" shall mean, for Delivery Years through May 31, 2018, and for FRR Capacity Plans Delivery Years through May 31, 2019, a resource that is placed under the direction of the Office of the Interconnection and that will, at a minimum, be available for interruption for at least 10 Load Management Events during the summer period of June through September in the Delivery Year, and will be capable of maintaining each such interruption for at least a 6-hour duration. At a minimum, the Limited Demand Resource shall be available for such interruptions on weekdays, other than NERC holidays, from 12:00PM (noon) to 8:00PM Eastern Prevailing Time. The Limited Demand Resource must be available during the summer period of June through September in the corresponding Delivery Year to be offered for sale or Self-Supplied in an RPM Auction, or included as a Limited Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Limited Duration Resource:

"Limited Duration Resource" shall mean a Generation Capacity Resource or a generation Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, that is not a Variable Resource, that is not a Combination Resource, and that is not capable of running continuously at Maximum Facility Output for 24 hours or longer. A Capacity Storage Resource is a Limited Duration Resource.

Load Serving Entity or LSE:

"Load Serving Entity" or "LSE" shall mean any entity (or the duly designated agent of such an entity), including a load aggregator or power marketer, (i) serving end-users within the PJM Region, and (ii) that has been granted the authority or has an obligation pursuant to state or local law, regulation or franchise to sell electric energy to end-users located within the PJM Region. Load Serving Entity shall include any end-use customer that qualifies under state rules or a utility retail tariff to manage directly its own supply of electric power and energy and use of transmission and ancillary services.

Locational Reliability Charge:

"Locational Reliability Charge" shall mean the charge determined pursuant to RAA, Article 7, section 2.

Markets and Reliability Committee:

"Markets and Reliability Committee" shall mean the committee established pursuant to the Operating Agreement as a Standing Committee of the Members Committee.

Maximum Emergency Service Level:

"Maximum Emergency Service Level" or "MESL" of Price Responsive Demand for the 2017/2018 through the 2021/2022 Delivery Years shall mean the level, determined at a PRD Substation level, to which Price Responsive Demand shall be reduced during the Delivery Year when a Maximum Generation Emergency is declared and the Locational Marginal Price exceeds the price associated with such Price Responsive Demand identified by the PRD Provider in its PRD Plan.

Member:

"Member" shall have the meaning provided in the Operating Agreement.

Members Committee:

"Members Committee" shall mean the committee specified in Operating Agreement, section 8 composed of the representatives of all the Members.

NERC:

"NERC" shall mean the North American Electric Reliability Corporation or any successor thereto.

Network External Designated Transmission Service:

"Network External Designated Transmission Service" shall mean the quantity of network transmission service confirmed by PJM for use by a market participant to import power and energy from an identified Generation Capacity Resource located outside the PJM Region, upon demonstration by such market participant that it owns such Generation Capacity Resource, has an executed contract to purchase power and energy from such Generation Capacity Resource, or has a contract to purchase power and energy from such Generation Capacity Resource contingent upon securing firm transmission service from such resource.

Network Resources:

"Network Resources" shall have the meaning set forth in the PJM Tariff.

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.

Nominal PRD Value:

"Nominal PRD Value" shall mean, as to any PRD Provider, an adjustment, determined in accordance with Reliability Assurance Agreement, Schedule 6.1, to the peak-load forecast used to determine the quantity of capacity sought through an RPM Auction, reflecting the aggregate effect of Price Responsive Demand on peak load resulting from the Price Responsive Demand to be provided by such PRD Provider.

Nominated Demand Resource Value:

"Nominated Demand Resource Value" shall have the meaning specified in Tariff, Attachment DD.

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.

Nuclear Class:

"Nuclear Class" shall mean an ELCC Class consisting of Unlimited Resources primarily fueled by nuclear fuel.

Obligation Peak Load:

"Obligation Peak Load" shall have the meaning specified in Reliability Assurance Agreement, Schedule 8.

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.

Offshore Wind Class:

“Offshore Wind Class” shall mean an ELCC Class consisting of Variable Resources that produce electrical energy with offshore wind turbines located in the ocean.

Onshore Wind Class:

“Onshore Wind Class” shall mean an ELCC Class consisting of Variable Resources that produce electrical energy using wind turbines and that are not in the Offshore Wind Class.

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 that agreement, 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 have the same meaning as provided in the Operating Agreement.

Operating Reserve:

“Operating Reserve” shall mean the amount of generating capacity scheduled to be available for a specified period of an Operating Day to ensure the reliable operation of the PJM Region, as specified in the PJM Manuals.

Ordinary Water Storage:

“Ordinary Water Storage” shall mean water stored in the pondage or reservoir of a hydropower resource which is typically available during normal operating conditions pursuant to the FERC license governing the operation of the hydropower resource.

Other Limited Duration Class:

“Other Limited Duration Class” shall mean the ELCC Classes specified in RAA Schedules 9.1 and 9.2 section B of this Agreement, each of which has a specified characteristic duration and consists of Limited Duration Resources that are not Capacity Storage Resources. The characteristic duration of an Other Limited Duration Class is the maximum period of time represented in the ELCC model that the resources of the class can run at a stated capability.

Other Limited Duration Combination Class:

"Other Limited Duration Combination Class" shall mean the ELCC Classes specified in RAA Schedules 9.1 and 9.2 section B. Each Other Limited Duration Class has a specified combination of two components, whereby, absent being part of a Combination Resource, one component would be in an Other Limited Duration Class, and the other component would be in a Variable Resource Class or would be an Unlimited Resource. A resource that is a member of an Other Limited Duration Combination Class has a single Point Of Interconnection, unless the resource is controlled in an integrated fashion, is at a single site, and is approved by PJM to be considered a single resource in accordance with the PJM Manuals.

Other Supplier:

"Other Supplier" shall mean a Member that: (i) is engaged in buying, selling or transmitting electric energy, capacity, ancillary services, Financial Transmission Rights or other services available under PJM's governing documents in or through the Interconnection or has a good faith intent to do so, and (ii) is not a Generation Owner, Electric Distributor, Transmission Owner or End-Use Customer.

Other Unlimited Resource Class:

"Other Unlimited Resource Class" shall mean an ELCC Class consisting of Unlimited Resources that do not qualify for any other ELCC Class specified in RAA Schedule 9.2, section D.

Other Variable Resource Class:

"Other Variable Resource Class" shall mean an ELCC Class consisting of Variable Resources that are not in any other Variable Resource class, including Variable Resources that are composed of multiple components, each of which would be a Variable Resource. A resource composed of both fixed-tilt solar panels and tracking solar panels is not in this class. A resource that is a member of a Other Variable Resource Class has a single Point Of Interconnection, unless the resource is controlled in an integrated fashion, is at a single site, and is approved by PJM to be considered a single resource in accordance with the PJM Manuals.

Partial Requirements Service:

"Partial Requirements Service" shall mean wholesale service to supply a specified portion, but not all, of the power needs of a Load Serving Entity to serve end-users within the PJM Region that are not satisfied by its own generating facilities.

Party:

"Party" shall mean an entity bound by the terms of the Operating Agreement.

Peak Shaving Adjustment:

"Peak Shaving Adjustment" shall mean a load forecast mechanism that allows load reductions by end-use customers to result in a downward adjustment of the summer load forecast for the associated Zone. Any End-Use Customer identified in an approved peak shaving plan shall not also participate in PJM Markets as Price Responsive Demand, Demand Resource, Base Capacity Demand Resource, Capacity Performance Demand Resource, or Economic Load Response Participant.

Percentage Internal Resources Required:

"Percentage Internal Resources Required" shall mean, for purposes of an FRR Capacity Plan, the percentage of the LDA Reliability Requirement for an LDA that must be satisfied with Capacity Resources located in such LDA.

Performance Assessment Interval:

"Performance Assessment Interval" shall have the meaning specified in Tariff, Attachment DD.

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 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 Governing Agreements:

"PJM Governing Agreements" shall have the meaning provided in the Operating Agreement.

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.

PJM Region:

"PJM Region" shall have the same meaning as provided in the Operating Agreement.

PJM Region Installed Reserve Margin:

"PJM Region Installed Reserve Margin" shall mean the percent installed reserve margin for the PJM Region required pursuant to Reliability Assurance Agreement, Schedule 4.1, as approved by the PJM Board.

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.

Planned Demand Resource:

"Planned Demand Resource" shall mean any Demand Resource that does not currently have the capability to provide a reduction in demand or to otherwise control load, but that is scheduled to be capable of providing such reduction or control on or before the start of the Delivery Year for which such resource is to be committed, as determined in accordance with the requirements of Reliability Assurance Agreement, Schedule 6. As set forth in Reliability Assurance Agreement, Schedule 6 and Reliability Assurance Agreement, Schedule 8.1, a Demand Resource Provider submitting a DR Sell Offer Plan shall identify as Planned Demand Resources in such plan all Demand Resources in excess of those that qualify as Existing Demand Resources.

Planned DER Capacity Aggregation Resource:

A "Planned DER Capacity Aggregation Resource" shall mean any DER Capacity Aggregation Resource that does not currently have the capability to provide generation or reduction in demand, but that is scheduled to be capable of providing such generation or reduction in demand on or before the start of the Delivery Year for which such resource is to be committed, as determined in accordance with the requirements of Reliability Assurance Agreement, Schedule 6.2. As set forth in Reliability Assurance Agreement, Schedule 6.2 and Reliability Assurance Agreement, Schedule 8.1, a DER Aggregator submitting a DER Capacity Aggregation Resource Sell Offer Plan shall identify in such plan all DER Capacity Aggregation Resources in excess of those that qualify as Existing DER Capacity Aggregation Resources. A Planned DER Capacity Aggregation Resource must comply with all provisions of the DER Aggregator Participation Model described in Tariff, Attachment K-Appendix, section 1.4B and Operating Agreement, Schedule 1, section 1.4B, prior to the applicable Delivery Year.

Planned External Generation Capacity Resource:

"Planned External Generation Capacity Resource" shall mean a proposed Generation Capacity Resource, or a proposed increase in the capability of a Generation Capacity Resource, that (a) is to be located outside the PJM Region, (b) participates in the generation interconnection process of a Control Area external to PJM, (c) is scheduled to be physically and electrically interconnected to the transmission facilities of such Control Area on or before the first day of the

Delivery Year for which such resource is to be committed to satisfy the reliability requirements of the PJM Region, and (d) is in full commercial operation prior to the first day of such Delivery Year, such that it is sufficient to provide the Installed Capacity set forth in the Sell Offer forming the basis of such resource's commitment to the PJM Region. Prior to participation in any Base Residual Auction for such Delivery Year, the Capacity Market Seller must demonstrate that it has documentation which is functionally equivalent to an approved Decision Point I submission under the PJM Tariff Part VII or VIII as applicable or, for resources which are greater than 20MWs participating in a Base Residual Auction for the 2019/2020 Delivery Year and subsequent Delivery Years, an agreement or other documentation which is functionally equivalent to an approved Decision Point II submission under the PJM Tariff Part VII or VIII as applicable, with the transmission owner to whose transmission facilities or distribution facilities the resource is being directly connected, and, as applicable, the transmission provider. Prior to participating in any Incremental Auction for such Delivery Year, the Capacity Market Seller must demonstrate it has entered into an interconnection agreement, or such other documentation that is functionally equivalent to a Generation Interconnection Agreement under the PJM Tariff, with the transmission owner to whose transmission facilities or distribution facilities the resource is being directly connected, and, as applicable, the transmission provider. A Planned External Generation Capacity Resource must provide evidence to PJM that it has been studied as a Network Resource, or such other similar interconnection product in such external Control Area, must provide contractual evidence that it has applied for or purchased transmission service to be deliverable to the PJM border, and must provide contractual evidence that it has applied for transmission service to be deliverable to the bus at which energy is to delivered, the agreements for which must have been executed prior to participation in any Reliability Pricing Model Auction for such Delivery Year. Any such resource shall cease to be considered a Planned External Generation Capacity Resource as of the earlier of (i) the date that interconnection service commences as to such resource; or (ii) the resource has cleared an RPM Auction, in which case it shall become an Existing Generation Capacity Resource for purposes of the mitigation of offers for any RPM Auction for all subsequent Delivery Years.

Planned Generation Capacity Resource:

"Planned Generation Capacity Resource" shall mean a Generation Capacity Resource, or additional megawatts to increase the size of a Generation Capacity Resource that is being or has been modified to increase the number of megawatts of available installed capacity thereof, participating in the generation interconnection process under Tariff, Part IV, Subpart A, Part VII or Part VIII, as applicable, for which: (i) Interconnection Service is scheduled to commence on or before the first day of the Delivery Year for which such resource is to be committed to RPM or to an FRR Capacity Plan; (ii) for any such resource seeking to offer into a Base Residual Auction, or for any such resource of 20 MWs or less seeking to offer into a Base Residual Auction, all the requirements for an approved Decision Point I submission have been met under Tariff Part VII or VIII (or, for resources for which a Decision Point I submission is not required, has such other agreement or documentation that is functionally equivalent to a an approved Decision Point I submission) prior to the Base Residual Auction for such Delivery Year; (iii) for any such resource of more than 20 MWs seeking to offer into a Base Residual Auction for the 2019/2020 Delivery Year and subsequent Delivery Years, all the requirements for an approved Decision Point II submission have been met under Tariff Part VII or VIII (or, for resources for which a Decision Point II submission is not required, has such other agreement or documentation that is functionally equivalent to an approved Decision Point II submission) has been executed prior to the Base Residual Auction for such Delivery Year; and (iv) a Generation Interconnection Agreement or Wholesale Market Participation Agreement has been executed prior to any Incremental Auction for such Delivery Year in which such resource plans to participate. For purposes of the must-offer requirement and mitigation of offers for any RPM Auction for a Delivery Year, a Generation Capacity Resource shall cease to be considered a Planned Generation Capacity Resource as of the earlier of (i) the date that Interconnection Service commences as to such resource; or (ii) the resource has cleared an RPM Auction for any Delivery Year, in which case it shall become an Existing Generation Capacity Resource for any RPM Auction for all subsequent Delivery Years.

Planning Period:

"Planning Period" shall mean the 12 months beginning June 1 and extending through May 31 of the following year, or such other period approved by the Members Committee.

Portfolio Expected Unserved Energy:

"Portfolio Expected Unserved Energy" shall mean the annual amount of expected unserved energy, in MWh, that is expected for the RTO when at the annual reliability criteria that provides an acceptable level of reliability consistent with the Reliability Principles and Standards.

PRD Curve:

"PRD Curve" shall mean a price-consumption curve at a PRD Substation level, if available, and otherwise at a Zonal (or sub-Zonal LDA, if applicable) level, that details the base consumption level of Price Responsive Demand and the decreasing consumption levels at increasing prices.

PRD Provider:

"PRD Provider" shall mean a PJM Member that has entered contractual arrangements with end-use customers that satisfy the eligibility criteria for and provides Price Responsive Demand.

PRD Provider's Zonal Expected Peak Load Value of PRD:

"PRD Provider's Zonal Expected Peak Load Value of PRD" shall mean the expected contribution to Delivery Year peak load of a PRD Provider's Price Responsive Demand, were such demand not to be reduced in response to price, based on the contribution of the end-use customers comprising such Price Responsive Demand to the most recent prior Delivery Year's peak demand, escalated to the Delivery Year in question, as determined in a manner consistent with the Office of the Interconnection's load forecasts used for purposes of the RPM Auctions.

PRD Reservation Price:

“PRD Reservation Price” shall mean an RPM Auction clearing price identified in a PRD Plan for Price Responsive Demand load below which the PRD Provider desires not to commit the identified load as Price Responsive Demand.

PRD Substation:

“PRD Substation” shall mean an electrical substation that is located in the same Zone or in the same sub-Zonal LDA as the end-use customers identified in a PRD Plan or PRD registration and that, in terms of the electrical topography of the Transmission Facilities comprising the PJM Region, is as close as practicable to such loads**.**

Price Responsive Demand:

“Price Responsive Demand” or “PRD” shall mean end-use customer load registered by a PRD Provider pursuant to Reliability Assurance Agreement, Schedule 6.1 that have, as set forth in more detail in the PJM Manuals, the metering capability to record electricity consumption at an interval of one hour or less, Supervisory Control capable of curtailing such load (consistent with applicable RERRA requirements) at each PRD Substation identified in the relevant PRD Plan or PRD registration in response to a Performance Assessment Interval that triggers a PRD performance assessment or a Non-PAI Event, and a retail rate structure, or equivalent contractual arrangement, capable of changing retail rates as frequently as an hourly basis, that is linked to or based upon changes in real-time Locational Marginal Prices at a PRD Substation level and that results in a predictable automated response to varying wholesale electricity prices.

Price Responsive Demand Credit:

“Price Responsive Demand Credit” shall mean a credit, based on committed Price Responsive Demand, as determined under Reliability Assurance Agreement, Schedule 6.1.

Price Responsive Demand Plan or PRD Plan:

“Price Responsive Demand Plan” or “PRD Plan” shall mean a plan, submitted by a PRD Provider and received by the Office of the Interconnection in accordance with Reliability Assurance Agreement, Schedule 6.1 and procedures specified in the PJM Manuals, claiming a peak demand limitation due to Price Responsive Demand to support the determination of such PRD Provider’s Nominal PRD Value.

Public Power Entity:

“Public Power Entity” shall mean any agency, authority, or instrumentality of a state or of a political subdivision of a state, or any corporation wholly owned by any one or more of the foregoing, that is engaged in the generation, transmission, and/or distribution of electric energy.

Qualifying Transmission Upgrades:

“Qualifying Transmission Upgrades” shall have the meaning specified in Tariff, Attachment DD.

Relevant Electric Retail Regulatory Authority:

"Relevant Electric Retail Regulatory Authority" or "RERRA" shall have the meaning specified in the PJM Operating Agreement.

Reliability Principles and Standards:

"Reliability Principles and Standards" shall mean the principles and standards established by the Office of the Interconnection that define, among other things, an acceptable probabilistic of loss of load criteria due to inadequate generation or transmission capability, as amended from time to time.

Required Approvals:

"Required Approvals" shall mean all of the approvals required for the Operating Agreement to be modified or to be terminated, in whole or in part, including the acceptance for filing by FERC and every other regulatory authority with jurisdiction over all or any part of the Operating Agreement.

Self-Supply:

"Self-Supply" shall have the meaning provided in Tariff, Attachment DD.

Small Commercial Customer:

"Small Commercial Customer" shall have the same meaning as in the PJM Tariff.

State Consumer Advocate:

"State Consumer Advocate" shall mean a legislatively created office from any State, all or any part of the territory of which is within the PJM Region, and the District of Columbia established, inter alia, for the purpose of representing the interests of energy consumers before the utility regulatory commissions of such states and the District of Columbia and the FERC.

State Regulatory Structural Change:

"State Regulatory Structural Change" shall mean as to any Party, a state law, rule, or order that, after September 30, 2006, initiates a program that allows retail electric consumers served by such Party to choose from among alternative suppliers on a competitive basis, terminates such a program, expands such a program to include classes of customers or localities served by such Party that were not previously permitted to participate in such a program, or that modifies retail electric market structure or market design rules in a manner that materially increases the likelihood that a substantial proportion of the customers of such Party that are eligible for retail choice under such a program (a) that have not exercised such choice will exercise such choice; or (b) that have exercised such choice will no longer exercise such choice, including for example, without limitation, mandating divestiture of utility-owned generation or structural changes to such Party's default service rules that materially affect whether retail choice is economically viable.

Steam Class:

"Steam Class" shall mean an ELCC Class consisting of Unlimited Resources of the steam technology type and the primary fuel is not coal or nuclear.

Summer-Period Demand Resource:

Summer-Period Demand Resource shall mean, for the 2020/2021 Delivery Year and subsequent Delivery Years, a resource that is placed under the direction of the Office of the Interconnection, and will be available June through October and the following May of the Delivery Year, and will be available for an unlimited number of interruptions during such months by the Office of the Interconnection, and will be capable of maintaining each such interruption between the hours of 10:00AM to 10:00PM Eastern Prevailing Time. The Summer-Period Demand Resource must be available June through October and the following May in the corresponding Delivery Year to be offered for sale in an RPM Auction, or included as a Summer-Period Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Summer-Period Energy Efficiency Resource:

Summer-Period Energy Efficiency Resource shall mean, for the 2020/2021 Delivery Year and subsequent Delivery Years, a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of Reliability Assurance Agreement, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the summer peak periods as described in Reliability Assurance Agreement, Schedule 6 and the PJM Manuals) reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the Summer-Period Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention.

Supervisory Control:

"Supervisory Control" shall mean the capability to curtail, in accordance with applicable RERRA requirements, load registered as Price Responsive Demand at each PRD Substation identified in the relevant PRD Plan or PRD registration in response to a Maximum Generation Emergency declared by the Office of the Interconnection. Except to the extent automation is not required by the provisions of the Operating Agreement, the curtailment shall be automated, meaning that load shall be reduced automatically in response to control signals sent by the PRD Provider or its designated agent directly to the control equipment where the load is located without the requirement for any action by the end-use customer.

Threshold Quantity:

"Threshold Quantity" shall mean, as to any FRR Entity for any Delivery Year, the sum of (a) the Unforced Capacity equivalent (determined using the Pool-Wide Average EFORD through the 2024/2025 Delivery Year, or pool-wide average Accredited UCAP Factor effective with the 2025/2026 Delivery Year) of the Installed Reserve Margin for such Delivery Year multiplied by the Preliminary Forecast Peak Load for which such FRR Entity is responsible under its FRR Capacity Plan for such Delivery Year, plus (b) the lesser of (i) 3% of the Unforced Capacity amount determined in (a) above or (ii) 450 MW. If the FRR Entity is not responsible for all load within a Zone, the Preliminary Forecast Peak Load for such entity shall be determined in accordance with Reliability Assurance Agreement, Schedule 8.1, section D.2.

Tracking Solar Class:

"Tracking Solar Class" shall mean an ELCC Class consisting of Variable Resources that produce electrical energy with solar panels that are primarily mounted on trackers that align the panels with incoming sunlight over the course of the day.

Transmission Facilities:

"Transmission Facilities" shall mean facilities that: (i) are within the PJM Region; (ii) 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; and (iii) have been demonstrated to the satisfaction of the Office of the Interconnection to be integrated with the PJM Region transmission system and integrated into the planning and operation of the PJM Region to serve all of the power and transmission customers within the PJM Region.

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.

Unforced Capacity:

"Unforced Capacity" shall mean installed capacity rated at summer conditions that is not on average experiencing a forced outage or forced derating, calculated for each Capacity Resource on the 12-month period from October to September without regard to the ownership of or the contractual rights to the capacity of the unit.

Unlimited Resource:

"Unlimited Resource" shall mean a generating unit having the ability to maintain output at a stated capability continuously on a daily basis without interruption. Through the 2024/2025 Delivery Year, an Unlimited Resource is a Generation Capacity Resource that is not an ELCC Resource.

Variable Resource:

"Variable Resource" shall mean a Generation Capacity Resource or a generation Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, with output that can vary as a function of its energy source, such as wind, solar, run of river hydroelectric power without storage, and landfill gas units without an alternate fuel source. All Intermittent Resources are Variable Resources, with the exception of Hydropower with Non-Pumped Storage.

Winter Peak Load (or WPL):

"Winter Peak Load" or "WPL" shall mean the average of the Demand Resource customer's specific peak hourly load between hours ending 7:00 EPT through 21:00 EPT on the PJM defined 5 coincident peak days from December through February two Delivery Years prior the Delivery Year for which the registration is submitted. Notwithstanding, if the average use between hours ending 7:00 EPT through 21:00 EPT on a winter 5 coincident peak day is below 35% of the average hours ending 7:00 EPT through 21:00 EPT over all five of such peak days, then up to two such days and corresponding peak demand values may be excluded from the calculation. Upon approval by the Office of the Interconnection, a Curtailment Service Provider may provide alternative data to calculate Winter Peak Load, as outlined in the PJM Manuals, when there is insufficient hourly load data for the two Delivery Years prior to the relevant Delivery Year or if more than two days meet the exclusion criteria described above.

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 refer to 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.

Zonal Winter Weather Adjustment Factor (ZWWAF):

"Zonal Winter Weather Adjustment Factor" or "ZWWAF" shall mean the PJM zonal winter weather normalized coincident peak divided by PJM zonal average of 5 coincident peak loads in December through February.

7.8 Requirement to Designate Network Resources to Serve Capacity Needs for New Large Loads and Conditional Requirement to Provide Interim Resource Adequacy Service

Effective June 1, 2027, each LSE that desires to provide Network Transmission Service to support New Large Loads must designate one or more Generation Capacity Resources or Capacity Storage Resources that had not cleared an RPM Auction as Network Resource(s) in a cumulative amount that equals or exceeds the LSE's New Large Load's peak load (in MW) as reported in the Large Load Registry pursuant to RAA, Schedule 11 or such New Large Load may be subject to load reduction requests during Emergencies prior to Pre-Emergency Load Management Response. If, on June 1, 2027, an LSE has not so designated such Network Resource(s) as BYONC with which it has entered into an arrangement in accordance with this requirement and Tariff, Attachment DD-4, then the amount of New Large Load that is the difference between its reported peak load and its designated Bring Your Own New Capacity and assigned Allocated RBP UCAP MW will be subject to the rates, terms, and conditions of Interim Resource Adequacy Service, as set forth in Tariff, Attachment DD-4.

D. FRR Capacity Plans

1. Each FRR Entity shall submit its initial FRR Capacity Plan as required by subsection C.1 of this Schedule, and shall annually extend and update such plan by no later than one month prior to the Base Residual Auction for each succeeding Delivery Year in such plan. Each FRR Capacity Plan shall indicate the nature and current status of each resource, including the status of each Planned Generation Capacity Resource or Planned Demand Resource, the planned deactivation or retirement of any Generation Capacity Resource or Demand Resource, and the status of commitments for each sale or purchase of capacity included in such plan.

1.1 Beginning with the 2020/2021 Delivery Year and for all subsequent Delivery Years, the FRR Capacity Plan shall comprise only Capacity Performance Resources and Seasonal Capacity Performance Resources. An FRR Entity may not include in its FRR Capacity Plan any MW quantity of Existing Generation Capacity Resource in excess of what such FRR Entity owned or contracted by such FRR Entity prior to June 1, 2027, to serve New Large Load.

2. The FRR Capacity Plan of each FRR Entity that commits that it will not sell surplus Capacity Resources as a Capacity Market Seller in any auction conducted under Attachment DD of the PJM Tariff, or to any direct or indirect purchaser that uses such resource as the basis of any Sell Offer in such auction, shall designate Capacity Resources in a megawatt quantity no less than the Forecast Pool Requirement for each applicable Delivery Year times the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast for such Delivery Year, as determined in accordance with procedures set forth in the PJM Manuals. If the FRR Entity is not responsible for all load within a Zone, the Preliminary Forecast Peak Load for such entity shall be the Base Zonal FRR Scaling Factor times the summation of the FRR Entity's MW share of the Zonal Weather Normalized Summer Peak last determined prior to the Base Residual Auction for such Delivery Year plus the Obligation Peak Load MW associated with any Load Adjustment specified for such Delivery Year for any "zone/area" served by the FRR Entity's Capacity Plan. The Obligation Peak Load MW associated with a Load Adjustment specified for a "zonal/area" is determined as set forth in RAA, Schedule 8, section B.

The FRR Capacity Plan of each FRR Entity that does not commit that it will not sell surplus Capacity Resources as set forth above shall designate Capacity Resources at least equal to the Threshold Quantity. To the extent the FRR Entity's allocated share of the Final Zonal Peak Load Forecast exceeds the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast, such FRR Entity's FRR Capacity Plan shall be updated to designate additional Capacity Resources in an amount no less than the Forecast Pool Requirement times such increase; provided, however, any excess megawatts of Capacity Resources included in such FRR Entity's previously designated Threshold Quantity, if any, may be used to satisfy the capacity obligation for such increased load. To the extent the FRR Entity's allocated share of the Final Zonal Peak Load Forecast is less than the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast, such FRR Entity's FRR Capacity Plan may be updated to release previously designated Capacity Resources in an amount no greater than the Forecast Pool Requirement times such decrease. Peak load values referenced in this section shall be adjusted as necessary to take into account any applicable Nominal PRD Values approved pursuant to Schedule 6.1 of this Agreement. Any FRR Entity seeking an adjustment to peak load for Price Responsive Demand must submit a separate PRD Plan in compliance with Section 6.1 (provided that the FRR Entity shall not specify any PRD Reservation Price), and shall register all PRD-eligible load needed to satisfy its PRD commitment and be subject to compliance charges as set forth in that Schedule under the circumstances specified therein; provided that for non-compliance by an FRR Entity, the compliance charge rate shall be equal to 1.20 times the Capacity Resource Clearing Price resulting from all RPM Auctions for such Delivery Year for the LDA encompassing the FRR Entity's Zone, weight-averaged for the Delivery Year based on the prices established and quantities cleared in the RPM auctions for such Delivery Year; and provided further that an alternative PRD Provider may provide PRD in an FRR Service Area by agreement with the FRR Entity responsible for the load in such FRR Service Area, subject to the same terms and conditions as if the FRR Entity had provided the PRD.

3. As to any FRR Entity, the Base Zonal FRR Scaling Factor for each Zone in which it serves load for a Delivery Year shall equal [(ZPLDY-ZLA) / ZWNSP], where:

ZPLDY = Preliminary Zonal Peak Load Forecast for such Zone for such Delivery Year;

ZLA = the Zonal MW quantity of Load Adjustment for such Delivery Year; and

ZWNSP = Zonal Weather-Normalized Summer Peak Load for such Zone for the summer concluding four years prior to the commencement of such Delivery Year.

4. Capacity Resources identified and committed in an FRR Capacity Plan shall meet all requirements under this Agreement, the PJM Tariff, and the PJM Operating Agreement applicable to Capacity Resources, including, as applicable, requirements and milestones for Planned Generation Capacity Resources and Planned Demand Resources. A Capacity Resource submitted in an FRR Capacity Plan must be on a unit-specific basis, and may not include "slice of system" or similar agreements that are not unit specific. An FRR Capacity Plan may include bilateral transactions that commit capacity for less than a full Delivery Year only if the resources included in such plan in the aggregate satisfy all obligations for all Delivery Years. All demand response, load management, energy efficiency, or similar programs on which such FRR Entity intends to rely for a Delivery Year must be included in the FRR Capacity Plan, subject to applicable demand resource constraints for the relevant Delivery Year, submitted three years in advance of such Delivery Year and must satisfy all requirements applicable to Demand Resources or Energy Efficiency Resources, as applicable, including, without limitation, those set forth in Schedule 6 to this Agreement and the PJM Manuals; provided, however, that previously uncommitted Unforced Capacity from such programs may be used to satisfy any increased capacity obligation for such FRR Entity resulting from a Final Zonal Peak Load Forecast applicable to such FRR Entity. Without limiting the generality of the foregoing, the FRR Entity must submit a Demand Resource Sell Offer Plan 15 business days before the deadline for submitting an FRR Capacity Plan as to any Demand Resources it intends to include in such FRR Capacity Plan and may only include in such FRR Capacity Plan Demand Resources that are approved by PJM following review of such Demand Resource Sell Offer Plan. The requirements, standards, and procedures for a Demand Resource Sell Offer Plan shall be as set forth in Schedule 6 of this Agreement, provided that all references (including deadlines) in Schedule 6, section A-1 to submission or clearing of a Demand Resource offer in an RPM

Auction shall be understood for purposes of FRR Entities as referring to inclusion of a Demand Resource in an FRR Capacity Plan, and a distinct Demand Resource Officer Certification Form shall be applicable to FRR Entities, as shown in the PJM Manuals and provided on the PJM website.

5. For each LDA for which the Office of the Interconnection is required to establish a separate Variable Resource Requirement Curve for any Delivery Year addressed by such FRR Capacity Plan, the plan must include a Percentage Internal Resources Required, subject to subsections D.1.1 and D.2 of this Schedule. The Percentage Internal Resources Required will be calculated as the LDA Reliability Requirement less the CETL for the Delivery Year, as determined by the RTEP process as set forth in the PJM Manuals. Such requirement shall be expressed as a percentage of the Unforced Capacity Obligation based on the Preliminary Zonal Peak Load Forecast multiplied by the Forecast Pool Requirement. Notwithstanding the provisions of Sections C.1 and C.2 of this Schedule 8.1, an FRR Entity may terminate its election of the FRR Alternative prior to meeting its minimum five year commitment without penalty for any Delivery Year after the first Delivery Year of its minimum five year FRR commitment for which the Office of the Interconnection will be required to establish a separate Variable Resource Requirement Curve by giving written notice two months prior to the Base Residual Auction for the Delivery Year. The Office of the Interconnection shall be deemed to be required to establish a separate Variable Resource Requirement Curve for an LDA if the LDA is the Eastern Mid-Atlantic Region ("EMAR"), Southwest Mid-Atlantic Region ("SWMAR"), or Mid-Atlantic Region ("MAR"), or for other LDAs if the separate modeling is required by Section 5.10(a)(ii)(A) or (B) of Attachment DD of the Tariff.

6. An FRR Entity may reduce the Percentage Internal Resources Required as to any LDA to the extent the FRR Entity commits to a transmission upgrade that increases the CETL for such LDA. Any such transmission upgrade shall adhere to all requirements for a Qualified Transmission Upgrade as set forth in Attachment DD to the PJM Tariff. The increase in CETL used in the FRR Capacity Plan shall be that approved by PJM prior to inclusion of any such upgrade in an FRR Capacity Plan. The FRR Entity shall designate specific additional Capacity Resources located in the LDA from which the CETL was increased, to the extent of such increase.

7. The Office of the Interconnection will review the adequacy of all submittals hereunder both as to timing and content. A Party that seeks to elect the FRR Alternative that submits an FRR Capacity Plan which, upon review by the Office of the Interconnection, is determined not to satisfy such Party's capacity obligations hereunder, shall not be permitted to elect the FRR Alternative. If a previously approved FRR Entity submits an FRR Capacity Plan that, upon review by the Office of the Interconnection, is determined not to satisfy such Party's capacity obligations hereunder, the Office of the Interconnection shall notify the FRR Entity, in writing, of the insufficiency within five (5) business days *after* the submittal *deadline* of the FRR Capacity Plan. Through the 2024/2025 Delivery Year, if the FRR Entity does not cure such insufficiency within five (5) business days after receiving such notice of insufficiency, then such FRR Entity shall be assessed an FRR Commitment Insufficiency Charge, in an amount equal to two times the Cost of New Entry for the relevant location, in $/MW-day, times the shortfall of

Capacity Resources below the FRR Entity's capacity obligation (including any Threshold Quantity requirement) in such FRR Capacity Plan, for the remaining term of such plan. For Delivery Years between the 2025/2026 Delivery Year through the 2028/2029 Delivery Year, no FRR Commitment Insufficiency Charge shall be assessed. Effective with the 2029/2030 Delivery Year and subsequent Delivery Years, if the FRR Entity does not cure such insufficiency within five (5) business days after receiving such notice of insufficiency, then such FRR Entity shall be assessed an FRR Commitment Insufficiency Charge, in an amount equal to the price level corresponding to point (1) of the Variable Resource Requirement curve, as provided in Tariff, Attachment DD, section 5.10(a)(i), for the relevant Locational Deliverability Area, in $/MW-day, times the shortfall of Capacity Resources below the FRR Entity's capacity obligation (including any Threshold Quantity requirement) in such FRR Capacity Plan, for such Delivery Year.

8. In a state regulatory jurisdiction that has implemented retail choice, the FRR Entity must include in its FRR Capacity Plan all load, including expected load growth, in the FRR Service Area, notwithstanding the loss of any such load to or among alternative retail LSEs. In the case of load reflected in the FRR Capacity Plan that switches to an alternative retail LSE, where the state regulatory jurisdiction requires switching customers or the LSE to compensate the FRR Entity for its FRR capacity obligations, such state compensation mechanism will prevail. In the absence of a state compensation mechanism, the applicable alternative retail LSE shall compensate the FRR Entity at the capacity price in the unconstrained portions of the PJM Region, as determined in accordance with Attachment DD to the PJM Tariff, provided that the FRR Entity may, at any time, make a filing with FERC under Sections 205 of the Federal Power Act proposing to change the basis for compensation to a method based on the FRR Entity's cost or such other basis shown to be just and reasonable, and a retail LSE may at any time exercise its rights under Section 206 of the FPA.

9. Notwithstanding the foregoing, in lieu of providing the compensation described above, such alternative retail LSE may, for any Delivery Year subsequent to those addressed in the FRR Entity's then-current FRR Capacity Plan, provide to the FRR Entity Capacity Resources sufficient to meet the capacity obligation described in paragraph D.2 for the switched load. Such Capacity Resources shall meet all requirements applicable to Capacity Resources pursuant to this Agreement, the PJM Tariff, and the PJM Operating Agreement, all requirements applicable to resources committed to an FRR Capacity Plan under this Agreement, and shall be committed to service to the switched load under the FRR Capacity Plan of such FRR Entity. The alternative retail LSE shall provide the FRR Entity all information needed to fulfill these requirements and permit the resource to be included in the FRR Capacity Plan. The alternative retail LSE, rather than the FRR Entity, shall be responsible for any performance charges or compliance penalties related to the performance of the resources committed by such LSE to the switched load. For any Delivery Year, or portion thereof, the foregoing obligations apply to the alternative retail LSE serving the load during such time period. PJM shall manage the transfer accounting associated with such compensation and shall administer the collection and payment of amounts pursuant to the compensation mechanism.

Such load shall remain under the FRR Capacity Plan until the effective date of any termination of the FRR Alternative and, for such period, shall not be subject to Locational Reliability Charges under Section 7.2 of this Agreement.

SCHEDULE 11

DATA SUBMITTALS

A. To perform the studies required to determine the Forecast Pool Requirement and Daily Unforced Capacity Obligations under this Agreement and to determine compliance with the obligations imposed by this Agreement, each Party and other owner of a Capacity Resource shall submit data to the Office of the Interconnection in conformance with the following minimum requirements:

1. All data submitted shall satisfy the requirements, as they may change from time to time, of any procedures adopted by the Members Committee.

2. Data shall be submitted in an electronic format, or as otherwise specified by the Markets and Reliability Committee and approved by the PJM Board.

3. Actual outage data for each month for Generator Forced Outages, Generator Maintenance Outages and Generator Planned Outages shall be submitted so that it is received by such date specified in the PJM Manuals.

4. On or before the date specified in the PJM Manuals, planned and maintenance outage data for all Generation Resources shall be submitted.

The Parties acknowledge that additional information required to determine the Forecast Pool Requirement is to be obtained by the Office of the Interconnection from Electric Distributors in accordance with the provisions of the Operating Agreement.

B. 1. (a) Each Party shall submit, or cause to be submitted, to the Office of the Interconnection the following information, as may be further described in the PJM Manuals, related to each Large Load served by the Party:

- Eligible Customer/Network Customer for Large Load;
- Description of Large Load;
- Location(s) (Control Zone, Electric Distributor zone/area, where a zone/area is an area within a Zone for which the relevant Electric Distributor specifies a separate Obligation Peak Load MW value. A zone/area is a service area of an Electric Distributor that is a separately identifiable, geographic area bounded by wholesale metering);

- In-service date for each increment of load;
- Peak shaving adjustment value pursuant to a state program codified in state law and whether and how it meets the requirements of Tariff, Attachment DD-2;
- Delivery point / Point(s) of interconnection (include all if more than one);
- Peak load quantity (MW) and ramp schedule, if applicable;
- Telemetry specifications;
- BYONC quantity (MW) and ramp schedule, if applicable;
- Allocated RBP UCAP MW quantity (MW), if applicable;
- Backup generation (MW), including fuel type and relevant permitting limitations;
- Contracts or service agreements between the Large Load and the LSE;
- Points of contact at the applicable Transmission Owner, Electric Distributor, and Load Serving Entity;
- EMS B1/B2/B3 name (for the applicable Transmission Owner, Electric Distributor); and
- Additional details and contents as necessary, in accordance with the PJM Manuals.

(b) The Parties acknowledge that information related to the development and maintenance of the Large Load Registry may be obtained by the Office of the Interconnection from Electric Distributors in accordance with the provisions of the Operating Agreement and the Tariff.

(c) The Office of the Interconnection may review information and coordinate with the applicable Transmission Owner and Electric Distributor as needed, regarding the validity of the information provided, including through requesting additional information as the Office of the Interconnection deems necessary, as further set forth in the PJM Manuals. The Office of the Interconnection also may consult with the Large Load.

(d) Based on the information provided, or caused to be provided, by each Party, as well as other information provided by, for example, Electric Distributors, the Office of the Interconnection shall maintain a registry of all Large Loads, and update it periodically. To the extent such documents, data, or other information provided to the Office of the Interconnection has been designated as confidential by a Party, Electric Distributor, or other entity supplying the information, the Office of the Interconnection shall maintain the confidentiality of the information provided under this RAA, Schedule 11, section B consistent with its obligations under Operating Agreement, section 18.17. Information maintained in the Large Load registry may be available to Authorized Commissions, Transmission Owners, Electric Distributors, Load Serving Entities, the Market Monitoring Unit, and FERC subject to appropriate data protection safeguards required by Operating Agreement, section 18.17.

(e) The Office of the Interconnection shall post aggregate data from the Large Load Registry on the PJM website, aggregated by Electric Distributor zone/area, where possible and in a manner consistent with existing confidentiality protections in the PJM Governing Agreements.

2. (a) Each Party serving or contracted to serve a Large Load that is or will be in service prior to June 1, 2027, shall provide the information required by RAA, Schedule 11.B.1 to the Office of the Interconnection by March 1, 2027.

(b) Each Party serving or contracted to serve a New Large Load that will be in service on or after June 1, 2027, shall provide the information required by RAA, Schedule 11.B.1 to the Office of the Interconnection before the in-service date of the Large Load.

(c) Each Party contracted to serve a New Large Load shall provide the location(s) as required by RAA, Schedule 11.B.1 to the Office of the Interconnection before determination of the final PJM Regional Peak Load Forecast for the effective RPM Auction for the Delivery Year in which the New Large Load is expected to be in-service starting with the 2028 PJM Regional Peak Load Forecast.

Each Party shall promptly inform the Office of the Interconnection of any change in the information required by RAA, Schedule 11.B.1 with respect to a Large Load served by the Party, including whether the Party no longer serves the Large Load or has acquired the contractual right to serve a registered Large Load.

3. The information provided pursuant to RAA, Schedule 11, section B will be used, to the extent necessary, for purposes including but not limited to implementation of Interim Resource Adequacy Service, which is a load reduction service, effective starting with the 2027/2028 Delivery Year, through which Eligible New Large Loads may be compensated for providing load reductions requested by the Office of the Interconnection to maintain system reliability for the purpose of supporting the integration of New Large Loads to the PJM Region that have not entered into an arrangement with new capacity additions to the PJM Region, as more fully set forth in Tariff, Attachment DD-4.

Attachment B

Revisions to the
PJM Open Access Transmission Tariff
and Resource Adequacy Agreement

(Clean Format)

Definitions – A - B

30-minute Reserve:

"30-minute Reserve" shall mean the reserve capability of generation resources that can be converted fully into energy or Economic Load Response Participant resources whose demand can be reduced within 30 minutes of a request from the Office of the Interconnection dispatcher, and is comprised of Synchronized Reserve, Non-Synchronized Reserve and Secondary Reserve.

30-minute Reserve Requirement:

"30-minute Reserve Requirement" shall mean the megawatts required to be maintained in a Reserve Zone or Reserve Sub-zone, as Secondary Reserve, absent any increase to account for additional reserves scheduled to address operational uncertainty. The 30-minute Reserve Requirement is calculated in accordance with the PJM Manuals. The requirement can be satisfied by any combination of Synchronized Reserve, Non Synchronized Reserve or Secondary Reserve resources.

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.

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.

Allocated RBP UCAP MW:

"Allocated RBP UCAP MW" shall mean the RBP UCAP MW allocated to a New Large Load in accordance with Tariff, Attachment DD-4, section IX.

Ambient-Adjusted Rating:

"Ambient-Adjusted Rating" (AAR) shall mean a Transmission Facility Rating that:

(a) Applies to a time period of not greater than one hour.
(b) Reflects an up-to-date forecast of ambient air temperature across the time period to which the rating applies.
(c) Reflects the absence of solar heating during nighttime periods, where the local sunrise/sunset times used to determine daytime and nighttime periods are updated at least monthly, if not more frequently.
(d) Is evaluated at least each hour, if not more frequently.

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 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 Economic Load Response Participant Resource:

"Batch Load Economic Load Response Participant Resource" shall mean an Economic Load Response Participant 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.

Bring Your Own New Capacity:

"Bring Your Own New Capacity" or "BYONC" shall mean megawatts of Unforced Capacity that meet the eligibility criteria set forth in Tariff, Attachment DD-4, section VI. Megawatts of Unforced Capacity that have been previously included in an FRR Capacity Plan prior to the 2027/2028 Delivery Year do not qualify as BYONC. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then BYONC that has been included previously in an FRR Capacity Plan prior to the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met and (2) meet the eligibility criteria set forth in Tariff, Attachment DD-4, section VI do not qualify as BYONC.

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.

Buyer-Side Market Power:

“Buyer-Side Market Power” shall mean the ability of Capacity Market Sellers with a Load Interest to suppress RPM Auction clearing prices for the overall benefit of their (and/or affiliates) portfolio of generation and load.

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 Load Response Regulation Only Participant:

"Economic Load Response Regulation Only 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, and is only eligible to participate in the PJM Regulation market.

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.

Eligible Fast-Start Resource:

"Eligible Fast-Start Resource" shall mean a Fast-Start Resource that is eligible for the application of Integer Relaxation during the calculation of Locational Marginal Prices as set forth in Tariff, Attachment K-Appendix, section 2.2.

Eligible New Large Loads:

"Eligible New Large Loads" shall mean a New Large Load eligible to provide Interim Resource Adequacy Service in accordance with Tariff, Attachment DD-4, section V.

Eligible New Large Load Amount:

"Eligible New Large Load Amount" shall mean the total megawatt value of load an Eligible New Large Load may be required to make available for Interim Resource Adequacy Service in an Electric Distributor zone/area.

Emergency Action:

"Emergency Action" shall mean (1) any megawatt shortage of the Primary Reserve Requirement (as specified in the PJM Manuals) in a Reserve Zone or Reserve Sub-zone, inclusive of any adjustments to such requirement to account for system conditions, as determined by the dispatch run from the security constrained economic dispatch and where, as specified in the PJM Manuals, there is also a Voltage Reduction Warning and reduction of non-critical plant load, Manual Load Dump Warning, Maximum Generation Emergency Action, or the curtailment of non-essential building loads and Voltage Reduction Warning that encompasses such Reserve Zone or Reserve Sub-zone or (2) anytime the Office of Interconnection identifies an emergency and issues a load shed directive, Manual Load Dump Action, Voltage Reduction Action, or deploy all resources action for an entire Reserve Zone or Reserve Sub-zone.

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 an operational limitation 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. Open-Loop Hybrid Resources are not Energy Storage Resources.

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.

Entity Providing Supply Services to Default Retail Service Provider:

“Entity Providing Supply Services to Default Retail Service Provider” shall mean any entity, including but not limited to a load aggregator or power marketer, providing supply services to an electric distribution company when that electric distribution company is serving as the default retail service provider, and that enters into a contract or similar obligation with such electric distribution company to serve retail customers who have not selected a competitive retail service provider.

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.

Excluded LDA New Large Load Amounts:

“Excluded LDA New Large Load Amounts” shall mean, converted in UCAP terms by estimating the impact on required imports to a Locational Deliverability Area and exclusive of any load in an FRR Service Area, [the sum of all New Large Loads in the relevant Locational Deliverability Area that were included in the load forecast for the relevant Delivery Year] minus [New Large Loads in the relevant Locational Deliverability Area that were included in the load forecast used for the 2028/2029 Delivery Year] minus [the total MW quantity of New Large Load that is added on or after the 2029/2030 Delivery Year and is (i) in an arrangement with BYONC in the Locational Deliverability Area or (ii) assigned Allocated RBP UCAP MW in Locational Deliverability Area].

Excluded RTO New Large Load Amounts

"Excluded RTO New Large Load Amounts" shall mean, converted in UCAP terms by using the Forecast Pool Requirement and exclusive of any load in an FRR Service Area, [the sum of all New Large Loads across the PJM Region in the load forecast for the relevant Delivery Year] minus [New Large Loads across the PJM Region that were included in the load forecast used for the 2028/2029 Delivery Year] minus [the total MW quantity of New Large Load that is added on or after the 2029/2030 Delivery Year and is (i) in an arrangement with BYONC in the RTO or (ii) assigned Allocated RBP UCAP MW in the RTO].

Exercise of Buyer-Side Market Power:

"Exercise of Buyer-Side Market Power" shall mean anti-competitive behavior of a Capacity Market Seller with a Load Interest, or directed by an entity with a Load Interest, to uneconomically lower RPM Auction Sell Offer(s) in order to suppress RPM Auction clearing prices for the overall benefit of the Capacity Market Seller's (and/or affiliates of Capacity Market Seller) portfolio of generation and load or that of the directing entity with a Load Interest as determined pursuant to Tariff, Attachment DD, section 5.14(h-2)(2)(B). A bilateral contract between the Capacity Market Seller and an entity with a Load Interest with the express purpose of lowering capacity market clearing prices shall be evidence of the Exercise of Buyer-Side Market Power.

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 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.

Extended 30-minute Reserve Requirement:

"Extended 30-minute Reserve Requirement" shall equal the 30-minute 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 30-minute 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.

Fast-Start Resource:

"Fast-Start Resource" shall have the meaning set forth in Tariff, Attachment K-Appendix, section 2.2A

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, Part II, section 13 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.

Forward Daily Natural Gas Prices:

"Forward Daily Natural Gas Prices" shall have the meaning provided in Tariff, Attachment DD, section 5.10(a)(v-1)(E).

Forward Hourly Ancillary Services Prices:

"Forward Hourly Ancillary Services Prices" shall have the meaning provided in Tariff, Attachment DD, section 5.10(a)(v-1)(D).

Forward Hourly LMPs:

"Forward Hourly LMPs" shall have the meaning provided in Tariff, Attachment DD, section 5.10(a)(v-1)(C).

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 – 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 the cost in dollars per MWh of providing an additional MWh from a synchronized unit. It consists primarily of the cost of fuel, as determined by the unit's incremental heat rate (adjusted by the performance factor) times the fuel cost. It also includes operating costs, Maintenance Adders, emissions allowances, tax credits, and energy market opportunity costs.

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).

Integer Relaxation:

“Integer Relaxation” shall mean the process by which the commitment status variable for an Eligible Fast-Start Resource is allowed to vary between zero and one, inclusive of zero and one, as further described in Tariff, Attachment K-Appendix, section 2.2.

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.

Interim Resource Adequacy Service:

"Interim Resource Adequacy Service" shall mean a load reduction service through which New Large Loads reduce load as directed by the applicable Electric Distributor in response to an Interim Resource Adequacy Service Action requested by the Office of the Interconnection. Such reductions in load may be eligible for compensation pursuant to Attachment DD-4, section X.

Interim Resource Adequacy Service Action:

"Interim Resource Adequacy Service Action" shall mean an Operating Instruction, as defined by NERC, issued from the Office of the Interconnection to reduce load prior to calling on Pre-Emergency Load Management Reductions after determining that available economic real-time supply may not be sufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits within prescribed limits and prevent cascading outages.

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.

IROL Critical Resource:

"IROL Critical Resource" shall mean a generation resource that the Office of the Interconnection designates, pursuant to NERC Reliability Standards, as having an interconnection reliability operating limit that, if violated, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk electric system.

Jointly Owned Cross-Subsidized Capacity Resource:

"Jointly Owned Cross-Subsidized Capacity Resource" shall mean a Capacity Resource that is supported by a facility that is jointly owned, where at least one owner is entitled to or receives a State Subsidy associated with such Capacity Resource, and therefore shall be considered a Capacity Resource with State Subsidy; provided however, in the event that the material rights and obligations of such generating facility are in pari passu, meaning that such rights and obligations are allocated among the owners pro rata based on ownership share, only Capacity Resources of those owners entitled to receive or receiving a State Subsidy shall have their share of such resource considered a Capacity Resource with a State Subsidy and Capacity Resources of owners not entitled to a State Subsidy shall not be considered a Capacity Resource with a State Subsidy. Each of these designations may be overcome by either Capacity Market Seller demonstrating to the Office of Interconnection, with advice and input from the Market Monitoring Unit, that there is no cross-subsidization or the Office of the Interconnection, with review and input from the Market Monitor, finds based on sufficient evidence, that there is cross-subsidization.

Definitions – L – M – N

Large Load:

"Large Load" shall have the meaning provided in the Reliability Assurance Agreement.

Legacy Policy:

"Legacy Policy" shall mean any legislative, executive, or regulatory action that specifically directs a payment outside of PJM Markets to a designated or prospective Generation Capacity Resource and the enactment of such action predates October 1, 2021, regardless of when any implementing governmental action to effectuate the action to direct payment outside of PJM Markets occurs.

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 Interest:

"Load Interest" shall mean, for the purposes of the minimum offer price rule, responsibility for serving load within the PJM Region, whether by the Capacity Market Seller, an affiliate of the Capacity Market Seller, or by an entity with which the Capacity Market Seller is in contractual privity with respect to the subject Generation Capacity Resource.

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 or Open-Loop Hybrid 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 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 reduction in megawatts due to Regulation, Synchronized Reserve, or Secondary 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, an Economic Load Response 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 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 Revenue Neutrality Offset:

"Market Revenue Neutrality Offset" shall mean the revenue in excess of the cost for a resource from the energy, Synchronized Reserve, Non-Synchronized Reserve, and Secondary Reserve markets realized from an increase in real-time market megawatt assignment from a day-ahead market megawatt assignment in any of these markets due to the decrease in the real-time reserve market megawatt assignment from a day-ahead reserve market megawatt assignment in any of the reserve markets.

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 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 State of Charge:

"Maximum State of Charge" shall mean the maximum State of Charge that should not be exceeded, measured in units of megawatt-hours.

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 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 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 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, section 38.

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 herein and in the Form of Annual Certification set forth as Tariff, Attachment Q, Appendix 1. Participants transacting in FTRs in certain circumstances will be required to demonstrate additional 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.

Minimum State of Charge:

"Minimum State of Charge" shall mean the minimum State of Charge that should be maintained in units of megawatt-hours.

MISO:

"MISO" shall mean the Midcontinent Independent System Operator, Inc. or any successor thereto.

Mixed Technology Facility:

"Mixed Technology Facility" shall mean a facility composed of distinct generation and/or electric storage technology types behind the same Point of Interconnection. Co-Located Resources and Hybrid Resources form all or part of Mixed Technology Facilities.

MOPR Floor Offer Price:

"MOPR Floor Offer Price" shall mean a minimum offer price applicable to certain Market Seller's Capacity Resources under certain conditions, as determined in accordance with Tariff, Attachment DD, sections 5.14(h), 5.14(h-1), and 5.14(h-2).

Multi-Driver Project:

"Multi-Driver Project" shall have the same meaning provided in the Operating Agreement.

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.

Near-Term Transmission Service:

"Near-Term Transmission Service" shall mean Transmission Service which ends not more than 10 days after the Transmission Service request date. When the description of obligations below refers to either a request for information about the availability of potential Transmission Service (including, but not limited to, a request for ATC), or to the posting of ATC or other information related to potential service, the date that the information is requested or posted will serve as the Transmission Service request date. "Near-Term Transmission Service" includes any Point-To-Point Transmission Service and Network Integration Transmission Service where the start and end date of the designation or request is within the next 10 days.

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 Entry Capacity Resource with State Subsidy:

“New Entry Capacity Resource with State Subsidy” shall mean (1) starting with the 2022/2023 Delivery Year, the MWs (in installed capacity) comprising a Capacity Resource with State Subsidy that have not cleared in an RPM Auction pursuant to its Sell Offer at or above its resource-specific MOPR Floor Offer Price or the applicable default New Entry MOPR Floor Offer Price or (2) starting with the Base Residual Auction for the 2022/2023 Delivery Year, any of those MWs (in installed capacity) comprising a Capacity Resource with State Subsidy that was not included in an FRR Capacity Plan at the time of the Base Residual Auction or the subject of a Sell Offer in a Base Residual Auction occurring for a Delivery Year after it last cleared an RPM Auction and since then has yet to clear an RPM Auction pursuant to its Sell Offer at or above its resource-specific MOPR Floor Offer Price or the applicable default New Entry MOPR Floor Offer Price. Notwithstanding the foregoing, any Capacity Resource that previously cleared an RPM Auction before it became entitled to receive a State Subsidy shall not be deemed a New Entry Capacity Resource, unless, starting with the Base Residual Auction for the 2022/2023 Delivery Year, the Capacity Resource with State Subsidy was not the subject of a

Sell Offer in a Base Residual Auction or included in an FRR Capacity Plan at the time of the Base Residual Auction for a Delivery Year after it last cleared an RPM Auction.

New Large Load:

"New Large Load" shall mean end-use customer load that is either (a) a Large Load that goes into service after June 1, 2027, or (b) incremental load in-service after June 1, 2027, that increases the existing end-use customer load at a single electrical site that, prior to such incremental load, did not previously meet the definition of Large Load. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then New Large Load shall mean end-use customer load that is either (a) a Large Load that goes into service after June 1 of the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met or (b) incremental load in-service after June 1 of the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met that increases the existing end-use customer load at a single electrical site that, prior to such incremental load, did not previously meet the definition of Large Load.

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 Services Queue" shall mean all Interconnection Requests, Completed Applications, and Upgrade Requests that are received within each six-month period ending on March 31 and September 30 of each year shall collectively comprise a New Services Queue.

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 theoretically operate a synchronized unit at zero MW. It consists primarily of the cost of fuel, as determined by the unit's no load heat (adjusted by the performance factor) times the fuel cost. It also includes operating costs, Maintenance Adders, and emissions allowances.

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-Curtailment Charge:

"Non-Curtailment Charge" shall mean the charge applicable to Demand Resources and Price Responsive Demand as defined in Tariff, Attachment DD, section 10B(b).

Non-Dispatched Charging Energy:

"Non-Dispatched Charging Energy" shall mean all Direct Charging Energy that an Energy Storage Resource Model Participant or Open-Loop Hybrid Resource 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-PAI Event:

"Non-PAI Event" shall mean, effective for the 2028/2029 Delivery Year and subsequent Delivery Years, any intervals when a Demand Resource is dispatched or when Price Responsive Demand is required to respond and a Performance Assessment Interval is not in effect for such intervals for the same registration.

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 – 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 Facility Rating:

"Transmission Facility Rating" shall mean the maximum transfer capability, or the maximum or minimum voltage, current, frequency, or real or reactive power flow, through a Transmission Facility that does not violate the applicable rating of relevant transmission equipment.

Transmission Facility Ratings are computed in accordance with a written Transmission Facility Rating methodology and consistent with Good Utility Practice, considering the technical limitations on conductors and relevant transmission equipment (such as thermal flow limits). Relevant transmission equipment may include, but is not limited to, circuit breakers, line traps, and transformers. Transmission Facility Ratings also encompass AARs, AAR Exceptions, and Temporary Conditional Transmission Facility Ratings.

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 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 changes in the Reliability Requirement, Excluded RTO New Large Load Amounts, and/or Excluded LDA New Large Load Amounts from the Base Residual Auction 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 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 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.

5.4 Reliability Pricing Model Auctions

The Office of the Interconnection shall conduct the following Reliability Pricing Model Auctions:

a) Base Residual Auction.

PJM shall conduct for each Delivery Year a Base Residual Auction to secure commitments of Capacity Resources as needed to satisfy the portion of the RTO Unforced Capacity Obligation not satisfied through Self-Supply of Capacity Resources for such Delivery Year. All Self-Supply Capacity Resources must be offered in the Base Residual Auction. As set forth in Tariff, Attachment DD, section 6.6, all other Capacity Resources, and certain other existing generation resources, must be offered in the Base Residual Auction. The Base Residual Auction shall be conducted in the month of May that is three years prior to the start of such Delivery Year. Notwithstanding, the Base Residual Auction for the 2026/2027 Delivery Year shall be conducted in July 2025; the Base Residual Auction for the 2027/2028 Delivery Year shall be conducted in December 2025; the Base Residual Auction for the 2028/2029 Delivery Year shall be conducted in June 2026; and the Base Residual Auction for the 2029/2030 Delivery Year shall be conducted in December 2026. The cost of payments to Capacity Market Sellers for Capacity Resources that clear such auction shall be paid by PJMSettlement from amounts collected by PJMSettlement from Load Serving Entities through the Locational Reliability Charge during such Delivery Year. PJMSettlement shall be the Counterparty to the sales that clear in such auction and to the obligations to pay, and the payments, by Load Serving Entities; provided, however, that PJMSettlement shall not be a Counterparty to committed Self-Supply Capacity Resources.

b) Scheduled Incremental Auctions.

PJM shall conduct for each Delivery Year a First, a Second, and a Third Incremental Auction. The First Incremental Auction shall be conducted in the month of September that is twenty months prior to the start of the Delivery Year; the Second Incremental Auction shall be conducted in the month of July that is ten months prior to the start of the Delivery Year; and the Third Incremental Auction shall be conducted in the month of February that is three months prior to the start of the Delivery Year. Notwithstanding, for the 2025/2026 Delivery Year, only the Third Incremental Auction shall be conducted, which will commence on February 2025; for the 2026/2027 Delivery Year, only the Third Incremental Auction shall be conducted, which will commence on February 2026; for the 2027/2028 Delivery Year, only the Second Incremental Auction and Third Incremental Auction shall be conducted, which will commence on July 2026 and February 2027, respectively; for the 2028/2029 Delivery Year, only the Second Incremental Auction and Third Incremental Auction shall be conducted, which shall commence on July 2027 and February 2028, respectively.

c) Adjustment through Scheduled Incremental Auctions of Capacity Previously Committed.

The Office of the Interconnection shall recalculate the PJM Region Reliability Requirement and each LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) prior to each Scheduled Incremental Auction, based on an updated peak load forecast, updated Installed Reserve Margin and an updated Capacity Emergency Transfer Objective; shall update such reliability requirements (and inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) for the Third Incremental Auction to reflect any change from such recalculation; and shall update such reliability requirements (and inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) for the First Incremental Auction or Second Incremental Auction only if the change is greater than or equal to the lesser of: (i) 500 MW or (ii) one percent of the applicable prior reliability requirement. Based on such update, the Office of the Interconnection shall, under certain conditions, seek through the Scheduled Incremental Auction to secure additional commitments of capacity or release sellers from prior capacity commitments. Specifically, the Office of the Interconnection shall:

1) seek additional capacity commitments to serve the PJM Region or an LDA if the PJM Region Reliability Requirement or LDA Reliability Requirement utilized in the most recent prior auction conducted for the Delivery Year (including any reductions to such reliability requirements as a result of any Price Responsive Demand with a PRD Reservation Price equal to or lower than the clearing price in the Base Residual Auction for such Delivery Year and any adjustments associated with Excluded RTO New Large Load Amounts or Excluded LDA New Large Load Amounts) is less than, respectively, the updated PJM Region Reliability Requirement or updated LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts); provided, however, that in the First Incremental Auction or Second Incremental Auction the Office of the Interconnection shall seek such additional capacity commitments only if such shortfall is in an amount greater than or equal to the lesser of: (i) 500 MW or (ii) one percent of the applicable prior reliability requirement;

2) seek additional capacity commitments to serve the PJM Region or an LDA if:

i) the updated PJM Region Reliability Requirement or the LDA Reliability Requirement (inclusive of any adjustments associated with Excluded RTO New Large Load Amounts or Excluded LDA New Large Load Amounts) applicable to such auction, exceeds the total capacity committed in all prior auctions in such region or area, respectively, for such Delivery Year by an amount greater than or equal to the lesser of: (A) 500 MW or (B) one percent of the applicable prior reliability requirement;

ii) PJM conducts a Conditional Incremental Auction for such Delivery Year and does not obtain all additional commitments of Capacity Resources sought in such Conditional Incremental Auction, in which case, PJM shall seek in the Incremental Auction the commitments that were sought in the Conditional Incremental Auction but not obtained; or

iii) regarding a Generation Capacity Resource that is subject to Tariff, Attachment DD, section 5.3(b), (a) the Office of Interconnection determines prior to the Third Incremental Auction that such resource will not meet the criteria set forth in Tariff, Attachment DD, section 5.3(b)(i) for the relevant Delivery Year or (b) such resource's final Accredited UCAP is less than the UCAP amount considered in the Base Residual Auction in which the resource was deemed to be the subject of a Sell Offer.

3) seek agreements to release prior capacity commitments to the PJM Region or to an LDA if:

i) the PJM Region Reliability Requirement or LDA Reliability Requirement utilized in the most recent prior auction conducted for the Delivery Year (including any reductions to such reliability requirements as a result of any Price Responsive Demand with a PRD Reservation Price equal to or lower than the clearing price in the Base Residual Auction for such Delivery Year and any adjustments associated with Excluded RTO New Large Load Amounts or Excluded LDA New Large Load Amounts) exceeds, respectively, the updated PJM Region Reliability Requirement or updated LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts); provided, however, that in the First Incremental Auction or Second Incremental Auction the Office of the Interconnection shall seek such agreements only if such excess is in an amount greater than or equal to the lesser of: (A) 500 MW or (B) one percent of the applicable prior reliability requirement; or

ii) PJM obtains additional commitments of Capacity Resources in a Conditional Incremental Auction, in which case PJM shall seek release of an equal number of megawatts (comparing the total purchase amount for all LDAs and the PJM Region related to the delay in Backbone Transmission with the total sell amount for all LDAs and the PJM Region related to the delay in Backbone Transmission) of prior committed capacity that would not have been committed had the delayed Backbone Transmission upgrade that prompted the Conditional Incremental Auction not been assumed, at the time of the Base Residual Auction, to be in service for the relevant Delivery Year; and if PJM obtains additional commitments of capacity in an incremental auction pursuant to subsection c.2.ii above, PJM shall seek in such Incremental Auction to release an equal amount of capacity (in total for all LDAs and the PJM Region related to the delay in Backbone Transmission) previously committed that would not have been committed absent the Backbone Transmission upgrade.

4) The cost of payments to Market Sellers for additional Capacity Resources cleared in such auctions, and the credits from payments from Market Sellers for the release of previously committed Capacity Resources, shall be apportioned to Load Serving Entities in the

PJM Region or LDA, as applicable, through adjustments to the Locational Reliability Charge for such Delivery Year.

5) PJMSettlement shall be the Counterparty to the sales (including releases) of Capacity Resources that clear in such auctions and to the obligations to pay, and the payments, by Load Serving Entities, provided, however, that PJMSettlement shall not be a Counterparty to committed Self-Supply Capacity Resources.

d) Commitment of Replacement Capacity through Scheduled Incremental Auctions.

Each Scheduled Incremental Auction for each Delivery Year shall allow Capacity Market Sellers that committed Capacity Resources in any prior Reliability Pricing Model Auction for such Delivery Year to submit Buy Bids for replacement Capacity Resources. Capacity Market Sellers that submit Buy Bids into an Incremental Auction must specify the type of Unforced Capacity desired, i.e., Annual Resource. The need to purchase replacement Capacity Resources may arise for any reason, including but not limited to resource retirement, resource cancellation or construction delay, resource derating, EFORd increase, decrease in Accredited UCAP Factor, a decrease in the Nominated Demand Resource Value of a Planned Demand Resource, delay or cancellation of a Qualifying Transmission Upgrade, or similar occurrences. The cost of payments to Capacity Market Sellers for Capacity Resources that clear such auction shall be paid by PJMSettlement from amounts collected by PJMSettlement from Capacity Market Buyers that purchase replacement Capacity Resources in such auction. PJMSettlement shall be the Counterparty to the sales and purchases that clear in such auction, provided, however, PJMSettlement shall not be a Counterparty to committed Self-Supply Capacity Resources.

e) Conditional Incremental Auction.

PJM shall conduct for any Delivery Year a Conditional Incremental Auction if the in service date of a Backbone Transmission Upgrade that was modeled in the Base Residual Auction is announced as delayed by the Office of the Interconnection beyond July 1 of the Delivery Year for which it was modeled and if such delay causes a reliability criteria violation. If conducted, the Conditional Incremental Auction shall be for the purpose of securing commitments of additional capacity for the PJM Region or for any LDA to address the identified reliability criteria violation. If PJM determines to conduct a Conditional Incremental Auction, PJM shall post on its website the date and parameters for such auction (including whether such auction is for the PJM Region or for an LDA, and the type of Capacity Resources required) at least one month prior to the start of such auction. The cost of payments to Market Sellers for Capacity Resources cleared in such auction shall be collected by PJMSettlement from Load Serving Entities in the PJM Region or LDA, as applicable, through an adjustment to the Locational Reliability Charge for such Delivery Year. PJMSettlement shall be the Counterparty to the sales that clear in such auction and to the obligations to pay, and payments, by Load Serving Entities, provided, however, that PJMSettlement shall not be a Counterparty to committed Self-Supply Capacity Resources.

5.10 Auction Clearing Requirements

The Office of the Interconnection shall clear each Base Residual Auction and Incremental Auction for a Delivery Year in accordance with the following:

a) Variable Resource Requirement Curve

The Office of the Interconnection shall determine Variable Resource Requirement Curves for the PJM Region and for such Locational Deliverability Areas as determined appropriate in accordance with subsection (a)(iii) for such Delivery Year to establish the level of Capacity Resources that will provide an acceptable level of reliability consistent with the Reliability Principles and Standards. It is recognized that the variable resource requirement reflected in the Variable Resource Requirement Curve can result in an optimized auction clearing in which the level of Capacity Resources committed for a Delivery Year exceeds the PJM Region Reliability Requirement or Locational Deliverability Area Reliability Requirement for such Delivery Year. For any auction, the Updated Forecast Peak Load applicable to such auction, shall be used, and Price Responsive Demand from any applicable approved PRD Plan, including any associated PRD Reservation Prices, shall be reflected in the derivation of the Variable Resource Requirement Curves, in accordance with the methodology specified in the PJM Manuals.

i) Methodology to Establish the Variable Resource Requirement Curve

Prior to the Base Residual Auction, in accordance with the schedule in the PJM Manuals, the Office of the Interconnection shall establish the Variable Resource Requirement Curve for the PJM Region as follows:

- Each Variable Resource Requirement Curve shall be plotted on a graph on which Unforced Capacity is on the x-axis and price is on the y-axis.
- For the 2025/2026 Delivery Year, the Variable Resource Requirement curve for the PJM Region shall be plotted by combining (i) a horizontal line from the y-axis to point (1), (ii) a straight line connecting points (1) and (2), and (iii) a straight line connecting points (2) and (3), where:
  - For point (1), price equals: {the greater of [the Cost of New Entry] or [1.5 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 98.9%];
  - For point (2), price equals: [0.75 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 101.6%]; and

- For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 106.8%].

- For the 2026/2027 Delivery Year and 2027/2028 Delivery Years, the Variable Resource Requirement Curve for the PJM Region shall be plotted by a horizontal line from the y-axis equal to $256.75/MW-day ICAP divided by the applicable ELCC Class Rating for the Reference Resource until such line intersects the curve that is based on the following: (i) a straight line connecting points (1) and (2), and (ii) a straight line connecting points (2) and (3), where:

  - For point (1), price equals: {the greater of [the Cost of New Entry] or [1.75 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 99%];

  - For point (2), price equals: [0.75 times (the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset)] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 101.5%]; and

  - For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 104.5%].

- Once the horizontal line intersects the above curve, the Variable Resource Requirement Curve shall follow the lines that are based on the above points until the price reaches $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource, at which point it shall be extended as a horizontal line at $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource for the remainder of the curve.

- For the 2028/2029 Delivery Year, the Variable Resource Requirement curve for the PJM Region shall be plotted by a horizontal line from the y-axis equal to the lesser of $256.75/MW-day ICAP divided by the applicable ELCC Class Rating for the Reference Resource or the value of point 1, until such line intersects the curve that is based on the following: (i) a straight line connecting points (1) and (2), and (ii) a straight line connecting points (2) and (3), where:

  - For point (1), price equals: {the greater of [1.15 times Cost of New Entry minus 0.75 times the Net Energy and Ancillary Service Revenue Offset] or [0.2 times Cost of New Entry)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 99%];

    - For point (2), price equals: [0.5 times the price calculated for point 1] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 101.5%]; and

    - For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement multiplied by 106.0%].

- Once the horizontal line intersects the above curve, the Variable Resource Requirement Curve shall follow the lines that are based on the above points until the price reaches $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource, at which point it shall be extended as a horizontal line at $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource for the remainder of the curve.

- For the 2029/2030 Delivery Year, the Variable Resource Requirement curve for the PJM Region shall be plotted by a horizontal line from the y-axis equal to the lesser of $256.75/MW-day ICAP divided by the applicable ELCC Class Rating for the Reference Resource or the value of point 1, until such line intersects the curve that is based on the following: (i) a straight line connecting points (1) and (2), and (ii) a straight line connecting points (2) and (3), where:

    - For point (1), price equals: {the greater of [1.15 times Cost of New Entry minus 0.75 times the Net Energy and Ancillary Service Revenue Offset] or [0.2 times Cost of New Entry)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 99%);

    - For point (2), price equals: [0.5 times the price calculated for point 1] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 101.5%; and

    - For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 106.0%.

- Once the horizontal line intersects the above curve, the Variable Resource Requirement Curve shall follow the lines that are based on the above points until the price reaches $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource, at which point it shall be extended as a horizontal line at $138.25/MW-day ICAP divided by the applicable ELCC Class Rating of the Reference Resource for the remainder of the curve.

- For the 2030/2031 Delivery Year and for subsequent Delivery Years, the Variable Resource Requirement curve for the PJM Region shall be plotted by combining (i) a horizontal line from the y-axis to point (1), (ii) a straight line connecting points (1) and (2), and (iii) a straight line connecting points (2) and (3), where:

  - For point (1), price equals: {the greater of [1.15 times Cost of New Entry minus 0.75 times the Net Energy and Ancillary Service Revenue Offset] or [0.2 times Cost of New Entry)]} divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 99%];

  - For point (2), price equals: [0.5 times the price calculated for point 1] divided by (the applicable ELCC Class Rating of the Reference Resource) and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 101.5%; and

  - For point (3), price equals zero and Unforced Capacity equals: [the PJM Region Reliability Requirement minus Excluded RTO New Large Load Amounts] multiplied by 106.0%].

ii) For any Delivery Year, the Office of the Interconnection shall establish a separate Variable Resource Requirement Curve for each LDA for which:

A. the Capacity Emergency Transfer Limit is less than 1.15 times the Capacity Emergency Transfer Objective, as determined by the Office of the Interconnection in accordance with NERC and Applicable Regional Entity guidelines; or

B. such LDA had a Locational Price Adder in any one or more of the three immediately preceding Base Residual Auctions; or

C. such LDA is determined in a preliminary analysis by the Office of the Interconnection to be likely to have a Locational Price Adder, based on historic offer price levels; provided however that for the Base Residual Auction conducted for the Delivery Year, the Eastern Mid-Atlantic Region

("EMAR"), Southwest Mid-Atlantic Region ("SWMAR"), and Mid-Atlantic Region ("MAR") LDAs shall employ separate Variable Resource Requirement Curves regardless of the outcome of the above three tests; and provided further that the Office of the Interconnection may establish a separate Variable Resource Requirement Curve for an LDA not otherwise qualifying under the above three tests if it finds that such is required to achieve an acceptable level of reliability consistent with the Reliability Principles and Standards, in which case the Office of the Interconnection shall post such finding, such LDA, and such Variable Resource Requirement Curve on its internet site no later than the March 31 last preceding the Base Residual Auction for such Delivery Year. The same process as set forth in subsection (a)(i) shall be used to establish the Variable Resource Requirement Curve for any such LDA, except that the Locational Deliverability Area Reliability Requirement for such LDA shall be substituted for the PJM Region Reliability Requirement and, beginning with the 2029/2030 Delivery Year, the points on the LDA Variable Resource Requirement Curves will be reduced by the relevant Excluded LDA New Large Load Amounts. For purposes of calculating the Capacity Emergency Transfer Limit under this section, all generation resources located in the PJM Region that are, or that qualify to become, Capacity Resources, shall be modeled at their full capacity rating, regardless of the amount of capacity cleared from such resource for the immediately preceding Delivery Year.

For Delivery Years up to and including the 2027/2028 Delivery Year for each such LDA, the Office of the Interconnection shall (a) determine the Net Cost of New Entry for each Zone in such LDA, with such Net Cost of New Entry equal to the applicable Cost of New Entry value for such Zone minus the Net Energy and Ancillary Services Revenue Offset value for such Zone, and (b) compute the average of the Net Cost of New Entry values of all such Zones to determine the Net Cost of New Entry for such LDA.

For the 2028/2029 Delivery Year and for subsequent Delivery Years for each such LDA, the Office of the Interconnection shall determine the applicable Cost of New Entry and Net Energy and Ancillary Services Revenue Offset value for each LDA, with such Cost of New Entry equal to the average of all five Cost of New Entry areas for RTO and the average of the Cost of New Entry for all zones in an LDA, and the Net Energy and Ancillary Services Revenue Offset value equal to the 67th percentile of the Net Energy and Ancillary Services Revenue Offset for all zones in such LDA.

iii) Procedure for ongoing review of Variable Resource Requirement Curve shape.

Beginning with the Delivery Year that commences June 1, 2018, and continuing no later than for every fourth Delivery Year thereafter, the Office of the Interconnection shall perform a review of the shape of the Variable Resource Requirement Curve, as established by the requirements of the foregoing subsection. Such analysis shall be based on simulation of market conditions to quantify the ability of the market to invest in new Capacity Resources and to meet the applicable reliability requirements on a probabilistic basis. Based on the results of such review, PJM shall prepare a recommendation to either modify or retain the existing Variable Resource Requirement Curve shape. The Office of the Interconnection shall post the recommendation and shall review the recommendation through the stakeholder process to solicit stakeholder input. If a modification of the Variable Resource Requirement Curve shape is recommended, the following process shall be followed:

A) If the Office of the Interconnection determines that the Variable Resource Requirement Curve shape should be modified, Staff of the Office of the Interconnection shall propose a new Variable Resource Requirement Curve shape on or before May 15, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

B) The PJM Members shall review the proposed modification to the Variable Resource Requirement Curve shape.

C) The PJM Members shall either vote to (i) endorse the proposed modification, (ii) propose alternate modifications or (iii) recommend no modification, by August 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

D) The PJM Board of Managers shall consider a proposed modification to the Variable Resource Requirement Curve shape, and the Office of the Interconnection shall file any approved modified Variable Resource Requirement Curve shape with the FERC by October 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

iv) Cost of New Entry

A) For the Incremental Auctions, the Cost of New Entry for the PJM Region and for each LDA shall be the respective value used in the Base Residual Auction for each corresponding Delivery Year and LDA. For the Delivery Year commencing on June 1, 2022 through and including the Delivery Year commencing on June 1, 2025, the Cost of New Entry for the PJM Region shall be the average of the Cost of New Entry for each CONE Area listed in this section as adjusted pursuant to subsection (a)(iv)(B).

Geographic Location Within the PJM Region Encompassing These Zones	Cost of New Entry in $/MW-Year
PS, JCP&L, AE, PECO, DPL, RECO ("CONE Area 1")	108,000
BGE, PEPCO ("CONE Area 2")	109,700
AEP, Dayton, ComEd, APS, DQL, ATSI, DEOK, EKPC, Dominion, OVEC ("CONE Area 3")	105,500
PPL, MetEd, Penelec ("CONE Area 4")	105,500

A-1) Cost of New Entry for 2025/2026 Delivery Year

A new CONE Area 5 encompassing only the ComEd Zone shall be established and the ComEd Zone will be removed from CONE Area 3. For the 2025/2026 Delivery Year, the Cost of New Entry for CONE Area 5 will be equal to the product of the Cost of New Entry determined for CONE Area 3 for the 2025/2026 Delivery Year multiplied by an asset life factor of 1.0069. For the 2025/2026 Delivery Year, the Cost of New Entry for the PJM Region shall be the average of the Cost of New Entry for all CONE Areas.

B) Beginning with the 2023/2024 Delivery Year through and including the 2025/2026 Delivery Year, the CONE for each CONE Area (except for CONE Area 5) shall be adjusted to reflect changes in generating plant construction costs based on changes in the Applicable United States Bureau of Labor Statistics ("BLS") Composite Index, and then adjusted further by a factor of 1.022 to reflect the annual decline in bonus depreciation scheduled under federal corporate tax law, in accordance with the following:

(1) The Applicable BLS Composite Index for any Delivery Year and CONE Area shall be the most recently published twelve-month change, at the time CONE values are required to be posted for the Base Residual Auction for such Delivery Year, in a composite of the BLS Quarterly Census of Employment and Wages for Utility System Construction (weighted 20%), the BLS Producer Price Index for Construction Materials and Components (weighted 55%), and the BLS Producer Price Index Turbines and Turbine Generator Sets (weighted 25%), as each such index

is further specified for each CONE Area in the PJM Manuals.

(2) The CONE in a CONE Area shall be adjusted prior to the Base Residual Auction for each Delivery Year by applying the Applicable BLS Composite Index for such CONE Area to the Benchmark CONE for such CONE Area, and then multiplying the result by 1.022.

(3) The Benchmark CONE for a CONE Area shall be the CONE used for such CONE Area in the Base Residual Auction for the prior Delivery Year (provided, however that the Gross CONE values stated in subsection (a)(iv)(A) above shall be the Benchmark CONE values for the 2022/2023 Delivery Year to which the Applicable BLS Composite Index shall be applied to determine the CONE for subsequent Delivery Years), and then multiplying the result by 1.022.

(4) Notwithstanding the foregoing, CONE values for any CONE Area for any Delivery Year shall be subject to amendment pursuant to appropriate filings with FERC under the Federal Power Act, including, without limitation, any filings resulting from the process described in section 5.10(a)(vi)(C) or any filing to establish new or revised CONE Areas.

C) For the 2026/2027 Delivery Year and 2027/2028 Delivery Year, the Cost of New Entry for the PJM Region shall be the average of the Cost of New Entry for each CONE Area listed in this section as adjusted pursuant to subsection (a)(iv)(C)(1).

Geographic Location Within the PJM Region Encompassing These Zones	**Cost of New Entry in $/MW-Year (ICAP)**
PS, JCP&L, AE, PECO, DPL, RECO (“CONE Area 1”)	136,000
BGE, PEPCO (“CONE Area 2”)	142,000
AEP, Dayton, APS, DQL, ATSI, DEOK, EKPC, Dominion, OVEC (“CONE Area 3”)	147,600

PPL, MetEd, Penelec (“CONE Area 4”)	143,500
ComEd (“CONE Area 5”)	150,800

(1) For the 2027/2028 Delivery Year, the CONE for each CONE Area shall be adjusted to reflect changes in generating plant construction costs based on changes in the Applicable United States Bureau of Labor Statistics (“BLS”) Composite Index, in accordance with the following:

(a) The Applicable BLS Composite Index for any Delivery Year and CONE Area shall be the most recently published twelve-month change, at the time CONE values are required to be posted for the Base Residual Auction for such Delivery Year, in a composite of the BLS Quarterly Census of Employment and Wages for Utility System Construction (weighted 40%), the BLS Producer Price Index for Construction Materials and Components (weighted 45%), and the BLS Producer Price Index Turbines and Turbine Generator Sets (weighted 15%), as each such index is further specified for each CONE Area in the PJM Manuals.

(b) For CONE Areas 1 through 4, the Benchmark CONE for each CONE Area shall be the CONE used for such CONE Area in the Base Residual Auction for the prior Delivery Year (provided, however that the Gross CONE values stated in subsection (a)(iv)(C) above shall be the Benchmark CONE values for the 2026/2027 Delivery Year to which the Applicable BLS Composite Index shall be applied to determine the CONE for subsequent Delivery Years).

(c) For the 2027/2028 Delivery Year, the CONE for CONE Area 5 for a given Delivery Year shall be set equal to the product of the CONE of CONE Area 3 as determined for the relevant Delivery Year in accordance with (a) and (b) above, multiplied by the asset life factor applicable to that Delivery Year where such asset life factors is 1.0376 for the 2027/2028 Delivery Year.

(d) Notwithstanding the foregoing, CONE values for any CONE Area for any Delivery Year shall be subject to amendment pursuant to appropriate filings with FERC under the Federal Power Act, including, without limitation, any filings resulting from the process described in section 5.10(a)(vi)(C) or any filing to establish new or revised CONE Areas.

D) For the 2028/2029 Delivery Year and for subsequent Delivery Years, the Cost of New Entry for the PJM Region shall be the average of the Cost of New Entry for each CONE Area listed in this section.

Geographic Location Within the PJM Region Encompassing These Zones	**Cost of New Entry in $/MW-Year (ICAP)**
PS, JCP&L, AE, PECO, DPL, RECO (“CONE Area 1”)	218,000
BGE, PEPCO (“CONE Area 2”)	222,000
AEP, Dayton, APS, DQL, ATSI, DEOK, EKPC, Dominion, OVEC (“CONE Area 3”)	215,000
PPL, MetEd, Penelec (“CONE Area 4”)	216,000
ComEd (“CONE Area 5”)	248,000

(1) Beginning with the 2029/2030 Delivery Year, the Cost of New Entry for each CONE Area shall be adjusted to reflect changes in generating plant construction costs based on changes in the Applicable United States Bureau of Labor Statistics (“BLS”) Composite Index, in accordance with the following:

(a) The Applicable BLS Composite Index for any Delivery Year and CONE Area shall be the most recently published twelve-month change, at the time Cost of New Entry values are required to be posted for the Base Residual Auction for such Delivery Year, in a composite of the Quarterly Census of

Employment and Wages, which shall use NAICS 2371 Utility System Construction, Private, All Establishment Sizes (weighted 15%), BLS Producer Price Index for Commodities, Not Seasonally Adjusted, Intermediate Demand by Commodity Type, Materials and Components for Construction (weighted 10%), BLS Producer Price Index for Commodities, Not Seasonally Adjusted, Machinery and Equipment, Turbines and Turbine Generator Sets (weighted 46%), and the Bureau of Economic Analysis: Gross Domestic Product Implicit Price Deflator, Index 2017=100, Seasonally Adjusted (weighted 29%), as each such index is further specified for each CONE Area in the PJM Manuals.

(b) For CONE Areas 1 through 5, the Benchmark CONE for each CONE Area shall be the Cost of New Entry used for such CONE Area in the Base Residual Auction for the prior Delivery Year (provided, however that the Cost of New Entry values stated in subsection (a)(iv)(C) above shall be the Benchmark CONE values for the 2028/2029 Delivery Year to which the Applicable BLS Composite Index shall be applied to determine the Cost of New Entry for subsequent Delivery Years).

(c) For the 2029/2030 Delivery Year through and including the 2031/2032 Delivery Year, the Cost of New Entry for CONE Area 5 for a given Delivery Year shall be multiplied by the asset life factor applicable to that Delivery Year where such asset life factors are 1.025 for the 2029/2030 Delivery Year, 1.054 for the 2030/2031 Delivery Year, and 1.088 for the 2031/2032 Delivery Year.

v) Net Energy and Ancillary Services Revenue Offset for 2023/2024 Delivery Year through and including the 2025/2026 Delivery Years (except that the calculation of the MOPR Floor Price pursuant to Tariff, Attachment DD, section 5.14(h-2) for combustion turbine resources shall remain applicable beyond the 2025/2026 Delivery Year):

A) The Office of the Interconnection shall determine the Net Energy and Ancillary Services Revenue Offset each year for the PJM Region as (A) the annual average of the revenues that would have been received by the Reference Resource from the PJM energy markets during a period of three consecutive calendar years preceding the time of the determination, based on (1) the heat rate and other characteristics of such Reference Resource; (2) fuel prices reported during such period at an appropriate pricing point for the PJM Region with a fuel transmission adder appropriate for such region, as set forth in the PJM Manuals, assumed variable operation and maintenance expenses for such resource of $6.93 per MWh, and actual PJM hourly average Locational Marginal Prices recorded in the PJM Region during such period; and (3) an assumption that the Reference Resource would be dispatched for both the Day-Ahead and Real-Time Energy Markets on a Peak-Hour Dispatch basis; plus (B) ancillary service revenues of $2,199 per MW-year to be included through the 2025/2026 Delivery Year.

B) The Office of the Interconnection also shall determine a Net Energy and Ancillary Service Revenue Offset each year for each Zone, using the same procedures and methods as set forth in the previous subsection; provided, however, that: (1) the average hourly LMPs for such Zone shall be used in place of the PJM Region average hourly LMPs; (2) if such Zone was not integrated into the PJM Region for the entire applicable period, then the offset shall be calculated using only those whole calendar years during which the Zone was integrated; and (3) a posted fuel pricing point in such Zone, if available, and (if such pricing point is not available in such Zone) a fuel transmission adder appropriate to such Zone from an appropriate PJM Region pricing point shall be used for each such Zone.

v-1) Net Energy and Ancillary Services Revenue Offset for the 2026/2027 Delivery Year and subsequent Delivery Years:

A) For the 2026/2027 and the 2027/2028 Delivery Years, the Office of the Interconnection shall determine the Net Energy and Ancillary Services Revenue Offset each year for the PJM Region as the average of the net energy and ancillary services revenues that the Reference Resource is projected to receive from the PJM energy and ancillary service markets for the applicable Delivery Year from three separate simulations, with each such simulation using forward prices shaped using historical data from one of the three consecutive calendar years preceding the time of the determination for the RPM Auction to take account of year-to-year variability in such hourly shapes. Each net energy and ancillary services revenue simulation is based on (a) the heat rate and other characteristics of such Reference Resource such as assumed variable operation and maintenance expenses of $1.19 per MWh and $21,170 per start-up, and emissions costs; (b) Forward Hourly LMPs for the PJM Region; (c) Forward Hourly Ancillary Services Prices, (d) Forward Daily Natural Gas Prices at an appropriate pricing point for the PJM Region with a fuel transmission adder appropriate for such region, as set forth in the PJM Manuals; and (e) an assumption that the Reference Resource would be dispatched on a Projected EAS Dispatch basis.

A-1) For the 2028/2029 and subsequent Delivery Years, the Office of the Interconnection shall determine the Net Energy and Ancillary Services Revenue Offset each year for the PJM Region as the 67th percentile of all of the calculated zonal Net Energy and Ancillary Services Revenues Offsets that the Reference Resource is projected to receive from the PJM energy and ancillary service markets for the applicable Delivery Year from three separate simulations, with each such simulation using forward prices shaped using historical data from one of the three consecutive calendar years preceding the time of the determination for the RPM Auction to take account of year-to-year variability in such hourly shapes. Each Net Energy and Ancillary Service Revenue Offset simulation is based on (a) the heat rate and other characteristics of such Reference Resource such as assumed variable operation and maintenance expenses of $2.65 per MWh, and emissions costs; (b) Forward Hourly LMPs for the PJM Region; (c) Forward Hourly Ancillary Services Prices, (d) Forward Daily Natural Gas Prices at an appropriate pricing point for the PJM Region with a fuel transmission adder appropriate for such region, as set forth in the PJM Manuals; and (e) an assumption that the Reference Resource would be dispatched on a Projected EAS Dispatch basis.

B) The Office of the Interconnection also shall determine a Net Energy and Ancillary Service Revenue Offset each year for each Zone, using the same procedures and methods as set forth in the previous subsection; provided, however, that: (1) the Forward Hourly LMPs for such Zone shall be used in place of the Forward Hourly LMP for the PJM Region; (2) if such Zone was not integrated into the PJM Region for the entire three calendar years preceding the time of the determination for the RPM Auction, then simulations shall rely on only those whole calendar years during which the Zone was integrated; and (3) Forward Daily Natural Gas Prices for the fuel pricing point mapped to such Zone.

C) "Forward Hourly LMPs" shall be determined as follows:

(1) Identify the liquid hub to which each Zone is mapped, as specified in the PJM Manuals.

(2) For each liquid hub, calculate the average day-ahead on-peak and day-ahead off-peak energy prices for each month during the Delivery Year over the most recent thirty trading

days as of 180 days prior to the Base Residual Auction. For each of the remaining steps, the historical prices used herein shall be taken from the most recent three calendar years preceding the time of the determination for the RPM Auction:

(3) Determine and add monthly basis differentials between the hub and each of its mapped Zones to the forward monthly day-ahead on-peak and off-peak energy prices for the hub. This differential is developed using the prices for the Planning Period closest in time to the Delivery Year from the most recent long-term Financial Transmission Rights auction conducted prior to the Base Residual Auction. The difference between the annual long-term Financial Transmission Rights auction prices for the Zone and the hub are converted to monthly values by adding, for each month of the year, the difference between (a) the historical monthly average day-ahead congestion price differentials between the Zone and relevant hub and (b) the historical annual average day-ahead congestion price differentials between the Zone and hub. This step is only used when developing forward prices for locations other than the liquid hubs;

(4) Determine and add marginal loss differentials to the forward monthly day-ahead on-peak and off-peak energy prices for the hub. For each month of the year, calculate the marginal loss differential, which is the average of the difference between the loss components of the historical on peak or off peak day-ahead LMPs for the Zone and relevant hub in that month across the three year period scaled by the ratio of (a) the forward monthly average on-peak or off-peak day-ahead LMP at such hub to (b) the average of the historical on-peak or off-peak day-ahead LMPs for such hub in that month across the three year period. This step is only used when developing forward prices for locations other than the liquid hubs;

(5) Shape the forward monthly day-ahead on-peak and off-peak prices to (a) forward hourly day-ahead LMPs using historic hourly day-ahead LMP shapes for the Zone and (b) forward hourly real-time LMPs using historic hourly real-time LMP shapes for the Zone. The historic hourly shapes are based on the ratio of the historic day-ahead or real-time LMP for the Zone for each given hour in a monthly on-peak or off-peak period to the average of the historic day-ahead or real-time LMP for the Zone for all hours in such

monthly on-peak or off-peak period. The historical prices used in this step shall be taken from one of each of the most recent three calendar years preceding the time of the determination for the RPM Auction;

(6) For unit-specific energy and ancillary service offset calculations, determine and apply basis differentials from the Zone to the generation bus to the forward day-ahead and real-time hourly LMPs for the Zone. The differential for each hour of the year is developed using the difference between the historical DA or RT LMP for the generation bus and the historical DA or RT LMP for the Zone in which the generation bus is located for that same hour; and

(7) Develop the Forward Hourly LMPs for the PJM Region pricing point. Calculate the load-weighted average of the monthly on-peak and off-peak Zonal LMPs developed in step (4) above, using the historical average load within each monthly on-peak or off-peak period. The load-weighted average monthly on-peak or off-peak Zonal LMPs are then shaped to forward hourly day-ahead and real-time LMPs using the same procedure as defined in step (5) above, except using historical LMPs for the PJM Region pricing point.

D) Forward Hourly Ancillary Services Prices shall include prices for Synchronized Reserve, Non-Synchronized Reserve and Secondary Reserve and shall be determined as follows. The historical prices used herein shall be taken from one of each of the most recent three calendar years preceding the time of the determination for the RPM Auction:

(1) For Synchronized Reserve, the forward real-time Synchronized Reserve market clearing price shall be calculated by multiplying the historical RTO real-time hourly Synchronized Reserve market clearing price for each hour of the Delivery Year by the ratio of the real-time Forward Hourly LMP at an appropriate pricing point, as defined in the PJM manuals, to the historic hourly real-time LMP at such pricing point for the corresponding hour of the year;

(2) For Non-Synchronized Reserve, the forward real-time Non-Synchronized Reserve market clearing price shall be calculated by multiplying the historical RTO real-time hourly Non-Synchronized Reserve market clearing price for each hour of the Delivery Year by the ratio of the real-

time Forward Hourly LMP at an appropriate pricing point, as defined in the PJM manuals, to the historic hourly real-time LMP at such pricing point for the corresponding hour of the year; and

(3) For Secondary Reserve, the forward day-ahead and real-time Secondary Reserve market clearing price shall be $0.00/MWh for all hours.

E) Forward Daily Natural Gas Prices shall be determined as follows:

(1) Map each Zone to the appropriate natural gas hub in the PJM Region, as listed in the PJM Manuals;

(2) Map each natural gas hub lacking sufficient liquidity to the liquid hub to which it has the highest historic price correlation;

(3) For each sufficiently liquid natural gas hub, calculate the simple average natural gas monthly settlement prices over the most recent thirty trading days as of 180 days prior to the Base Residual Auction;

(4) Calculate the forward monthly prices for each illiquid hub by scaling the forward monthly price of the mapped liquid hub by the average ratio of historical monthly prices at the insufficiently liquid hub to the historical monthly prices at the sufficiently liquid over the most recent three calendar years preceding the time of determination for the RPM Auction;

(5) Shape the forward monthly prices for each hub to Forward Daily Natural Gas Prices using historic daily natural gas price shapes for the hub. The historic daily shapes are based on the ratio of the historic price for the hub for each given day in a month to the average of the historic prices for the hub for all days in such month. The daily prices are then assigned to each hour starting 10am Eastern Prevailing Time each day. The historical prices used in this step shall be taken from one of each of the most recent three calendar years preceding the time of the determination for the RPM Auction.

vi) Process for Establishing Parameters of Variable Resource Requirement Curve

A) The parameters of the Variable Resource Requirement Curve will be established prior to the conduct of the Base Residual Auction for a Delivery Year and will be used for such Base Residual Auction.

B) The Office of the Interconnection shall determine the PJM Region Reliability Requirement and the Locational Deliverability Area Reliability Requirement for each Locational Deliverability Area for which a Variable Resource Requirement Curve has been established for such Base Residual Auction on or before February 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values will be applied, in accordance with the Reliability Assurance Agreement. The Variable Resource Requirement Curve shall be posted on the same timeline with the PJM Region Reliability Requirement and the Locational Deliverability Area Reliability Requirement. Notwithstanding, for the 2029/2030 Delivery Year, the updated VRR Curve that incorporates any Excluded RTO New Large Load Amounts and Excluded LDA New Large Load Amounts shall be posted one month prior to the commencement of the relevant RPM Auction.

C) Beginning with the Delivery Year that commences June 1, 2018, and continuing no later than for every fourth Delivery Year thereafter, the Office of the Interconnection shall review the calculation of the Cost of New Entry for each CONE Area.

1) If the Office of the Interconnection determines that the Cost of New Entry values should be modified, the Staff of the Office of the Interconnection shall propose new Cost of New Entry values on or before May 15, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

2) The PJM Members shall review the proposed values.

3) The PJM Members shall either vote to (i) endorse the proposed values, (ii) propose alternate values or (iii) recommend no modification, by August 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

4) The PJM Board of Managers shall consider Cost of New Entry values, and the Office of the Interconnection shall file any approved modified Cost of New Entry values with the FERC by October 1, prior to the conduct of the Base

Residual Auction for the first Delivery Year in which the new values would be applied.

D) Beginning with the Delivery Year that commences June 1, 2018, and continuing no later than for every fourth Delivery Year thereafter, the Office of the Interconnection shall review the methodology set forth in this Attachment for determining the Net Energy and Ancillary Services Revenue Offset for the PJM Region and for each Zone.

1) If the Office of the Interconnection determines that the Net Energy and Ancillary Services Revenue Offset methodology should be modified, Staff of the Office of the Interconnection shall propose a new Net Energy and Ancillary Services Revenue Offset methodology on or before May 15, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new methodology would be applied.

2) The PJM Members shall review the proposed methodology.

3) The PJM Members shall either vote to (i) endorse the proposed methodology, (ii) propose an alternate methodology or (iii) recommend no modification, by August 31, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new methodology would be applied.

4) The PJM Board of Managers shall consider the Net Revenue Offset methodology, and the Office of the Interconnection shall file any approved modified Net Energy and Ancillary Services Revenue Offset values with the FERC by October 1, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.

b) Locational Requirements

The Office of Interconnection shall establish locational requirements prior to the Base Residual Auction to quantify the amount of Unforced Capacity that must be committed in each Locational Deliverability Area, in accordance with the Reliability Assurance Agreement.

c) [Reserved]

d) Preliminary PJM Region Peak Load Forecast for the Delivery Year

The Office of the Interconnection shall establish the Preliminary PJM Region Load Forecast for the Delivery Year in accordance with the PJM Manuals by February 1, prior to the conduct of the Base Residual Auction for such Delivery Year.

e) Updated PJM Region Peak Load Forecasts for Incremental Auctions

The Office of the Interconnection shall establish the updated PJM Region Peak Load Forecast for a Delivery Year in accordance with the PJM Manuals by February 1, prior to the conduct of the First, Second, and Third Incremental Auction for such Delivery Year.

5.11 Posting of Information Relevant to the RPM Auctions

a) In accordance with the schedule provided in the PJM Manuals, PJM will post the following information for a Delivery Year prior to conducting the Base Residual Auction for such Delivery Year:

i) The Preliminary PJM Region Peak Load Forecast (for the PJM Region, and allocated to each Zone);

ii) The PJM Region Installed Reserve Margin, the Pool-wide average EFORd, (through the 2024/2025 Delivery Year), the pool-wide average Accredited UCAP Factor (beginning with the 2025/2026 Delivery Year), the Forecast Pool Requirement, and all applicable Capacity Import Limits;

iii) Beginning with the 2029/2030 Delivery Year, the quantity of Excluded RTO New Large Load Amounts and Excluded LDA New Large Load Amounts used in establishing the Variable Resource Requirement Curve;

iv) The PJM Region Reliability Requirement, and the Variable Resource Requirement Curve for the PJM Region, including the details of any adjustments to account for Price Responsive Demand and any associated PRD Reservation Prices;

v) The Locational Deliverability Area Reliability Requirement and the Variable Resource Requirement Curve for each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction, including the details of any adjustments to account for Price Responsive Demand and any associated PRD Reservation Prices, and the CETO and CETL values for all Locational Deliverability Areas;

vi) Any Transmission Upgrades that are expected to be in service for such Delivery Year, provided that a Transmission Upgrade that is Backbone Transmission satisfies the project development milestones set forth in Tariff, Attachment DD, section 5.11A;

vii) The bidding window time schedule for each auction to be conducted for such Delivery Year; and

viii) The Net Energy and Ancillary Services Revenue Offset values for the PJM Region for use in the Variable Resource Requirement Curves for the PJM Region and each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction.

b) The information listed in (a) will be posted and applicable for the First, Second, Third, and Conditional Incremental Auctions for such Delivery Year, except to the extent updated or adjusted as required by other provisions of this Tariff.

c) In accordance with the schedule provided in the PJM Manuals, PJM will post the Final PJM Region Peak Load Forecast and the allocation to each zone of the obligation resulting from such final forecast, following the completion of the final Incremental Auction (including any Conditional Incremental Auction) conducted for such Delivery Year;

d) In accordance with the schedule provided in the PJM Manuals, PJM will advise owners of Generation Capacity Resources of the updated EFORd values for such Generation Capacity Resources prior to the conduct of the Third Incremental Auction for such Delivery Year.

e) After conducting the Reliability Pricing Model Auctions, PJM will post the results of each auction as soon thereafter as possible, including any adjustments to PJM Region or LDA Reliability Requirements to reflect Price Responsive Demand with a PRD Reservation Price equal to or less than the applicable Base Residual Auction clearing price. The posted results for each Base Residual Auction shall include graphical supply curves that are (a) provided for the entire PJM Region, (b) provided for any Locational Deliverability Area for which there are four (4) or more suppliers, and (c) developed using a formulaic approach to smooth the curves using a statistical technique that fits a smooth curve to the underlying supply curve data while ensuring that the point of intersection between supply and demand curves is at the market clearing price.

If PJM discovers a potential error in the initial posting of auction results for a particular Reliability Pricing Model Auction, it shall notify Market Participants as soon as possible after it is found, but in no event later than 5:00 p.m. of the fifth Business Day following the initial publication of the results of the auction. After this initial notification, if PJM determines it is necessary to post modified results, it shall provide notification of its intent to do so, along with a description detailing the cause and scope of the error, by no later than 5:00 p.m. of the seventh Business Day following the initial publication of the results of the auction. The provided description will not contain information that is market sensitive or confidential. Thereafter, PJM must post on its Web site any corrected auction results by no later than 5:00 p.m. of the tenth Business Day following the initial publication of the results of the auction. Should any of the above deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted results will be considered final. Notwithstanding the foregoing, the deadlines set forth above shall not apply if the referenced auction results are under publicly noticed review by the FERC.

5.12 Conduct of RPM Auctions

The Office of the Interconnection shall employ an optimization algorithm for each Base Residual Auction and each Incremental Auction to evaluate the Sell Offers and other inputs to such auction to determine the Sell Offers that clear such auction.

a) Base Residual Auction

For each Base Residual Auction, the optimization algorithm shall consider:

- all Sell Offers submitted in such auction;
- the Variable Resource Requirement Curves for the PJM Region and each LDA;
- any constraints resulting from the Locational Deliverability Requirement and any applicable Capacity Import Limit;
- For the 2018/2019 Delivery Year and subsequent Delivery Years, the PJM Reliability Requirement; and
- For the 2020/2021 Delivery Year and subsequent Delivery Years, the requirement that the cleared quantity of Summer-Period Capacity Performance Resources equal the cleared quantity of Winter-Period Capacity Performance Resources for the PJM Region.

The optimization algorithm shall be applied to calculate the overall clearing result to minimize the cost of satisfying the reliability requirements across the PJM Region, regardless of whether the quantity clearing the Base Residual Auction is above or below the applicable target quantity, while respecting all applicable requirements and constraints, including any restrictions specified in any Credit-Limited Offers. Where the supply curve formed by the Sell Offers submitted in an auction falls entirely below the Variable Resource Requirement Curve, the auction shall clear at the price-capacity point on the Variable Resource Requirement Curve corresponding to the total Unforced Capacity provided by all such Sell Offers. Where the supply curve consists only of Sell Offers located entirely below the Variable Resource Requirement Curve and Sell Offers located entirely above the Variable Resource Requirement Curve, the auction shall clear at the price-capacity point on the Variable Resource Requirement Curve corresponding to the total Unforced Capacity provided by all Sell Offers located entirely below the Variable Resource Requirement Curve. In determining the lowest-cost overall clearing result that satisfies all applicable constraints and requirements, the optimization may select from among multiple possible alternative clearing results that satisfy such requirements, including, for example (without limitation by such example), accepting a lower-priced Sell Offer that intersects the Variable Resource Requirement Curve and that specifies a minimum capacity block, accepting a higher-priced Sell Offer that intersects the Variable Resource Requirement Curve and that contains no minimum-block limitations, or rejecting both of the above alternatives and clearing the auction at the higher-priced point on the Variable Resource Requirement Curve that corresponds to the Unforced Capacity provided by all

Sell Offers located entirely below the Variable Resource Requirement Curve. For the 2020/2021 Delivery Year and subsequent Delivery Years, the supply curve formed by the Sell Offers submitted within an LDA for which a separate VRR Curve is established, shall only consider the quantity of MW from Summer-Period Capacity Performance Resources that are equally matched with Winter-Period Capacity Performance Resources within the LDA, such that only the equally matched quantity of opposite-season Sell Offers are considered in satisfying the LDA's reliability requirement.

The Sell Offer price of a Qualifying Transmission Upgrade shall be treated as a capacity price differential between the LDAs specified in such Sell Offer between which CETL is increased, and the Import Capability provided by such upgrade shall clear to the extent the difference in clearing prices between such LDAs is greater than the price specified in such Sell Offer. The Capacity Resource clearing results and Capacity Resource Clearing Prices so determined shall be applicable for such Delivery Year. The Capacity Resource clearing results and Capacity Resource Clearing Prices determined for Summer-Period Capacity Performance Resources shall be applicable for the calendar months of June through October and the following May of such Delivery Year; and shall be applicable for Winter-Period Capacity Performance Resources for the calendar months of November through April of such Delivery Year.

b) Scheduled Incremental Auctions.

For purposes of a Scheduled Incremental Auction, the optimization algorithm shall consider:

- For the 2018/2019 Delivery Year and subsequent Delivery Years, the PJM Reliability Requirement;

- Updated LDA Reliability Requirements taking into account any updated Capacity Emergency Transfer Objectives;

- The Capacity Emergency Transfer Limit used in the Base Residual Auction, or any updated value resulting from a Conditional Incremental Auction;

- All applicable Capacity Import Limits;

- For the 2018/2019 Delivery Year and subsequent Delivery Years, for each LDA, such LDA's updated Reliability Requirement;

- For the 2020/2021 Delivery Year and subsequent Delivery Years, the requirement that the cleared quantity of Summer-Period Capacity Performance Resources equal the cleared quantity of Winter-Period Capacity Performance Resources for the PJM Region;

- A demand curve consisting of the Buy Bids submitted in such auction and, if indicated for use in such auction in accordance with the provisions below, the Updated VRR Curve Increment;

- The Sell Offers submitted in such auction; and
- The Unforced Capacity previously committed for such Delivery Year.

(i) When the requirement to seek additional resource commitments in a Scheduled Incremental Auction is triggered by Tariff, Attachment DD, section 5.4(c)(2), the Office of the Interconnection shall employ in the clearing of such auction the Updated VRR Curve Increment.

(ii) When the requirement to seek additional resource commitments in a Scheduled Incremental Auction is triggered by Tariff, Attachment DD, section 5.4(c)(1), and the conditions stated in Tariff, Attachment DD, section 5.4(c)(2) do not apply, the Office of the Interconnection first shall determine the total quantity of (A) the amount that the Office of the Interconnection sought to procure in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, minus (B) the amount that the Office of the Interconnection sought to sell back in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, plus (C) the difference between the updated PJM Region Reliability Requirement or updated LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) and, respectively, the PJM Region Reliability Requirement, or LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts), utilized in the most recent prior auction conducted for such Delivery Year plus any amount required by section 5.4(c)(2)(ii), plus (D) the reduction in Unforced Capacity commitments associated with the transition provisions of Tariff, Attachment DD, section 5.5A(c)(i)(B) and RAA, Schedule 6, section L.9. If the result of such equation is a positive quantity, the Office of the Interconnection shall employ in the clearing of such auction a portion of the Updated VRR Curve Increment extending right from the left-most point on that curve in a megawatt amount equal to that positive quantity defined above, to seek to procure such quantity. If the result of such equation is a negative quantity, the Office of the Interconnection shall employ in the clearing of the auction a portion of the Updated VRR Curve Decrement, extending and ascending to the left from the right-most point on that curve in a megawatt amount corresponding to the negative quantity defined above, to seek to sell back such quantity.

(iii) When the possible need to seek agreements to release capacity commitments in any Scheduled Incremental Auction is indicated for the PJM Region or any LDA by Tariff, Attachment DD, section 5.4(c)(3)(i), the Office of the Interconnection first shall determine the total quantity of (A) the amount that the Office of the Interconnection sought to procure in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, minus (B) the amount that the Office of the Interconnection sought to sell back in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, plus (C) the difference between the updated PJM Region Reliability Requirement or updated LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large Load Amounts) and, respectively, the PJM Region Reliability Requirement, or LDA Reliability Requirement (inclusive of any updated adjustments to the Excluded RTO New Large Load Amounts and/or Excluded LDA New Large

Load Amounts), utilized in the most recent prior auction conducted for such Delivery Year minus any capacity sell-back amount determined by PJM to be required for the PJM Region or such LDA by Tariff, Attachment DD, section 5.4(c)(3)(ii), plus (D) the reduction in Unforced Capacity commitments associated with the transition provisions of Tariff, Attachment DD, section 5.5A(c)(i)(B) and RAA, Schedule 6, section L.9, provided, however, that the amount sold in total for all LDAs and the PJM Region related to a delay in a Backbone Transmission upgrade may not exceed the amounts purchased in total for all LDAs and the PJM Region related to a delay in a Backbone Transmission upgrade. If the result of such equation is a positive quantity, the Office of the Interconnection shall employ in the clearing of such auction a portion of the Updated VRR Curve Increment extending right from the left-most point on that curve in a megawatt amount equal to that positive quantity defined above, to seek to procure such quantity. If the result of such equation is a negative quantity, the Office of the Interconnection shall employ in the clearing of the auction a portion of the Updated VRR Curve Decrement, extending and ascending to the left from the right-most point on that curve in a megawatt amount corresponding to the negative quantity defined above, to seek to sell back such quantity.

(iv) If none of the tests for adjustment of capacity procurement in subsections (i), (ii), or (iii) is satisfied for the PJM Region or an LDA in a Scheduled Incremental Auction, the Office of the Interconnection first shall determine the total quantity of (A) the amount that the Office of the Interconnection sought to procure in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction, minus (B) the amount that the Office of the Interconnection sought to sell back in prior Scheduled Incremental Auctions for such Delivery Year that does not clear such auction. If the result of such equation is a positive quantity, the Office of the Interconnection shall employ in the clearing of such auction a portion of the Updated VRR Curve Increment extending right from the left-most point on that curve in a megawatt amount equal to that positive quantity defined above, to seek to procure such quantity. If the result of such equation is a negative quantity, the Office of the Interconnection shall employ in the clearing of the auction a portion of the Updated VRR Curve Decrement, extending and ascending to the left from the right-most point on that curve in a megawatt amount corresponding to the negative quantity defined above, to seek to sell back such quantity.

(v) (reserved)

(vi) If the above tests are triggered for an LDA and for another LDA wholly located within the first LDA, the Office of the Interconnection may adjust the amount of any Sell Offer or Buy Bids otherwise required by subsections (i), (ii), or (iii) above in one LDA as appropriate to take into account any reliability impacts on the other LDA.

(vii) The optimization algorithm shall calculate the overall clearing result to minimize the cost to satisfy the Unforced Capacity Obligation of the PJM Region to account for the updated PJM Peak Load Forecast and the cost of committing replacement capacity in response to the Buy Bids submitted, while satisfying or honoring such reliability requirements and constraints, in the same manner as set forth in subsection (a) above.

(viii) Load Serving Entities may be entitled to certain credits ("Excess Commitment Credits") under certain circumstances as follows:

(A) [Reserved]

(B) For any Delivery Year beginning with the Delivery Year that commences June 1, 2012, the total amount that the Office of the Interconnection sought to sell back pursuant to subsection (b)(iii) above in the Scheduled Incremental Auctions for such Delivery Year that does not clear such auctions, less the total amount that the Office of the Interconnection sought to procure pursuant to subsections (b)(i) and (b)(ii) above in the Scheduled Incremental Auctions for such Delivery Years that does not clear such auctions, will be allocated to Load Serving Entities as set forth below;

(C) the amount from (A) or (B) above for the PJM Region shall be allocated among Locational Deliverability Areas pro rata based on the reduction for each such Locational Deliverability Area in the peak load forecast from the time of the Base Residual Auction to the time of the Third Incremental Auction; provided, however, that the amount allocated to a Locational Deliverability Area may not exceed the reduction in the corresponding Reliability Requirement for such Locational Deliverability Area; and provided further that any LDA with an increase in its load forecast shall not be allocated any Excess Commitment Credits;

(D) the amount, if any, allocated to a Locational Deliverability Area shall be further allocated among Load Serving Entities in such areas that are charged a Locational Reliability Charge based on the Daily Unforced Capacity Obligation of such Load Serving Entities as of June 1 of the Delivery Year and shall be constant for the entire Delivery Year. Excess Commitment Credits may be used as Replacement Capacity or traded bilaterally.

c) Conditional Incremental Auction

For each Conditional Incremental Auction, the optimization algorithm shall consider:

- The quantity and location of capacity required to address the identified reliability concern that gave rise to the Conditional Incremental Auction;
- All applicable Capacity Import Limits;
- the same Capacity Emergency Transfer Limits that were modeled in the Base Residual Auction, or any updated value resulting from a Conditional Incremental Auction; and
- the Sell Offers submitted in such auction.

The Office of the Interconnection shall submit a Buy Bid based on the quantity and location of capacity required to address the identified reliability violation at a Buy Bid price equal to 1.5 times Net CONE.

The optimization algorithm shall calculate the overall clearing result to minimize the cost to address the identified reliability concern, while satisfying or honoring such reliability requirements and constraints.

d) Equal-priced Sell Offers

If two or more Sell Offers submitted in any auction satisfying all applicable constraints include the same offer price, and some, but not all, of the Unforced Capacity of such Sell Offers is required to clear the auction, then the auction shall be cleared in a manner that minimizes total costs, including total make-whole payments if any such offer includes a minimum block and, to the extent consistent with the foregoing, in accordance with the following additional principles:

1) as necessary, the optimization shall clear such offers that have a flexible megawatt quantity, and the flexible portions of such offers that include a minimum block that already has cleared, where some but not all of such equal-priced flexible quantities are required to clear the auction, pro rata based on their flexible megawatt quantities; and

2) when equal-priced minimum-block offers would result in equal overall costs, including make-whole payments, and only one such offer is required to clear the auction, then the offer that was submitted earliest to the Office of the Interconnection, based on its assigned timestamp, will clear.

ATTACHMENT DD-4

INTERIM RESOURCE ADEQUACY SERVICE

I. INTRODUCTION

This Attachment DD-4 sets forth the terms and conditions governing the provision of Interim Resource Adequacy Service. As more fully set forth in this Attachment and the PJM Manuals, and in conjunction with the Reliability Assurance Agreement:

(a) Interim Resource Adequacy Service is a load reduction service, effective starting with the 2027/2028 Delivery Year, through which Eligible New Large Loads may be compensated for providing load reductions requested by the Office of the Interconnection to maintain system reliability for the purpose of supporting the integration of New Large Loads to the PJM Region that are not in arrangements with new capacity additions to the PJM Region;

(b) Starting with the 2027/2028 Delivery Year, the Office of the Interconnection may, in accordance with the Manuals, instruct the implementation of an Interim Resource Adequacy Service Action prior to calling on Pre-Emergency Load Management Reductions Actions after determining that available economic real-time supply may not be sufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits within prescribed limits and prevent cascading outages;

(c) The Large Load Registry maintained by the Office of the Interconnection, pursuant to the Reliability Assurance Agreement, shall inform which New Large Loads are eligible to be called on to provide Interim Resource Adequacy Service; and

(d) The Office of the Interconnection shall coordinate with Electric Distributors, and other Members as appropriate, on the provision of Interim Resource Adequacy Service and the compensation for providing Interim Resource Adequacy Service.

II. RESPONSBILITIES OF THE OFFICE OF THE INTERCONNECTION

The Office of the Interconnection shall:

(a) maintain the Large Load Registry, pursuant to Reliability Assurance Agreement, Schedule 11;

(b) identify Eligible New Large Loads;

(c) determine the megawatt quantity of New Large Loads eligible to provide Interim Resource Adequacy Service in each Electric Distributor zone/area for a given Delivery Year;

(d) starting with the 2027/2028 Delivery Year, issue an Interim Resource Adequacy Service Action based on system conditions; and

(e) request Electric Distributors to direct that a quantity of Eligible New Large Load Amounts in their respective zone(s)/area(s) be reduced in accordance with an Interim Resource Adequacy Service Action.

III. RESPONSBILITIES OF ELECTRIC DISTRIBUTORS

Electric Distributors shall:

(a) execute the Office of the Interconnection's directives to implement Interim Resource Adequacy Service Actions among the Eligible New Large Loads in the Electric Distributor's zone/area, which is an area within a Zone for which the relevant Electric Distributor specifies a separate Obligation Peak Load MW value and is a service area of an Electric Distributor that is a separately identifiable, geographic area bounded by wholesale metering;

(b) coordinate with the Office of the Interconnection in developing and maintaining the Large Load Registry by providing the Office of the Interconnection any information or data the Electric Distributor believes appropriate to facilitate an accurate Large Load Registry, including applicable state or RERRA retail tariff or contractual obligations;

(c) coordinate, as appropriate, with the relevant state(s) or RERRA(s), individual Load Serving Entities, and customers served by the Load Serving Entities in its zone/area to support transparent, effective, and orderly deployment of Interim Resource Adequacy Service; and

(d) implement compensation program consistent with Tariff, Attachment DD-4, section X.

IV. DETERMINATION OF MAXIMUM INTERIM RESOURCE ADEQUACY SERVICE EACH ELIGIBLE NEW LARGE LOAD MAY PROVIDE IN A DELIVERY YEAR

(a) All Eligible New Large Loads shall be available to be requested to provide Interim Resource Adequacy Service by the Office of the Interconnection.

(b) The amount of Interim Resource Adequacy Service available to the Office of the Interconnection may change for each Delivery Year depending on the relationship of the amount of Capacity Resources committed, through Tariff, Attachment DD, for a given Delivery Year, and the Eligible New Large Load Amounts.

(i) In the event ([the amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) is less than the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor) by an amount greater than the sum (in MW) of all Eligible New Large Load Amounts, then all Eligible New Large Load Amounts is needed by the Office of the Interconnection to be available to provide Interim Resource Adequacy Service for that Delivery Year;

(ii) In the event ([the amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) is less than the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor) by an amount less than the sum (in MW) of all Eligible New Large Load Amounts, then the difference (in MW) shall be the cumulative amount (in MW) of Eligible New Large Load Amounts that the Office of the Interconnection needs to be available to provide Interim Resource Adequacy Service for that Delivery Year; and

(iii) In the event ([the amount of Capacity Resources committed for a given Delivery Year (as determined after the Third Incremental Auction) equals or exceeds the PJM Region Reliability Requirement determined prior to the Third Incremental Auction] divided by the Pool-wide Accredited UCAP Factor), then the Office of the Interconnection does not need any Eligible New Large Loads to be available to provide Interim Resource Adequacy Service for that Delivery Year.

(c) For each Delivery Year that meets the requirements of Tariff, Attachment DD-4, sections IV(b)(i) or IV(b)(ii), the Office of the Interconnection shall determine:

(i) the total amount of Interim Resource Adequacy Service (in MW) needed to be available on a daily basis across the PJM Region for the Delivery Year; and

(ii) the total amount of Interim Resource Adequacy Service (in MW) needed to be available on a daily basis in each Electric Distributor zone/area for the Delivery Year, which shall be equal to the product of the sum of all Eligible New Large Load Amounts needed in the PJM Region pursuant to Attachment DD-4, section IV(b) multiplied by the quotient of [(the sum of all Eligible New Large Load Amounts in the Electric Distributor's zone/area) divided by (the sum of all Eligible New Large Load Amounts in the PJM Region)].

V. DETERMINATION OF NEW LARGE LOADS ELIGIBILITY TO PROVIDE INTERIM RESOURCE ADEQUACY SERVICE

(a) All New Large Loads shall be Eligible New Large Loads to the extent that the sum of a New Large Load's Eligible New Large Load Amount is less than the New Large Load's registered peak load (in MW), as provided in the Large Load Registry. New Large Loads with a cumulative installed capacity equivalent of their BYONC arrangements and assigned Allocated RBP UCAP MW that equals or exceeds the New Large Load's registered peak load, as provided in the Large Load Registry, shall not be Eligible New Large Loads. New Large Loads that are located within an FRR Service Area cannot be Eligible New Large Loads.

(b) A New Large Load's Eligible New Large Load Amount shall be determined as follows:

> (New Large Load's registered peak load (in MW), as provided in the Large Load Registry) minus (the sum of all BYONC arrangements with the New Large Load in accordance with Tariff, Attachment DD-4, section VII divided by the Forecast Pool Requirement for the first Delivery Year in which the BYONC cleared an RPM Auction, plus Allocated RBP UCAP MW assigned to the New Large Load, in accordance with Tariff, Attachment DD-4, section IX divided by the Forecast Pool Requirement for the first Delivery Year in which the Allocated RBP UCAP MW cleared an RPM Auction).

(c) For purposes of removing its eligibility to provide Interim Resource Adequacy Service, a New Large Load may enter into arrangements with BYONC supported by one or more resources.

VI. BRING YOUR OWN NEW CAPACITY CRITERIA

(a) (i) Capacity Resources that cleared an RPM Auction for the first time in the Base Residual Auction for the 2027/2028, 2028/2029, and 2029/2030 Delivery Years may qualify as BYONC to the extent the underlying resource meets the criteria in subsection (b) below.

(ii) Megawatts of Unforced Capacity that have not cleared an RPM Auction, other than those specified in subsection (a)(i) above, may qualify as BYONC to the extent the underlying resource meets the criteria in subsection (b) below. To the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then megawatts of Unforced Capacity may qualify as BYONC to the extent the underlying resource meets the criteria in subsection (b) below and such megawatts (1) have not cleared in an RPM Auction conducted for a Delivery Year prior to the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met and (2) meet the eligibility criteria set forth in Tariff, Attachment DD-4, section VI.

(iii) With the exception of the RPM Auctions listed in subsection (a)(i) above, to the extent megawatts of Unforced Capacity that have cleared an RPM Auction before any arrangement with a New Large Load based on such megawatts was reported to the Office of the Interconnection, then such megawatts of Unforced Capacity cannot qualify as BYONC even if the underlying resource meets the criteria in subsection (b) below.

(b) To qualify as Bring Your Own New Capacity, resources must meet the following eligibility requirements:

(i) For generation and storage resources, the resource must be supported by one of the following:

(1) a new-build generation resource including new resources that obtain Capacity Interconnection Rights transferred from deactivated resources or resources that have announced deactivation as of April 10, 2026;

(2) the incremental capacity created by an uprate of Existing Generation Capacity Resources, but only to the extent such incremental capacity is created through an increase in such Generation Capacity Resource's installed capacity and increase in Capacity Interconnection Rights associated with that Generation Capacity Resource;

(3) the incremental capacity created by the utilization of Surplus Interconnection Service;

(4) repowering of a deactivated generation resource that deactivated prior to April 10, 2026; or

(5) incremental capacity, whether due to greater Unforced Capacity or a higher level of Capacity Interconnection Rights, created by an Existing Generation Capacity Resource's changing fuel type to a more efficient fuel type.

(ii) For Demand Resources or DER Capacity Aggregation Resources, the resource must qualify as a Planned Demand Resource or DER Capacity Aggregation Resource, as described in the RAA, Schedule 6 and Schedule 6.2 and:

(1) be composed of, or reliant on, any location not registered in or prior to the 2026/2027 Delivery Year at which an incremental amount at that location is the result of the registration of new generation or storage assets at the location. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then will be composed of, or reliant on, any location registered in the Delivery Year prior to the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met; and/or

(2) be composed of, or reliant on, locations that were not previously supported a Capacity Resource, a Peak Shaving Adjustment, or Price Responsive Demand for or prior to the 2026/2027 Delivery Year. However, to the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then will be composed of, or reliant on, locations that were not previously supported a Capacity Resource, a Peak Shaving Adjustment, or Price Responsive Demand for the Delivery Year prior to the first Delivery Year for which the requirements of Tariff, Attachment DD-4, section IV(b)(iii) are not met.

VII. BRING YOUR OWN NEW CAPACITY ARRANGEMENTS WITH NEW LARGE LOADS

(a) For any BYONC to be in an arrangement with a New Large Load,

(i) the Load Serving Entity serving the New Large Load or the applicable Electric Distributor shall report the BYONC in an arrangement with the New Large Load, in accordance with the PJM Manuals. The Office of the Interconnection may also accept information to the extent interconnection customers, Large Loads, Transmission Owners, or other entities voluntarily report any BYONC that may be in an arrangement with a New Large Load; and

(ii) the resource owner or entity with contractual authority to enter into a BYONC arrangement must certify to the Office of Interconnection, in accordance with the PJM Manuals, attesting to the arrangement with the New Large Load and that the BYONC will follow the requirements of Tariff, Attachment DD-4, section VIII.

(b) For an arrangement between a New Large Load and BYONC to be effective for the 2027/2028 and 2028/2029 Delivery Years, for any BYONC arrangement to be considered, the requirements of Tariff, Attachment DD-4, section VII(a) must be met by April 1 for the first Delivery Year such arrangement is to result in a reduction in the New Large Load's Eligible New Large Load Amount. By April 15, the Office of the Interconnection shall update the Large Load Registry to reflect any verified arrangements between New Large Loads and BYONC.

(c) For an arrangement between a New Large Load and BYONC to be effective for the 2029/2030 Delivery Year, for any BYONC arrangement to be considered, the requirements of Tariff, Attachment DD-4, section VII(a) must be reported to the Office of the Interconnection no later than by 50 days prior to the commencement of the 2029/2030 Base Residual Auction or by 30 days prior to the posting of the planning parameters for the Incremental Auctions arrangement for the 2029/2030 Delivery Year. The Office of the Interconnection shall update the Large Load Registry to reflect any verified arrangements between New Large Loads and BYONC after the relevant RPM Auction.

(d) For an arrangement between a New Large Load and BYONC to be effective for the 2030/2031 Delivery Year and subsequent Delivery Years, the requirements of Tariff, Attachment DD-4, section VII(a) must be reported to the Office of the Interconnection no later than by 30 days prior to the posting of the planning parameters for the relevant RPM Auction for the initial Delivery Year the BYONC enters into an arrangement with the New Large Load. The Office of the Interconnection shall update the Large Load Registry to reflect any verified arrangements between New Large Loads and BYONC after the relevant RPM Auction.

(e) BYONC that is in an arrangement with a New Large Load must remain in such arrangement with that New Large Load unless and until the New Large Load is permanently out-of-service.

(f) A physical resource may support multiple BYONC, each of which may be in an arrangement with different New Large Loads, as long as no BYONC is in an arrangement with more than one New Large Load.

(g) A New Large Load may enter into an arrangement with discrete BYONC supported by different physical resources.

(h) A New Large Load may enter into an arrangement with BYONC in excess of its current Eligible Large Load Amount, e.g., to allow for expected growth in the New Large Load, and the full megawatt quantity of such BYONC shall be offered in the first RPM Auction for which the New Large Load is included in the Variable Resource Requirement Curve.

(i) (i) For any generation or storage resource, the Accredited UCAP of any BYONC shall be the Accredited UCAP for the RPM Auction in which the BYONC cleared for the initial Delivery Year the BYONC is in an arrangement with the New Large Load.

(ii) For Demand Resources or DER Capacity Aggregation Resources, the Accredited UCAP shall be the Accredited UCAP for the RPM Auction in which the BYONC cleared for the initial Delivery Year the BYONC is in an arrangement with the New Large Load and must be demonstrated each year for a 10-year period using the Demand Response or DER Capacity Aggregation Resources installed capacity for the first Delivery Year after the BYONC is in an arrangement with the New Large Load. For Demand Resources or DER Capacity Aggregation Resources that are also the actual New Large Load, there is no demonstration required for the initial Delivery Year only to not be an Eligible New Large Load.

VIII. BRING YOUR OWN NEW CAPACITY PARTICIPATION IN THE RELIABILITY PRICING MODEL

(a) All BYONC in an arrangement with a New Large Load must meet the requirements in Tariff, Attachment DD, section 5.5A and become Capacity Resources eligible to participate in RPM Auctions.

(b) All BYONC in an arrangement with a New Large Load must be offered into the RPM Auctions as Capacity Resources consistent with and pursuant to the capacity must-offer requirements and exceptions set forth in Tariff, Attachment DD, sections 6.6 and 6.6A. BYONC may not seek an exception to the capacity must-offer requirement to provide an external sale, as available under Tariff, Attachment DD, section 6.6(g) for a 10-year period starting with the first Delivery Year which the BYONC is in an arrangement with the New Large Load.

(c) All BYONC in an arrangement with a New Large Load and committed through RPM Auctions will be subject to all capacity market rules, as set forth in Tariff, Attachments DD and DD-1.

(d) To the extent the resource supporting a BYONC arrangement is unavailable in a given Delivery Year, the seller of such resource will be subject to all relevant deficiency charges under Tariff, Attachment DD.

(e) All BYONC in an arrangement with a New Large Load and not qualifying for an exception pursuant to Tariff, Attachment DD, section 6.6(g), must be offered into the applicable RPM Auctions as price takers, i.e., $0/MW-day UCAP for a 10-year period starting with the first Delivery Year which the BYONC is in an arrangement with the New Large Load. To the extent the resource is a Demand Resource or DER Capacity Aggregation Resource, the BYONC shall participate in RPM Auctions for ten (10) consecutive Delivery Years as an Annual Demand Resource or DER Capacity Aggregation Resource, as applicable; provided, however, the seller of such Demand Resource or DER Capacity Aggregation Resource may, in accordance with Tariff, Attachment DD-4, section VII(a)(i) report to the Office of the Interconnection BYONC that replaces such BYONC, where such replacement shall be for the remainder of the replaced BYONC's ten-year RPM Auction participation commitment and the replaced BYONC (and its supporting registrations) may no longer provide BYONC. In such event, the replacement BYONC would need to be supported by the certification required by Tariff, Attachment DD-4, section VII(a)(ii), and such replacement arrangement must be effective coincident with the initial BYONC releasing its arrangement.

(f) To the extent three consecutive Delivery Years meet the requirements of Tariff, Attachment DD-4, section IV(b)(iii), then any existing BYONC are relieved of the obligations under this Tariff, Attachment DD-4, section VIII.

IX. ALLOCATION OF RBP UCAP MW

(a) Each Electric Distributor zone/area allocated RBP Charges pursuant to Tariff, Attachment DD, section 18.3(a) shall be allocated RBP UCAP MW on a pro-rata basis using the Electric Distributor zone/area's assigned share of the total Final RBP Target MW across all zone/areas.

(b) Each New Large Load's Allocated RBP UCAP MW shall be determined as follows:

(i) Each Electric Distributor allocated RBP UCAP MW shall inform the Office of the Interconnection how such RBP UCAP MW should be further allocated among the New Large Loads located in the Electric Distributor's zone/area; or

(ii) In the event the Electric Distributor has not informed the Office of the Interconnection how its RBP UCAP MW should be further allocated by April 1 before a given Delivery Year, the Office of the Interconnection shall allocate such RBP UCAP MW to the Electric Distributor's zone/area pro-rata among all New Large Loads located in the zone/area.

(c) The Office of the Interconnection shall list in the Large Load Registry each New Large Load's Allocated RBP UCAP MW.

X. COMPENSATION FOR PROVIDING INTERIM RESOURCE ADEQUACY SERVICE

(a) The rate for the provision of Interim Resource Adequacy Service shall be 50% of the Non-Performance Charge Rate specified in Tariff, Attachment DD, section 10A(e), unless any Eligible New Large Load elects to (i) accept in its retail rates a sum less than 50% of the Non-Performance Charge Rate as compensation for the provision of wholesale Interim Resource Adequacy Service, or (ii) waive receipt in its retail rates any compensation for the provision of wholesale Interim Resource Adequacy Service as contemplated by Tariff, Attachment DD-4, section X(c). If any Eligible New Large Load so elects to accept less than 50% of the Non-Performance Charge Rate or waives in its entirety receipt of compensation for the provision of wholesale Interim Resource Adequacy Service, the wholesale rate for the provision of Interim Resource Adequacy Service shall reflect the accepted sum less than 50% of the Non-Performance Charge Rate or if compensation is waived entirely, the rate shall be zero dollars.

(b) (i) Following an Interim Resource Adequacy Event, unless the Electric Distributor informs the Office of the Interconnection otherwise in accordance with Tariff, Attachment DD-4, section X(b)(ii), the Electric Distributor shall be responsible for compensating all Eligible New Large Loads that provided Interim Resource Adequacy Service for up to the amount of such service provided. The Electric Distributor shall be responsible for charging customers in its zone/area to fund any such compensation.

(ii) The Electric Distributor may request the Office of the Interconnection to compensate certain Members for the provision of Interim Resource Adequacy Service and to assess charges on certain Load Serving Entities within the Electric Distributor's zone/area to fund such compensation. In support of such request, as further set forth in the PJM Manuals, the Electric Distributor shall (1) identify each Member to be compensated and provide the level of compensation and (2) identify each Load Serving Entity to be charged and the level of charge.

(iii) The Office of the Interconnection, PJMSettlement, and the Members will not assume financial responsibility for the failure of a party to pay any amounts owed to another party under this section. In the event the Electric Distributor requests the Office of the Interconnection facilitate the billing associated with an Interim Resource Adequacy Event, such billing shall be considered a bilateral transaction between the Electric Distributor and the identified Members and PJMSettlement shall not be a contracting party to the settlement.

(c) Nothing in this Tariff, Attachment DD-4, section X shall interfere with any Eligible New Large Load's election to (i) accept in its retail rates a sum less than 50% of the Non-Performance Charge Rate as compensation for the provision of wholesale Interim Resource Adequacy Service, or (ii) waive receipt in its retail rates any compensation for the provision of wholesale Interim Resource Adequacy Service.

ARTICLE 1 – DEFINITIONS

Unless the context otherwise specifies or requires, capitalized terms used herein shall have the respective meanings assigned herein or in the Schedules hereto, or in the PJM Tariff or PJM Operating Agreement if not otherwise defined in this Agreement, for all purposes of this Agreement (such definitions to be equally applicable to both the singular and the plural forms of the terms defined). Unless otherwise specified, all references herein to Articles, Sections or Schedules, are to Articles, Sections or Schedules of this Agreement. As used in this Agreement:

Accredited UCAP:

"Accredited UCAP" shall mean the quantity of Unforced Capacity, as denominated in Effective UCAP, that an ELCC Resource is capable of providing in a given Delivery Year.

Accredited UCAP Factor:

"Accredited UCAP Factor" shall mean, through the 2024/2025 Delivery Year, one minus EFORd, and for 2025/2026 Delivery Year and subsequent Delivery Years, the ratio of the Capacity Resource's Accredited UCAP to the Capacity Resource's installed capacity.

Agreement:

"Agreement" shall mean this Reliability Assurance Agreement, together with all Schedules hereto, as amended from time to time.

Annual Demand Resource:

"Annual Demand Resource" shall mean a resource that is placed under the direction of the Office of the Interconnection during the Delivery Year, and will be available for an unlimited number of interruptions during such Delivery Year by the Office of the Interconnection, and will be capable of maintaining each such interruption between the hours of 10:00AM to 10:00PM Eastern Prevailing Time for the months of June through October and the following May, and 6:00AM through 9:00PM Eastern Prevailing Time for the months of November through April unless there is an Office of the Interconnection approved maintenance outage during October through April. The Annual Demand Resource must be available in the corresponding Delivery year to be offered for sale or Self-Supplied in an RPM Auction, or included as an Annual Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Annual Energy Efficiency Resource:

"Annual Energy Efficiency Resource" shall mean a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of Reliability Assurance Agreement, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the summer and winter periods described in such Schedule 6 and the PJM Manuals) reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention.

Applicable Regional Entity:

"Applicable Regional Entity" shall have the same meaning as in the PJM Tariff.

Base Capacity Demand Resource:

"Base Capacity Demand Resource" shall mean, for the 2018/2019 and 2019/2020 Delivery Years, a resource that is placed under the direction of the Office of the Interconnection and that will be available June through September of a Delivery Year, and will be available to the Office of the Interconnection for an unlimited number of interruptions during such months, and will be capable of maintaining each such interruption for at least a 10-hour duration between the hours of 10:00AM to 10:00PM Eastern Prevailing Time. The Base Capacity Demand Resource must be available June through September in the corresponding Delivery Year to be offered for sale or self-supplied in an RPM Auction, or included as a Base Capacity Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Base Capacity Energy Efficiency Resource:

"Base Capacity Energy Efficiency Resource" shall mean, for the 2018/2019 and 2019/2020 Delivery Years, a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of RAA, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the summer peak periods as described in Reliability Assurance Agreement, Schedule 6 and the PJM Manuals) reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the Base Capacity Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention.

Base Capacity Resource:

"Base Capacity Resource" shall have the same meaning as in Tariff, Attachment DD.

Base Residual Auction:

"Base Residual Auction" shall have the same meaning as in Tariff, Attachment DD.

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 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 DER Capacity Aggregation 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.

Black Start Capability:

"Black Start Capability" shall mean the ability of a generating unit or station to go from a shutdown condition to an operating condition and start delivering power without assistance from the power system.

Bring Your Own New Capacity:

"Bring Your Own New Capacity" or "BYONC" shall have the meaning provided in the Tariff.

Capacity Emergency Transfer Objective (CETO):

"Capacity Emergency Transfer Objective" or "CETO" shall mean, through the 2024/2025 Delivery Year, the amount of electric energy that a given area must be able to import in order to remain within a loss of load expectation of one event in 25 years when the area is experiencing a localized capacity emergency, as determined in accordance with the PJM Manuals. Without limiting the foregoing, CETO shall be, for Delivery Years through 2024/2025, calculated based in part on EFORD determined in accordance with Reliability Assurance Agreement, Schedule 5, Paragraph C. Beginning with the 2025/2026 Delivery Year, CETO shall mean the amount of electric energy that a given area must be able to import in order to satisfy a normalized expected unserved energy for the area that is equal to forty percent of the normalized expected unserved energy for the RTO when at the annual reliability criteria, where normalized expected unserved energy is the expected unserved energy (for the area or RTO, as appropriate) divided by the forecasted annual energy (for the area or RTO, as appropriate), when the area is experiencing a localized capacity emergency, as determined in accordance with the PJM Manuals.

Capacity Emergency Transfer Limit (CETL):

Capacity Emergency Transfer Limit" or "CETL" shall mean the capability of the transmission system to support deliveries of electric energy to a given area experiencing a localized capacity emergency as determined in accordance with the PJM Manuals.

Capacity Import Limit:

For any Delivery Year up to and including the 2019/2020 Delivery Year, "Capacity Import Limit" shall mean, (a) for the PJM Region, (1) the maximum megawatt quantity of external Generation Capacity Resources that PJM determines for each Delivery Year, through appropriate modeling and the application of engineering judgment, the transmission system can receive, in aggregate at the interface of the PJM Region with all external balancing authority areas and deliver to load in the PJM Region under capacity emergency conditions without violating applicable reliability criteria on any bulk electric system facility of 100kV or greater, internal or external to the PJM Region, that has an electrically significant response to transfers on such interface, minus (2) the then-applicable Capacity Benefit Margin; and (b) for certain source zones identified in the PJM manuals as groupings of one or more balancing authority areas, (1) the maximum megawatt quantity of external Generation Capacity Resources that PJM determines the transmission system can receive at the interface of the PJM Region with each such source zone and deliver to load in the PJM Region under capacity emergency conditions without violating applicable reliability criteria on any bulk electric system facility of 100kV or greater, internal or external to the PJM Region, that has an electrically significant response to transfers on such interface, minus the then-applicable Capacity Benefit Margin times (2) the ratio of the maximum import quantity from each such source zone divided by the PJM total maximum import quantity. As more fully set forth in the PJM Manuals, PJM shall make such determination based on the latest peak load forecast for the studied period, the same computer simulation model of loads, generation and transmission topography employed in the determination of Capacity Emergency Transfer Limit for such Delivery Year, including external facilities from an industry standard model of the loads, generation, and transmission topography of the Eastern Interconnection under peak conditions. PJM shall specify in the PJM Manuals the areas and minimum distribution factors for identifying monitored bulk electric system facilities that have an electrically significant response to such transfers on the PJM interface. Employing such tools, PJM shall model increased power transfers from external areas into PJM to determine the transfer level at which one or more reliability criteria is violated on any monitored bulk electric system facilities that have an electrically significant response to such transfers. For the PJM Region Capacity Import Limit, PJM shall optimize transfers from other source areas not experiencing any reliability criteria violations as appropriate to increase the Capacity Import Limit. The aggregate megawatt quantity of transfers into PJM at the point where any increase in transfers on the interface would violate reliability criteria will establish the Capacity Import Limit. Notwithstanding the foregoing, a Capacity Resource located outside the PJM Region shall not be subject to the Capacity Import Limit if the Capacity Market Seller seeks an exception thereto by demonstrating to PJM, by no later than five (5) business days prior to the commencement of the offer period for the relevant RPM Auction, that such resource meets all of the following requirements:

(i) it has, at the time such exception is requested, met all applicable requirements to be pseudo-tied into the PJM Region, or the Capacity Market Seller has committed in writing that it will meet such requirements, unless prevented from doing so by circumstances beyond the control of the Capacity Market Seller, prior to the relevant Delivery Year;

(ii) at the time such exception is requested, it has long-term firm transmission service confirmed on the complete transmission path from such resource into PJM; and

(iii) it is, by written commitment of the Capacity Market Seller, subject to the same obligations imposed on Generation Capacity Resources located in the PJM Region by Tariff, Attachment DD, section 6.6 to offer their capacity into RPM Auctions; provided, however, that (a) the total megawatt quantity of all exceptions granted hereunder for a Delivery Year, plus the Capacity Import Limit for the applicable interface determined for such Delivery Year, may not exceed the total megawatt quantity of Network External Designated Transmission Service on such interface that PJM has confirmed for such Delivery Year; and (b) if granting a qualified exception would result in a violation of the rule in clause (a), PJM shall grant the requested exception but reduce the Capacity Import Limit by the quantity necessary to ensure that the total quantity of Network External Designated Transmission Service is not exceeded.

Capacity Only Option:

"Capacity Only Option" shall mean participation in Emergency Load Response Program or Pre-Emergency Program which allows, pursuant to Tariff, Attachment DD and as applicable, a capacity payment for the ability to reduce load during a pre-emergency or emergency event.

Capacity Performance Resource:

"Capacity Performance Resource" shall have the same meaning as in Tariff, Attachment DD.

Capacity Resources:

"Capacity Resources" shall mean megawatts of (i) net capacity from Existing Generation Capacity Resources or Planned Generation Capacity Resources meeting the requirements of the Reliability Assurance Agreement, Schedules 9 and Reliability Assurance Agreement, Schedule 10 that are or will be owned by or contracted to a Party and that are or will be committed to satisfy that Party's obligations under the Reliability Assurance Agreement, or to satisfy the reliability requirements of the PJM Region, for a Delivery Year; (ii) net capacity from Existing Generation Capacity Resources or Planned Generation Capacity Resources not owned or contracted for by a Party which are accredited to the PJM Region pursuant to the procedures set forth in such Schedules 9 and 10; or (iii) load reduction capability provided by Demand Resources or Energy Efficiency Resources that are accredited to the PJM Region pursuant to the procedures set forth in the Reliability Assurance Agreement, Schedule 6; or (iv) generation and load reduction capability provided by a DER Capacity Aggregation Resource, pursuant to the procedures set forth in the Reliability Assurance Agreement, Schedule 6.2 and the PJM Manuals.

Capacity Resource Provider:

"Capacity Resource Provider" shall mean a Member that (1) owns, or has the contractual authority to control the output of, a Generation Capacity Resource, that has not transferred such authority to another entity; (2) or a DER Aggregator that has a contractual relationship to use a Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource.

Capacity Storage Resource Class:

"Capacity Storage Resource Class" shall mean the ELCC Classes specified in Schedules 9.1 and 9.2, section B of this Agreement, each of which is composed of (1) Capacity Storage Resources with the same specified characteristic duration of 4, 6, 8, and 10 hours or; (2) storage device Component DER. The characteristic duration of an Energy Storage Resource Class is the ratio of the modeled MWh energy storage capability of members of the class to the modeled MW power capability of members of the class.

Capacity Transfer Right:

"Capacity Transfer Right" shall have the meaning specified in Tariff, Attachment DD.

Coal Class:

"Coal Class" shall mean an ELCC Class consisting of Unlimited Resources primarily fueled by coal.

Combination Resource:

"Combination Resource" shall mean a Generation Capacity Resource, or a generation Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, that has a component that has the characteristics of a Limited Duration Resource combined with (i) a component that has the characteristics of an Unlimited Resource or (ii) a component that has the characteristics of a Variable Resource.

Compliance Aggregation Area (CAA):

"Compliance Aggregation Area" or "CAA" shall have the same meaning as in the Tariff.

Complex Hybrid Class:

"Complex Hybrid Class" shall mean an ELCC Class composed of Combination Resources that combine three or more components, whereby one component is a class of Limited Duration Resource, and the other components are different Variable Resource classes, and such Combination Resources cannot be included in any other Combination Resource class. A resource that is a member of a Complex Hybrid Class has a single Point Of Interconnection, unless the resource is controlled in an integrated fashion, is at a single site, and is approved by PJM to be considered a single resource in accordance with the PJM Manuals.

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.

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 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.

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

Delivery Year:

"Delivery Year" shall mean a 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 RAA, Schedule 8.1.

Demand Resource (DR):

"Demand Resource" or "DR" shall mean a Limited Demand Resource, Extended Summer Demand Resource, Annual Demand Resource, Base Capacity Demand Resource or Summer-Period Demand Resource with a demonstrated capability to provide a reduction in demand or otherwise control load in accordance with the requirements of RAA, Schedule 6 that offers and that clears load reduction capability in a Base Residual Auction or Incremental Auction or that is committed through an FRR Capacity Plan.

Demand Resource Factor or DR Factor:

“Demand Resource Factor” or “DR Factor” shall mean, for Delivery Years through May 31, 2018, that factor approved from time to time by the PJM Board used to determine the unforced capacity value of a Demand Resource in accordance with Reliability Assurance Agreement, Schedule 6

Demand Resource Officer Certification Form:

“Demand Resource Officer Certification Form” shall mean a certification as to an intended Demand Resource Sell Offer, in accordance with Reliability Assurance Agreement, Schedule 6 and Reliability Assurance Agreement, Schedule 8.1 and the PJM Manuals.

Demand Resource Registration:

“Demand Resource Registration” shall mean a registration in the Full Program Option or Capacity Only Option of the Emergency or Pre-Emergency Load Resource Program in accordance with Tariff, Attachment K-Appendix, section 8.

Demand Resource Sell Offer Plan:

“Demand Resource Sell Offer Plan” shall mean the plan required by Reliability Assurance Agreement, Schedule 6 and Reliability Assurance Agreement, Schedule 8.1 in support of an intended offer of Demand Resources in an RPM Auction, or an intended inclusion of Demand Resources in an FRR Capacity Plan.

Diesel Utility Class:

"Diesel Utility Class" shall mean an ELCC Class consisting of Unlimited Resources of the diesel technology type that is not primarily fueled by landfill gas.

DER Aggregator Officer Certification Form:

“DER Aggregator Officer Certification Form” shall mean a DER Aggregator’s certification as to an intended DER Capacity Aggregation Resource Sell Offer, in accordance with Reliability Assurance Agreement, Schedule 6.2 and Reliability Assurance Agreement, Schedule 8.1 and the PJM Manuals.

DER Capacity Aggregation Resource Sell Offer Plan:

“DER Capacity Aggregation Resource Sell Offer Plan” shall mean the plan required by Reliability Assurance Agreement, Schedule 6.2 and Reliability Assurance Agreement, Schedule 8.1 in support of an intended offer of a DER Capacity Aggregation Resource in an RPM Auction, or an intended inclusion of a DER Capacity Aggregation Resource in an FRR Capacity Plan.

Effective Nameplate Capacity:

"Effective Nameplate Capacity" shall mean (i) for each Variable Resource and Combination Resource that is a Generation Capacity Resource, the resource's Maximum Facility Output (or, for a Co-Located Resource, the applicable share of the Mixed Technology Facility's Maximum Facility Output); (ii) for each Variable Resource and Combination Resource, that is an individual Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, the device's maximum energy production capability, as defined by the resource's state interconnection agreement; or (iii) for each Limited Duration Resource, the sustained level of output that the device can provide and maintain over a continuous period, whereby the duration of that continuous period matches the characteristic duration of the corresponding ELCC Class, with consideration given to ambient conditions expected to exist at the time of PJM system peak load, to the extent that such conditions impact such resource's capability, not to exceed the Maximum Facility Output (or, for a Co-Located Resource, the applicable share of the Mixed Technology Facility's Maximum Facility Output). For the 2025/2026 Delivery Year and subsequent Delivery Years, the Effective Nameplate Capacity of each Limited Duration Resource shall not exceed the greater of the Capacity Interconnection Rights of such Limited Duration Resource, or the transitional system capability as limited by the transitional resource MW ceiling as defined in the PJM Manuals, awarded for the applicable Delivery Year.

Effective UCAP:

"Effective UCAP" shall mean a unit of measure that represents the capacity product transacted in the Reliability Pricing Model and included in FRR Capacity Plans. One megawatt of Effective UCAP has the same capacity value of one megawatt of Unforced Capacity.

ELCC Class:

"ELCC Class" shall mean a defined group of ELCC Resources that share a common set of operational characteristics and for which effective load carrying capability analysis, as set forth in RAA, Schedules 9.1 and 9.2, will establish a unique ELCC Class UCAP and corresponding ELCC Class Rating(s). ELCC Classes shall be defined in the Schedules 9.1 and 9.2, section B of this Agreement. Members of an ELCC Class shall share a common method of calculating the ELCC Resource Performance Adjustment, provided that the individual ELCC Resource Performance Adjustment values will generally differ among ELCC Resources.

ELCC Class Rating:

"ELCC Class Rating" shall mean the rating factor, based on effective load carrying capability analysis, that applies to ELCC Resources that are members of an ELCC Class as part of the calculation of their Accredited UCAP.

ELCC Class UCAP:

"ELCC Class UCAP" shall mean the aggregate Effective UCAP all modeled ELCC Resources in a given ELCC Class are capable of providing in a given Delivery Year.

ELCC Portfolio UCAP:

"ELCC Portfolio UCAP" shall mean the aggregate Effective UCAP that all modeled ELCC Resources are capable of providing in a given Delivery Year.

ELCC Resource:

"ELCC Resource" shall mean a Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, a Generation Capacity Resource or a Demand Resource.

ELCC Resource Performance Adjustment:

"ELCC Resource Performance Adjustment" shall mean the performance of a specific ELCC Resource relative to the aggregate performance of the ELCC Class to which it belongs as further described in RAA, Schedule 9.1, section F and RAA, Schedule 9.2, section D.

Electric Cooperative:

"Electric Cooperative" shall mean an entity owned in cooperative form by its customers that is engaged in the generation, transmission, and/or distribution of electric energy.

Electric Distributor:

"Electric Distributor" shall mean a Member that 1) owns or leases with rights equivalent to ownership of electric distribution facilities that are used to provide electric distribution service to electric load within the PJM Region; or 2) is a generation and transmission cooperative or a joint municipal agency that has a member that owns electric distribution facilities used to provide electric distribution service to electric load within the PJM Region.

Emergency:

"Emergency" shall mean (i) an abnormal system condition requiring manual or automatic action to maintain system frequency, or to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; or (ii) a fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel; or (iii) a condition that requires implementation of emergency procedures as defined in the PJM Manuals.

End-Use Customer:

"End-Use Customer" shall mean a Member that is a retail end-user of electricity within the PJM Region. For purposes of Members Committee sector classification, a Member that is a retail end-user that owns generation may qualify as an End-Use customer if: (1) the average physical unforced capacity owned by the Member and its affiliates in the PJM region over the five Planning Periods immediately preceding the relevant Planning Period does not exceed the average PJM capacity obligation for the Member and its affiliates over the same time period; or (2) the average energy produced by the Member and its affiliates within the PJM region over the five Planning Periods immediately preceding the relevant Planning Period does not exceed the average energy consumed by that Member and its affiliates within the PJM region over the same time period. The foregoing notwithstanding, taking retail service may not be sufficient to qualify a Member as an End-Use Customer.

Energy Efficiency Resource:

"Energy Efficiency Resource" shall mean a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of RAA, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the periods described in Reliability Assurance Agreement, Schedule 6 and the PJM Manuals) reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention. Annual Energy Efficiency Resources, Base Capacity Energy Efficiency Resources and Summer-Period Energy Efficiency Resources are types of Energy Efficiency Resources.

Exigent Water Storage:

"Exigent Water Storage" shall mean water stored in the pondage or reservoir of a hydropower resource which is not typically available during normal operating conditions (as those conditions are described in the relevant FERC hydropower license), but which can be drawn upon during emergency conditions (as described in the FERC hydropower license), including in order to avoid a load shed. In an effective load carrying capability analysis, exigent storage capability from an upstream hydro facility can be considered relative to a downstream hydro facility by assessing cascading storage and flows.

Existing Demand Resource:

"Existing Demand Resource" shall mean a Demand Resource for which the Demand Resource Provider has identified existing end-use customer sites that are registered for the current Delivery Year with PJM (even if not registered by such Demand Resource Provider) and that the Demand Resource Provider reasonably expects to have under a contract to reduce load based on PJM dispatch instructions by the start of the Delivery Year for which such resource is offered.

Existing DER Capacity Aggregation Resource:

"Existing DER Capacity Aggregation Resource" shall mean a DER Capacity Aggregation Resource for which the DER Aggregator has identified existing Component DER that are registered in a DER Capacity Aggregation Resource for the current Delivery Year with PJM (even if not registered by such DER Aggregator) and that the DER Aggregator reasonably expects to have under a contract to generate or reduce load based on PJM dispatch instructions by the start of the Delivery Year for which such DER Capacity Aggregation Resource is offered.

Existing Generation Capacity Resource:

"Existing Generation Capacity Resource" shall mean, for purposes of the must-offer requirement and mitigation of offers for any RPM Auction for a Delivery Year, a Generation Capacity Resource that, as of the date on which bidding commences for such auction: (a) is in service; or (b) is not yet in service, but has cleared any RPM Auction for any prior Delivery Year. A Generation Capacity Resource shall be deemed to be in service if interconnection service has ever commenced (for resources located in the PJM Region), or if it is physically and electrically interconnected to an external Control Area and is in full commercial operation (for resources not located in the PJM Region). The additional megawatts of a Generation Capacity Resource that is being, or has been, modified to increase the number of megawatts of available installed capacity thereof shall not be deemed to be an Existing Generation Capacity Resource until such time as those megawatts (a) are in service; or (b) are not yet in service, but have cleared any RPM Auction for any prior Delivery Year.

Extended Summer Demand Resource:

"Extended Summer Demand Resource" shall mean, for Delivery Years through May 31, 2018, and for FRR Capacity Plans Delivery Years through May 31, 2019, a resource that is placed under the direction of the Office of the Interconnection and that will be available June through October and the following May, and will be available for an unlimited number of interruptions during such months by the Office of the Interconnection, and will be capable of maintaining each such interruption for at least a 10-hour duration between the hours of 10:00AM to 10:00PM Eastern Prevailing Time. The Extended Summer Demand Resource must be available June through October and the following May in the corresponding Delivery Year to be offered for sale or Self-Supplied in an RPM Auction, or included as an Extended Summer Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Facilities Study Agreement:

"Facilities Study Agreement" shall have the same meaning as in Tariff, Part VI, section 206.

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.

Firm Point-To-Point Transmission Service:

"Firm Point-To-Point Transmission Service" shall have the meaning specified in the Tariff.

Firm Service Level:

"Firm Service Level" or "FSL" of Price Responsive Demand shall mean the level, determined at a PRD Substation level, to which Price Responsive Demand shall be reduced during the Delivery Year when the Locational Marginal Price exceeds the price associated with such Price Responsive Demand identified by the PRD Provider in its PRD Plan. "Firm Service Level" or "FSL" of Demand Resource shall mean the pre-determined level to which an end-use customer's load shall be reduced, upon notification from the Curtailment Service Provider's market operations center or its agent.

Firm Transmission Service:

"Firm Transmission Service" shall mean transmission service that is intended to be available at all times to the maximum extent practicable, subject to an Emergency, an unanticipated failure of a facility, or other event beyond the control of the owner or operator of the facility or the Office of the Interconnection.

Fixed Resource Requirement Alternative or FRR Alternative:

"Fixed Resource Requirement Alternative" or "FRR Alternative" shall mean an alternative method for a Party to satisfy its obligation to provide Unforced Capacity hereunder, as set forth in the Reliability Assurance Agreement, Schedule 8.1.

Fixed-Tilt Solar Class:

"Fixed-Tilt Solar Class" shall mean an ELCC Class consisting of Variable Resources that produce electrical energy with solar panels that are primarily mounted in a fixed orientation.

Forecast Pool Requirement:

"Forecast Pool Requirement" or "FPR" shall mean the amount equal to one plus the unforced reserve margin (stated as a decimal number) for the PJM Region required pursuant to this Reliability Assurance Agreement, as approved by the PJM Board pursuant to Reliability Assurance Agreement, Schedule 4.1.

FRR Capacity Plan or FRR Plan:

"FRR Capacity Plan" or "FRR Plan" shall mean a long-term plan for the commitment of Capacity Resources and Price Responsive Demand to satisfy the capacity obligations of a Party that has elected the FRR Alternative, as more fully set forth in the Reliability Assurance Agreement, Schedule 8.1.

FRR Entity:

"FRR Entity" shall mean, for the duration of such election, a Party that has elected the FRR Alternative hereunder.

FRR Service Area:

"FRR Service Area" shall mean (a) the service territory of an IOU as recognized by state law, rule or order; (b) the service area of a Public Power Entity or Electric Cooperative as recognized by franchise or other state law, rule, or order; or (c) a separately identifiable geographic area that is: (i) bounded by wholesale metering, or similar appropriate multi-site aggregate metering, that is visible to, and regularly reported to, the Office of the Interconnection, or that is visible to, and regularly reported to an Electric Distributor and such Electric Distributor agrees to aggregate the load data from such meters for such FRR Service Area and regularly report such aggregated information, by FRR Service Area, to the Office of the Interconnection; and (ii) for which the FRR Entity has or assumes the obligation to provide capacity for all load (including load growth) within such area. In the event that the service obligations of an Electric Cooperative or Public Power Entity are not defined by geographic boundaries but by physical connections to a defined set of customers, the FRR Service Area in such circumstances shall be defined as all customers physically connected to transmission or distribution facilities of such Electric Cooperative or Public Power Entity within an area bounded by appropriate wholesale aggregate metering as described above.

Full Program Option:

"Full Program Option" shall mean participation in Emergency Load Response Program or Pre-Emergency Program which allows, pursuant to Tariff, Attachment DD and as applicable, (i) an energy payment for load reductions during a pre-emergency or emergency event, and (ii) a capacity payment for the ability to reduce load during a pre-emergency or emergency event.

Full Requirements Service:

"Full Requirements Service" shall mean wholesale service to supply all of the power needs of a Load Serving Entity to serve end-users within the PJM Region that are not satisfied by its own generating facilities.

Gas Combined Cycle Class:

"Gas Combined Cycle Class" shall mean an ELCC Class consisting of Unlimited Resources of the combined cycle technology type that is primarily fueled by natural gas, but does not meet the requirements to be included in the Gas Combined Cycle Dual Fuel Class.

Gas Combined Cycle Dual Fuel Class:

"Gas Combined Cycle Dual Fuel Class" shall mean an ELCC Class consisting of Unlimited Resources of the combined cycle technology type that is primarily fueled by natural gas, and that attests that it has the capability to start independently using onsite sources and operate independently on alternate onsite fuel source(s) up to its maximum capacity level during the winter season of the applicable Delivery Year in which it is providing capacity, and capable of operating on the alternate fuel for two 16-hour periods over two consecutive days at its maximum capacity level.

Gas Combustion Turbine Class:

"Gas Combustion Turbine Class" shall mean an ELCC Class consisting of Unlimited Resources of the combustion turbine technology type that is primarily fueled by natural gas, but does not meet the requirements to be included in the Gas Combustion Turbine Dual Fuel Class.

Gas Combustion Turbine Dual Fuel Class:

"Gas Combustion Turbine Dual Fuel Class" shall mean an ELCC Class consisting of Unlimited Resources of the combustion turbine technology type that is primarily fueled by natural gas, and attests that it has the capability to start independently using onsite sources and operate independently on alternate onsite fuel source(s) up to its maximum capacity level during the winter season of the applicable Delivery Year in which it is providing capacity, and capable of operating on the alternate fuel for two 16-hour periods over two consecutive days at its maximum capacity level.

Generation Capacity Resource:

"Generation Capacity Resource" shall mean a Generating Facility, or the contractual right to capacity from a specified Generating Facility, that meets the requirements of RAA, Schedule 9 and RAA, Schedule 10, and, for Generating Facilities that are committed to an FRR Capacity Plan, that meets the requirements of RAA, Schedule 8.1. A Generation Capacity Resource may be an Existing Generation Capacity Resource or a Planned Generation Capacity Resource.

Generation Owner:

"Generation Owner" shall mean a Member that owns or 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.

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 repairs on specific components of the facility, if removal of the facility qualifies as a maintenance outage pursuant to 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).

Hybrid Resource Class:

"Hybrid Resource Class" shall mean the ELCC Classes specified in RAA Schedules 9.1 and 9.2 Section B. Each Hybrid Resource Class has a specified combination of two components, whereby, absent being part of a Combination Resource, the individual components would be in a Capacity Storage Resource Class, a Variable Resource Class or would be an Unlimited Resource. A resource that is a member of a Hybrid Resource Class has a single Point Of Interconnection, unless the resource is controlled in an integrated fashion, is at a single site, and is approved by PJM to be considered a single resource in accordance with the PJM Manuals.

Hydropower With Non-Pumped Storage:

"Hydropower With Non-Pumped Storage" shall mean a hydropower facility that can capture and store incoming stream flow, without use of pumps, in pondage or a reservoir, and the Generation

Owner has the ability, within the constraints available in the applicable operating license, to exert material control over the quantity of stored water and output of the facility throughout an Operating Day.

Hydropower With Non-Pumped Storage Class:

"Hydropower With Non-Pumped Storage Class" shall mean an ELCC Class consisting of Combination Resources that are Hydropower With Non-Pumped Storage resources.

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, Accredited UCAP Factor decrease, 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.

Intermittent Hydropower Class:

"Intermittent Hydropower Class" shall mean an ELCC Class consisting of Variable Resources that are run-of-river hydropower generators that must generally pass incoming water and therefore cannot appreciably store water to later increase the output of the facility. Resources in the Intermittent Hydropower Class are not Hydropower with Non-Pumped Storage resources.

IOU:

"IOU" shall mean an investor-owned utility with substantial business interest in owning and/or operating electric facilities in any two or more of the following three asset categories: generation, transmission, distribution.

Intermittent Landfill Gas Class:

"Intermittent Landfill Gas Class" shall mean an ELCC Class consisting of Variable Resources fueled by landfill gas that, because of fuel availability patterns, cannot run consistently at installed capacity levels for 24 or more hours.

Large Load:

"Large Load" shall mean end-use customer(s) load that has a cumulative peak load of 50 megawatts or greater at a single electrical site behind one or more points of interconnection, where for configurations involving multiple affiliated load facilities or multiple points of interconnection with affiliated load facilities behind them, all affiliated load facilities within a one-mile radius will be considered a single electrical site as further described in the PJM Manuals.

Large Load Adjustment:

"Large Load Adjustment" shall mean any MW quantity of adjustments to summer peak load at the "zone/area" level and summed by Zone as further detailed in PJM Manuals. For purposes of this definition, a "zone/area" is an area within a Zone for which the relevant Electric Distributor specifies a separate Obligation Peak Load MW value. A zone/area is a service area of an Electric Distributor that is a separately identifiable, geographic area bounded by wholesale metering (e.g., the service territory of an operating company of a Transmission Owner).

Limited Demand Resource:

"Limited Demand Resource" shall mean, for Delivery Years through May 31, 2018, and for FRR Capacity Plans Delivery Years through May 31, 2019, a resource that is placed under the direction of the Office of the Interconnection and that will, at a minimum, be available for interruption for at least 10 Load Management Events during the summer period of June through September in the Delivery Year, and will be capable of maintaining each such interruption for at least a 6-hour duration. At a minimum, the Limited Demand Resource shall be available for such interruptions on weekdays, other than NERC holidays, from 12:00PM (noon) to 8:00PM Eastern Prevailing Time. The Limited Demand Resource must be available during the summer period of June through September in the corresponding Delivery Year to be offered for sale or Self-Supplied in an RPM Auction, or included as a Limited Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Limited Duration Resource:

"Limited Duration Resource" shall mean a Generation Capacity Resource or a generation Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, that is not a Variable Resource, that is not a Combination Resource, and that is not capable of running continuously at Maximum Facility Output for 24 hours or longer. A Capacity Storage Resource is a Limited Duration Resource.

Load Serving Entity or LSE:

"Load Serving Entity" or "LSE" shall mean any entity (or the duly designated agent of such an entity), including a load aggregator or power marketer, (i) serving end-users within the PJM Region, and (ii) that has been granted the authority or has an obligation pursuant to state or local law, regulation or franchise to sell electric energy to end-users located within the PJM Region. Load Serving Entity shall include any end-use customer that qualifies under state rules or a utility retail tariff to manage directly its own supply of electric power and energy and use of transmission and ancillary services.

Locational Reliability Charge:

"Locational Reliability Charge" shall mean the charge determined pursuant to RAA, Article 7, section 2.

Markets and Reliability Committee:

"Markets and Reliability Committee" shall mean the committee established pursuant to the Operating Agreement as a Standing Committee of the Members Committee.

Maximum Emergency Service Level:

"Maximum Emergency Service Level" or "MESL" of Price Responsive Demand for the 2017/2018 through the 2021/2022 Delivery Years shall mean the level, determined at a PRD Substation level, to which Price Responsive Demand shall be reduced during the Delivery Year when a Maximum Generation Emergency is declared and the Locational Marginal Price exceeds the price associated with such Price Responsive Demand identified by the PRD Provider in its PRD Plan.

Member:

"Member" shall have the meaning provided in the Operating Agreement.

Members Committee:

"Members Committee" shall mean the committee specified in Operating Agreement, section 8 composed of the representatives of all the Members.

NERC:

"NERC" shall mean the North American Electric Reliability Corporation or any successor thereto.

Network External Designated Transmission Service:

"Network External Designated Transmission Service" shall mean the quantity of network transmission service confirmed by PJM for use by a market participant to import power and energy from an identified Generation Capacity Resource located outside the PJM Region, upon demonstration by such market participant that it owns such Generation Capacity Resource, has an executed contract to purchase power and energy from such Generation Capacity Resource, or has a contract to purchase power and energy from such Generation Capacity Resource contingent upon securing firm transmission service from such resource.

Network Resources:

"Network Resources" shall have the meaning set forth in the PJM Tariff.

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.

Nominal PRD Value:

"Nominal PRD Value" shall mean, as to any PRD Provider, an adjustment, determined in accordance with Reliability Assurance Agreement, Schedule 6.1, to the peak-load forecast used to determine the quantity of capacity sought through an RPM Auction, reflecting the aggregate effect of Price Responsive Demand on peak load resulting from the Price Responsive Demand to be provided by such PRD Provider.

Nominated Demand Resource Value:

"Nominated Demand Resource Value" shall have the meaning specified in Tariff, Attachment DD.

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.

Nuclear Class:

"Nuclear Class" shall mean an ELCC Class consisting of Unlimited Resources primarily fueled by nuclear fuel.

Obligation Peak Load:

"Obligation Peak Load" shall have the meaning specified in Reliability Assurance Agreement, Schedule 8.

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.

Offshore Wind Class:

"Offshore Wind Class" shall mean an ELCC Class consisting of Variable Resources that produce electrical energy with offshore wind turbines located in the ocean.

Onshore Wind Class:

"Onshore Wind Class" shall mean an ELCC Class consisting of Variable Resources that produce electrical energy using wind turbines and that are not in the Offshore Wind Class.

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 that agreement, 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 have the same meaning as provided in the Operating Agreement.

Operating Reserve:

"Operating Reserve" shall mean the amount of generating capacity scheduled to be available for a specified period of an Operating Day to ensure the reliable operation of the PJM Region, as specified in the PJM Manuals.

Ordinary Water Storage:

"Ordinary Water Storage" shall mean water stored in the pondage or reservoir of a hydropower resource which is typically available during normal operating conditions pursuant to the FERC license governing the operation of the hydropower resource.

Other Limited Duration Class:

"Other Limited Duration Class" shall mean the ELCC Classes specified in RAA Schedules 9.1 and 9.2 section B of this Agreement, each of which has a specified characteristic duration and consists of Limited Duration Resources that are not Capacity Storage Resources. The characteristic duration of an Other Limited Duration Class is the maximum period of time represented in the ELCC model that the resources of the class can run at a stated capability.

Other Limited Duration Combination Class:

"Other Limited Duration Combination Class" shall mean the ELCC Classes specified in RAA Schedules 9.1 and 9.2 section B. Each Other Limited Duration Class has a specified combination of two components, whereby, absent being part of a Combination Resource, one component would be in an Other Limited Duration Class, and the other component would be in a Variable Resource Class or would be an Unlimited Resource. A resource that is a member of an Other Limited Duration Combination Class has a single Point Of Interconnection, unless the resource is controlled in an integrated fashion, is at a single site, and is approved by PJM to be considered a single resource in accordance with the PJM Manuals.

Other Supplier:

"Other Supplier" shall mean a Member that: (i) is engaged in buying, selling or transmitting electric energy, capacity, ancillary services, Financial Transmission Rights or other services available under PJM's governing documents in or through the Interconnection or has a good faith intent to do so, and (ii) is not a Generation Owner, Electric Distributor, Transmission Owner or End-Use Customer.

Other Unlimited Resource Class:

"Other Unlimited Resource Class" shall mean an ELCC Class consisting of Unlimited Resources that do not qualify for any other ELCC Class specified in RAA Schedule 9.2, section D.

Other Variable Resource Class:

"Other Variable Resource Class" shall mean an ELCC Class consisting of Variable Resources that are not in any other Variable Resource class, including Variable Resources that are composed of multiple components, each of which would be a Variable Resource. A resource composed of both fixed-tilt solar panels and tracking solar panels is not in this class. A resource that is a member of a Other Variable Resource Class has a single Point Of Interconnection, unless the resource is controlled in an integrated fashion, is at a single site, and is approved by PJM to be considered a single resource in accordance with the PJM Manuals.

Partial Requirements Service:

"Partial Requirements Service" shall mean wholesale service to supply a specified portion, but not all, of the power needs of a Load Serving Entity to serve end-users within the PJM Region that are not satisfied by its own generating facilities.

Party:

"Party" shall mean an entity bound by the terms of the Operating Agreement.

Peak Shaving Adjustment:

"Peak Shaving Adjustment" shall mean a load forecast mechanism that allows load reductions by end-use customers to result in a downward adjustment of the summer load forecast for the associated Zone. Any End-Use Customer identified in an approved peak shaving plan shall not also participate in PJM Markets as Price Responsive Demand, Demand Resource, Base Capacity Demand Resource, Capacity Performance Demand Resource, or Economic Load Response Participant.

Percentage Internal Resources Required:

"Percentage Internal Resources Required" shall mean, for purposes of an FRR Capacity Plan, the percentage of the LDA Reliability Requirement for an LDA that must be satisfied with Capacity Resources located in such LDA.

Performance Assessment Interval:

"Performance Assessment Interval" shall have the meaning specified in Tariff, Attachment DD.

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 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 Governing Agreements:

"PJM Governing Agreements" shall have the meaning provided in the Operating Agreement.

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.

PJM Region:

"PJM Region" shall have the same meaning as provided in the Operating Agreement.

PJM Region Installed Reserve Margin:

"PJM Region Installed Reserve Margin" shall mean the percent installed reserve margin for the PJM Region required pursuant to Reliability Assurance Agreement, Schedule 4.1, as approved by the PJM Board.

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.

Planned Demand Resource:

"Planned Demand Resource" shall mean any Demand Resource that does not currently have the capability to provide a reduction in demand or to otherwise control load, but that is scheduled to be capable of providing such reduction or control on or before the start of the Delivery Year for which such resource is to be committed, as determined in accordance with the requirements of Reliability Assurance Agreement, Schedule 6. As set forth in Reliability Assurance Agreement, Schedule 6 and Reliability Assurance Agreement, Schedule 8.1, a Demand Resource Provider submitting a DR Sell Offer Plan shall identify as Planned Demand Resources in such plan all Demand Resources in excess of those that qualify as Existing Demand Resources.

Planned DER Capacity Aggregation Resource:

A "Planned DER Capacity Aggregation Resource" shall mean any DER Capacity Aggregation Resource that does not currently have the capability to provide generation or reduction in demand, but that is scheduled to be capable of providing such generation or reduction in demand on or before the start of the Delivery Year for which such resource is to be committed, as determined in accordance with the requirements of Reliability Assurance Agreement, Schedule 6.2. As set forth in Reliability Assurance Agreement, Schedule 6.2 and Reliability Assurance Agreement, Schedule 8.1, a DER Aggregator submitting a DER Capacity Aggregation Resource Sell Offer Plan shall identify in such plan all DER Capacity Aggregation Resources in excess of those that qualify as Existing DER Capacity Aggregation Resources. A Planned DER Capacity Aggregation Resource must comply with all provisions of the DER Aggregator Participation Model described in Tariff, Attachment K-Appendix, section 1.4B and Operating Agreement, Schedule 1, section 1.4B, prior to the applicable Delivery Year.

Planned External Generation Capacity Resource:

"Planned External Generation Capacity Resource" shall mean a proposed Generation Capacity Resource, or a proposed increase in the capability of a Generation Capacity Resource, that (a) is to be located outside the PJM Region, (b) participates in the generation interconnection process of a Control Area external to PJM, (c) is scheduled to be physically and electrically interconnected to the transmission facilities of such Control Area on or before the first day of the

Delivery Year for which such resource is to be committed to satisfy the reliability requirements of the PJM Region, and (d) is in full commercial operation prior to the first day of such Delivery Year, such that it is sufficient to provide the Installed Capacity set forth in the Sell Offer forming the basis of such resource's commitment to the PJM Region. Prior to participation in any Base Residual Auction for such Delivery Year, the Capacity Market Seller must demonstrate that it has documentation which is functionally equivalent to an approved Decision Point I submission under the PJM Tariff Part VII or VIII as applicable or, for resources which are greater than 20MWs participating in a Base Residual Auction for the 2019/2020 Delivery Year and subsequent Delivery Years, an agreement or other documentation which is functionally equivalent to an approved Decision Point II submission under the PJM Tariff Part VII or VIII as applicable, with the transmission owner to whose transmission facilities or distribution facilities the resource is being directly connected, and, as applicable, the transmission provider. Prior to participating in any Incremental Auction for such Delivery Year, the Capacity Market Seller must demonstrate it has entered into an interconnection agreement, or such other documentation that is functionally equivalent to a Generation Interconnection Agreement under the PJM Tariff, with the transmission owner to whose transmission facilities or distribution facilities the resource is being directly connected, and, as applicable, the transmission provider. A Planned External Generation Capacity Resource must provide evidence to PJM that it has been studied as a Network Resource, or such other similar interconnection product in such external Control Area, must provide contractual evidence that it has applied for or purchased transmission service to be deliverable to the PJM border, and must provide contractual evidence that it has applied for transmission service to be deliverable to the bus at which energy is to delivered, the agreements for which must have been executed prior to participation in any Reliability Pricing Model Auction for such Delivery Year. Any such resource shall cease to be considered a Planned External Generation Capacity Resource as of the earlier of (i) the date that interconnection service commences as to such resource; or (ii) the resource has cleared an RPM Auction, in which case it shall become an Existing Generation Capacity Resource for purposes of the mitigation of offers for any RPM Auction for all subsequent Delivery Years.

Planned Generation Capacity Resource:

"Planned Generation Capacity Resource" shall mean a Generation Capacity Resource, or additional megawatts to increase the size of a Generation Capacity Resource that is being or has been modified to increase the number of megawatts of available installed capacity thereof, participating in the generation interconnection process under Tariff, Part IV, Subpart A, Part VII or Part VIII, as applicable, for which: (i) Interconnection Service is scheduled to commence on or before the first day of the Delivery Year for which such resource is to be committed to RPM or to an FRR Capacity Plan; (ii) for any such resource seeking to offer into a Base Residual Auction, or for any such resource of 20 MWs or less seeking to offer into a Base Residual Auction, all the requirements for an approved Decision Point I submission have been met under Tariff Part VII or VIII (or, for resources for which a Decision Point I submission is not required, has such other agreement or documentation that is functionally equivalent to a an approved Decision Point I submission) prior to the Base Residual Auction for such Delivery Year; (iii) for any such resource of more than 20 MWs seeking to offer into a Base Residual Auction for the 2019/2020 Delivery Year and subsequent Delivery Years, all the requirements for an approved Decision Point II submission have been met under Tariff Part VII or VIII (or, for resources for which a Decision Point II submission is not required, has such other agreement or documentation that is functionally equivalent to an approved Decision Point II submission) has been executed prior to the Base Residual Auction for such Delivery Year; and (iv) a Generation Interconnection Agreement or Wholesale Market Participation Agreement has been executed prior to any Incremental Auction for such Delivery Year in which such resource plans to participate. For purposes of the must-offer requirement and mitigation of offers for any RPM Auction for a Delivery Year, a Generation Capacity Resource shall cease to be considered a Planned Generation Capacity Resource as of the earlier of (i) the date that Interconnection Service commences as to such resource; or (ii) the resource has cleared an RPM Auction for any Delivery Year, in which case it shall become an Existing Generation Capacity Resource for any RPM Auction for all subsequent Delivery Years.

Planning Period:

"Planning Period" shall mean the 12 months beginning June 1 and extending through May 31 of the following year, or such other period approved by the Members Committee.

Portfolio Expected Unserved Energy:

"Portfolio Expected Unserved Energy" shall mean the annual amount of expected unserved energy, in MWh, that is expected for the RTO when at the annual reliability criteria that provides an acceptable level of reliability consistent with the Reliability Principles and Standards.

PRD Curve:

"PRD Curve" shall mean a price-consumption curve at a PRD Substation level, if available, and otherwise at a Zonal (or sub-Zonal LDA, if applicable) level, that details the base consumption level of Price Responsive Demand and the decreasing consumption levels at increasing prices.

PRD Provider:

"PRD Provider" shall mean a PJM Member that has entered contractual arrangements with end-use customers that satisfy the eligibility criteria for and provides Price Responsive Demand.

PRD Provider's Zonal Expected Peak Load Value of PRD:

"PRD Provider's Zonal Expected Peak Load Value of PRD" shall mean the expected contribution to Delivery Year peak load of a PRD Provider's Price Responsive Demand, were such demand not to be reduced in response to price, based on the contribution of the end-use customers comprising such Price Responsive Demand to the most recent prior Delivery Year's peak demand, escalated to the Delivery Year in question, as determined in a manner consistent with the Office of the Interconnection's load forecasts used for purposes of the RPM Auctions.

PRD Reservation Price:

"PRD Reservation Price" shall mean an RPM Auction clearing price identified in a PRD Plan for Price Responsive Demand load below which the PRD Provider desires not to commit the identified load as Price Responsive Demand.

PRD Substation:

"PRD Substation" shall mean an electrical substation that is located in the same Zone or in the same sub-Zonal LDA as the end-use customers identified in a PRD Plan or PRD registration and that, in terms of the electrical topography of the Transmission Facilities comprising the PJM Region, is as close as practicable to such loads.

Price Responsive Demand:

"Price Responsive Demand" or "PRD" shall mean end-use customer load registered by a PRD Provider pursuant to Reliability Assurance Agreement, Schedule 6.1 that have, as set forth in more detail in the PJM Manuals, the metering capability to record electricity consumption at an interval of one hour or less, Supervisory Control capable of curtailing such load (consistent with applicable RERRA requirements) at each PRD Substation identified in the relevant PRD Plan or PRD registration in response to a Performance Assessment Interval that triggers a PRD performance assessment or a Non-PAI Event, and a retail rate structure, or equivalent contractual arrangement, capable of changing retail rates as frequently as an hourly basis, that is linked to or based upon changes in real-time Locational Marginal Prices at a PRD Substation level and that results in a predictable automated response to varying wholesale electricity prices.

Price Responsive Demand Credit:

"Price Responsive Demand Credit" shall mean a credit, based on committed Price Responsive Demand, as determined under Reliability Assurance Agreement, Schedule 6.1.

Price Responsive Demand Plan or PRD Plan:

"Price Responsive Demand Plan" or "PRD Plan" shall mean a plan, submitted by a PRD Provider and received by the Office of the Interconnection in accordance with Reliability Assurance Agreement, Schedule 6.1 and procedures specified in the PJM Manuals, claiming a peak demand limitation due to Price Responsive Demand to support the determination of such PRD Provider's Nominal PRD Value.

Public Power Entity:

"Public Power Entity" shall mean any agency, authority, or instrumentality of a state or of a political subdivision of a state, or any corporation wholly owned by any one or more of the foregoing, that is engaged in the generation, transmission, and/or distribution of electric energy.

Qualifying Transmission Upgrades:

"Qualifying Transmission Upgrades" shall have the meaning specified in Tariff, Attachment DD.

Relevant Electric Retail Regulatory Authority:

"Relevant Electric Retail Regulatory Authority" or "RERRA" shall have the meaning specified in the PJM Operating Agreement.

Reliability Principles and Standards:

"Reliability Principles and Standards" shall mean the principles and standards established by the Office of the Interconnection that define, among other things, an acceptable probabilistic of loss of load criteria due to inadequate generation or transmission capability, as amended from time to time.

Required Approvals:

"Required Approvals" shall mean all of the approvals required for the Operating Agreement to be modified or to be terminated, in whole or in part, including the acceptance for filing by FERC and every other regulatory authority with jurisdiction over all or any part of the Operating Agreement.

Self-Supply:

"Self-Supply" shall have the meaning provided in Tariff, Attachment DD.

Small Commercial Customer:

"Small Commercial Customer" shall have the same meaning as in the PJM Tariff.

State Consumer Advocate:

"State Consumer Advocate" shall mean a legislatively created office from any State, all or any part of the territory of which is within the PJM Region, and the District of Columbia established, inter alia, for the purpose of representing the interests of energy consumers before the utility regulatory commissions of such states and the District of Columbia and the FERC.

State Regulatory Structural Change:

"State Regulatory Structural Change" shall mean as to any Party, a state law, rule, or order that, after September 30, 2006, initiates a program that allows retail electric consumers served by such Party to choose from among alternative suppliers on a competitive basis, terminates such a program, expands such a program to include classes of customers or localities served by such Party that were not previously permitted to participate in such a program, or that modifies retail electric market structure or market design rules in a manner that materially increases the likelihood that a substantial proportion of the customers of such Party that are eligible for retail choice under such a program (a) that have not exercised such choice will exercise such choice; or (b) that have exercised such choice will no longer exercise such choice, including for example, without limitation, mandating divestiture of utility-owned generation or structural changes to such Party's default service rules that materially affect whether retail choice is economically viable.

Steam Class:

"Steam Class" shall mean an ELCC Class consisting of Unlimited Resources of the steam technology type and the primary fuel is not coal or nuclear.

Summer-Period Demand Resource:

Summer-Period Demand Resource shall mean, for the 2020/2021 Delivery Year and subsequent Delivery Years, a resource that is placed under the direction of the Office of the Interconnection, and will be available June through October and the following May of the Delivery Year, and will be available for an unlimited number of interruptions during such months by the Office of the Interconnection, and will be capable of maintaining each such interruption between the hours of 10:00AM to 10:00PM Eastern Prevailing Time. The Summer-Period Demand Resource must be available June through October and the following May in the corresponding Delivery Year to be offered for sale in an RPM Auction, or included as a Summer-Period Demand Resource in an FRR Capacity Plan for the corresponding Delivery Year.

Summer-Period Energy Efficiency Resource:

Summer-Period Energy Efficiency Resource shall mean, for the 2020/2021 Delivery Year and subsequent Delivery Years, a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of Reliability Assurance Agreement, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the summer peak periods as described in Reliability Assurance Agreement, Schedule 6 and the PJM Manuals) reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the Summer-Period Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention.

Supervisory Control:

"Supervisory Control" shall mean the capability to curtail, in accordance with applicable RERRA requirements, load registered as Price Responsive Demand at each PRD Substation identified in the relevant PRD Plan or PRD registration in response to a Maximum Generation Emergency declared by the Office of the Interconnection. Except to the extent automation is not required by the provisions of the Operating Agreement, the curtailment shall be automated, meaning that load shall be reduced automatically in response to control signals sent by the PRD Provider or its designated agent directly to the control equipment where the load is located without the requirement for any action by the end-use customer.

Threshold Quantity:

"Threshold Quantity" shall mean, as to any FRR Entity for any Delivery Year, the sum of (a) the Unforced Capacity equivalent (determined using the Pool-Wide Average EFORD through the 2024/2025 Delivery Year, or pool-wide average Accredited UCAP Factor effective with the 2025/2026 Delivery Year) of the Installed Reserve Margin for such Delivery Year multiplied by the Preliminary Forecast Peak Load for which such FRR Entity is responsible under its FRR Capacity Plan for such Delivery Year, plus (b) the lesser of (i) 3% of the Unforced Capacity amount determined in (a) above or (ii) 450 MW. If the FRR Entity is not responsible for all load within a Zone, the Preliminary Forecast Peak Load for such entity shall be determined in accordance with Reliability Assurance Agreement, Schedule 8.1, section D.2.

Tracking Solar Class:

"Tracking Solar Class" shall mean an ELCC Class consisting of Variable Resources that produce electrical energy with solar panels that are primarily mounted on trackers that align the panels with incoming sunlight over the course of the day.

Transmission Facilities:

"Transmission Facilities" shall mean facilities that: (i) are within the PJM Region; (ii) 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; and (iii) have been demonstrated to the satisfaction of the Office of the Interconnection to be integrated with the PJM Region transmission system and integrated into the planning and operation of the PJM Region to serve all of the power and transmission customers within the PJM Region.

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.

Unforced Capacity:

"Unforced Capacity" shall mean installed capacity rated at summer conditions that is not on average experiencing a forced outage or forced derating, calculated for each Capacity Resource on the 12-month period from October to September without regard to the ownership of or the contractual rights to the capacity of the unit.

Unlimited Resource:

"Unlimited Resource" shall mean a generating unit having the ability to maintain output at a stated capability continuously on a daily basis without interruption. Through the 2024/2025 Delivery Year, an Unlimited Resource is a Generation Capacity Resource that is not an ELCC Resource.

Variable Resource:

"Variable Resource" shall mean a Generation Capacity Resource or a generation Component DER within a DER Aggregation Resource that is linked to a DER Capacity Aggregation Resource, with output that can vary as a function of its energy source, such as wind, solar, run of river hydroelectric power without storage, and landfill gas units without an alternate fuel source. All Intermittent Resources are Variable Resources, with the exception of Hydropower with Non-Pumped Storage.

Winter Peak Load (or WPL):

"Winter Peak Load" or "WPL" shall mean the average of the Demand Resource customer's specific peak hourly load between hours ending 7:00 EPT through 21:00 EPT on the PJM defined 5 coincident peak days from December through February two Delivery Years prior the Delivery Year for which the registration is submitted. Notwithstanding, if the average use between hours ending 7:00 EPT through 21:00 EPT on a winter 5 coincident peak day is below 35% of the average hours ending 7:00 EPT through 21:00 EPT over all five of such peak days, then up to two such days and corresponding peak demand values may be excluded from the calculation. Upon approval by the Office of the Interconnection, a Curtailment Service Provider may provide alternative data to calculate Winter Peak Load, as outlined in the PJM Manuals, when there is insufficient hourly load data for the two Delivery Years prior to the relevant Delivery Year or if more than two days meet the exclusion criteria described above.

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 refer to 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.

Zonal Winter Weather Adjustment Factor (ZWWAF):

"Zonal Winter Weather Adjustment Factor" or "ZWWAF" shall mean the PJM zonal winter weather normalized coincident peak divided by PJM zonal average of 5 coincident peak loads in December through February.

7.8 Requirement to Designate Network Resources to Serve Capacity Needs for New Large Loads and Conditional Requirement to Provide Interim Resource Adequacy Service

Effective June 1, 2027, each LSE that desires to provide Network Transmission Service to support New Large Loads must designate one or more Generation Capacity Resources or Capacity Storage Resources that had not cleared an RPM Auction as Network Resource(s) in a cumulative amount that equals or exceeds the LSE's New Large Load's peak load (in MW) as reported in the Large Load Registry pursuant to RAA, Schedule 11 or such New Large Load may be subject to load reduction requests during Emergencies prior to Pre-Emergency Load Management Response. If, on June 1, 2027, an LSE has not so designated such Network Resource(s) as BYONC with which it has entered into an arrangement in accordance with this requirement and Tariff, Attachment DD-4, then the amount of New Large Load that is the difference between its reported peak load and its designated Bring Your Own New Capacity and assigned Allocated RBP UCAP MW will be subject to the rates, terms, and conditions of Interim Resource Adequacy Service, as set forth in Tariff, Attachment DD-4.

D. FRR Capacity Plans

1. Each FRR Entity shall submit its initial FRR Capacity Plan as required by subsection C.1 of this Schedule, and shall annually extend and update such plan by no later than one month prior to the Base Residual Auction for each succeeding Delivery Year in such plan. Each FRR Capacity Plan shall indicate the nature and current status of each resource, including the status of each Planned Generation Capacity Resource or Planned Demand Resource, the planned deactivation or retirement of any Generation Capacity Resource or Demand Resource, and the status of commitments for each sale or purchase of capacity included in such plan.

1.1 Beginning with the 2020/2021 Delivery Year and for all subsequent Delivery Years, the FRR Capacity Plan shall comprise only Capacity Performance Resources and Seasonal Capacity Performance Resources. An FRR Entity may not include in its FRR Capacity Plan any MW quantity of Existing Generation Capacity Resource in excess of what such FRR Entity owned or contracted by such FRR Entity prior to June 1, 2027, to serve New Large Load.

2. The FRR Capacity Plan of each FRR Entity that commits that it will not sell surplus Capacity Resources as a Capacity Market Seller in any auction conducted under Attachment DD of the PJM Tariff, or to any direct or indirect purchaser that uses such resource as the basis of any Sell Offer in such auction, shall designate Capacity Resources in a megawatt quantity no less than the Forecast Pool Requirement for each applicable Delivery Year times the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast for such Delivery Year, as determined in accordance with procedures set forth in the PJM Manuals. If the FRR Entity is not responsible for all load within a Zone, the Preliminary Forecast Peak Load for such entity shall be the Base Zonal FRR Scaling Factor times the summation of the FRR Entity's MW share of the Zonal Weather Normalized Summer Peak last determined prior to the Base Residual Auction for such Delivery Year plus the Obligation Peak Load MW associated with any Load Adjustment specified for such Delivery Year for any "zone/area" served by the FRR Entity's Capacity Plan. The Obligation Peak Load MW associated with a Load Adjustment specified for a "zonal/area" is determined as set forth in RAA, Schedule 8, section B.

The FRR Capacity Plan of each FRR Entity that does not commit that it will not sell surplus Capacity Resources as set forth above shall designate Capacity Resources at least equal to the Threshold Quantity. To the extent the FRR Entity's allocated share of the Final Zonal Peak Load Forecast exceeds the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast, such FRR Entity's FRR Capacity Plan shall be updated to designate additional Capacity Resources in an amount no less than the Forecast Pool Requirement times such increase; provided, however, any excess megawatts of Capacity Resources included in such FRR Entity's previously designated Threshold Quantity, if any, may be used to satisfy the capacity obligation for such increased load. To the extent the FRR Entity's allocated share of the Final Zonal Peak Load Forecast is less than the FRR Entity's allocated share of the Preliminary Zonal Peak Load Forecast, such FRR Entity's FRR Capacity Plan may be updated to release previously designated Capacity Resources in an amount no greater than the Forecast Pool Requirement times such decrease. Peak load values referenced in this section shall be adjusted as necessary to take into account any applicable Nominal PRD Values approved pursuant to Schedule 6.1 of this Agreement. Any FRR Entity seeking an adjustment to peak load for Price Responsive Demand must submit a separate PRD Plan in compliance with Section 6.1 (provided that the FRR Entity shall not specify any PRD Reservation Price), and shall register all PRD-eligible load needed to satisfy its PRD commitment and be subject to compliance charges as set forth in that Schedule under the circumstances specified therein; provided that for non-compliance by an FRR Entity, the compliance charge rate shall be equal to 1.20 times the Capacity Resource Clearing Price resulting from all RPM Auctions for such Delivery Year for the LDA encompassing the FRR Entity's Zone, weight-averaged for the Delivery Year based on the prices established and quantities cleared in the RPM auctions for such Delivery Year; and provided further that an alternative PRD Provider may provide PRD in an FRR Service Area by agreement with the FRR Entity responsible for the load in such FRR Service Area, subject to the same terms and conditions as if the FRR Entity had provided the PRD.

3. As to any FRR Entity, the Base Zonal FRR Scaling Factor for each Zone in which it serves load for a Delivery Year shall equal [(ZPLDY-ZLA) / ZWNSP], where:

ZPLDY = Preliminary Zonal Peak Load Forecast for such Zone for such Delivery Year;

ZLA = the Zonal MW quantity of Load Adjustment for such Delivery Year; and

ZWNSP = Zonal Weather-Normalized Summer Peak Load for such Zone for the summer concluding four years prior to the commencement of such Delivery Year.

4. Capacity Resources identified and committed in an FRR Capacity Plan shall meet all requirements under this Agreement, the PJM Tariff, and the PJM Operating Agreement applicable to Capacity Resources, including, as applicable, requirements and milestones for Planned Generation Capacity Resources and Planned Demand Resources. A Capacity Resource submitted in an FRR Capacity Plan must be on a unit-specific basis, and may not include "slice of system" or similar agreements that are not unit specific. An FRR Capacity Plan may include bilateral transactions that commit capacity for less than a full Delivery Year only if the resources included in such plan in the aggregate satisfy all obligations for all Delivery Years. All demand response, load management, energy efficiency, or similar programs on which such FRR Entity intends to rely for a Delivery Year must be included in the FRR Capacity Plan, subject to applicable demand resource constraints for the relevant Delivery Year, submitted three years in advance of such Delivery Year and must satisfy all requirements applicable to Demand Resources or Energy Efficiency Resources, as applicable, including, without limitation, those set forth in Schedule 6 to this Agreement and the PJM Manuals; provided, however, that previously uncommitted Unforced Capacity from such programs may be used to satisfy any increased capacity obligation for such FRR Entity resulting from a Final Zonal Peak Load Forecast applicable to such FRR Entity. Without limiting the generality of the foregoing, the FRR Entity must submit a Demand Resource Sell Offer Plan 15 business days before the deadline for submitting an FRR Capacity Plan as to any Demand Resources it intends to include in such FRR Capacity Plan and may only include in such FRR Capacity Plan Demand Resources that are approved by PJM following review of such Demand Resource Sell Offer Plan. The requirements, standards, and procedures for a Demand Resource Sell Offer Plan shall be as set forth in Schedule 6 of this Agreement, provided that all references (including deadlines) in Schedule 6, section A-1 to submission or clearing of a Demand Resource offer in an RPM

Auction shall be understood for purposes of FRR Entities as referring to inclusion of a Demand Resource in an FRR Capacity Plan, and a distinct Demand Resource Officer Certification Form shall be applicable to FRR Entities, as shown in the PJM Manuals and provided on the PJM website.

5. For each LDA for which the Office of the Interconnection is required to establish a separate Variable Resource Requirement Curve for any Delivery Year addressed by such FRR Capacity Plan, the plan must include a Percentage Internal Resources Required, subject to subsections D.1.1 and D.2 of this Schedule. The Percentage Internal Resources Required will be calculated as the LDA Reliability Requirement less the CETL for the Delivery Year, as determined by the RTEP process as set forth in the PJM Manuals. Such requirement shall be expressed as a percentage of the Unforced Capacity Obligation based on the Preliminary Zonal Peak Load Forecast multiplied by the Forecast Pool Requirement. Notwithstanding the provisions of Sections C.1 and C.2 of this Schedule 8.1, an FRR Entity may terminate its election of the FRR Alternative prior to meeting its minimum five year commitment without penalty for any Delivery Year after the first Delivery Year of its minimum five year FRR commitment for which the Office of the Interconnection will be required to establish a separate Variable Resource Requirement Curve by giving written notice two months prior to the Base Residual Auction for the Delivery Year. The Office of the Interconnection shall be deemed to be required to establish a separate Variable Resource Requirement Curve for an LDA if the LDA is the Eastern Mid-Atlantic Region ("EMAR"), Southwest Mid-Atlantic Region ("SWMAR"), or Mid-Atlantic Region ("MAR"), or for other LDAs if the separate modeling is required by Section 5.10(a)(ii)(A) or (B) of Attachment DD of the Tariff.

6. An FRR Entity may reduce the Percentage Internal Resources Required as to any LDA to the extent the FRR Entity commits to a transmission upgrade that increases the CETL for such LDA. Any such transmission upgrade shall adhere to all requirements for a Qualified Transmission Upgrade as set forth in Attachment DD to the PJM Tariff. The increase in CETL used in the FRR Capacity Plan shall be that approved by PJM prior to inclusion of any such upgrade in an FRR Capacity Plan. The FRR Entity shall designate specific additional Capacity Resources located in the LDA from which the CETL was increased, to the extent of such increase.

7. The Office of the Interconnection will review the adequacy of all submittals hereunder both as to timing and content. A Party that seeks to elect the FRR Alternative that submits an FRR Capacity Plan which, upon review by the Office of the Interconnection, is determined not to satisfy such Party's capacity obligations hereunder, shall not be permitted to elect the FRR Alternative. If a previously approved FRR Entity submits an FRR Capacity Plan that, upon review by the Office of the Interconnection, is determined not to satisfy such Party's capacity obligations hereunder, the Office of the Interconnection shall notify the FRR Entity, in writing, of the insufficiency within five (5) business days *after* the submittal *deadline* of the FRR Capacity Plan. Through the 2024/2025 Delivery Year, if the FRR Entity does not cure such insufficiency within five (5) business days after receiving such notice of insufficiency, then such FRR Entity shall be assessed an FRR Commitment Insufficiency Charge, in an amount equal to two times the Cost of New Entry for the relevant location, in $/MW-day, times the shortfall of

Capacity Resources below the FRR Entity's capacity obligation (including any Threshold Quantity requirement) in such FRR Capacity Plan, for the remaining term of such plan. For Delivery Years between the 2025/2026 Delivery Year through the 2028/2029 Delivery Year, no FRR Commitment Insufficiency Charge shall be assessed. Effective with the 2029/2030 Delivery Year and subsequent Delivery Years, if the FRR Entity does not cure such insufficiency within five (5) business days after receiving such notice of insufficiency, then such FRR Entity shall be assessed an FRR Commitment Insufficiency Charge, in an amount equal to the price level corresponding to point (1) of the Variable Resource Requirement curve, as provided in Tariff, Attachment DD, section 5.10(a)(i), for the relevant Locational Deliverability Area, in $/MW-day, times the shortfall of Capacity Resources below the FRR Entity's capacity obligation (including any Threshold Quantity requirement) in such FRR Capacity Plan, for such Delivery Year.

8. In a state regulatory jurisdiction that has implemented retail choice, the FRR Entity must include in its FRR Capacity Plan all load, including expected load growth, in the FRR Service Area, notwithstanding the loss of any such load to or among alternative retail LSEs. In the case of load reflected in the FRR Capacity Plan that switches to an alternative retail LSE, where the state regulatory jurisdiction requires switching customers or the LSE to compensate the FRR Entity for its FRR capacity obligations, such state compensation mechanism will prevail. In the absence of a state compensation mechanism, the applicable alternative retail LSE shall compensate the FRR Entity at the capacity price in the unconstrained portions of the PJM Region, as determined in accordance with Attachment DD to the PJM Tariff, provided that the FRR Entity may, at any time, make a filing with FERC under Sections 205 of the Federal Power Act proposing to change the basis for compensation to a method based on the FRR Entity's cost or such other basis shown to be just and reasonable, and a retail LSE may at any time exercise its rights under Section 206 of the FPA.

9. Notwithstanding the foregoing, in lieu of providing the compensation described above, such alternative retail LSE may, for any Delivery Year subsequent to those addressed in the FRR Entity's then-current FRR Capacity Plan, provide to the FRR Entity Capacity Resources sufficient to meet the capacity obligation described in paragraph D.2 for the switched load. Such Capacity Resources shall meet all requirements applicable to Capacity Resources pursuant to this Agreement, the PJM Tariff, and the PJM Operating Agreement, all requirements applicable to resources committed to an FRR Capacity Plan under this Agreement, and shall be committed to service to the switched load under the FRR Capacity Plan of such FRR Entity. The alternative retail LSE shall provide the FRR Entity all information needed to fulfill these requirements and permit the resource to be included in the FRR Capacity Plan. The alternative retail LSE, rather than the FRR Entity, shall be responsible for any performance charges or compliance penalties related to the performance of the resources committed by such LSE to the switched load. For any Delivery Year, or portion thereof, the foregoing obligations apply to the alternative retail LSE serving the load during such time period. PJM shall manage the transfer accounting associated with such compensation and shall administer the collection and payment of amounts pursuant to the compensation mechanism.

Such load shall remain under the FRR Capacity Plan until the effective date of any termination of the FRR Alternative and, for such period, shall not be subject to Locational Reliability Charges under Section 7.2 of this Agreement.

SCHEDULE 11

DATA SUBMITTALS

A. To perform the studies required to determine the Forecast Pool Requirement and Daily Unforced Capacity Obligations under this Agreement and to determine compliance with the obligations imposed by this Agreement, each Party and other owner of a Capacity Resource shall submit data to the Office of the Interconnection in conformance with the following minimum requirements:

1. All data submitted shall satisfy the requirements, as they may change from time to time, of any procedures adopted by the Members Committee.

2. Data shall be submitted in an electronic format, or as otherwise specified by the Markets and Reliability Committee and approved by the PJM Board.

3. Actual outage data for each month for Generator Forced Outages, Generator Maintenance Outages and Generator Planned Outages shall be submitted so that it is received by such date specified in the PJM Manuals.

4. On or before the date specified in the PJM Manuals, planned and maintenance outage data for all Generation Resources shall be submitted.

The Parties acknowledge that additional information required to determine the Forecast Pool Requirement is to be obtained by the Office of the Interconnection from Electric Distributors in accordance with the provisions of the Operating Agreement.

B. 1. (a) Each Party shall submit, or cause to be submitted, to the Office of the Interconnection the following information, as may be further described in the PJM Manuals, related to each Large Load served by the Party:

- Eligible Customer/Network Customer for Large Load;
- Description of Large Load;
- Location(s) (Control Zone, Electric Distributor zone/area, where a zone/area is an area within a Zone for which the relevant Electric Distributor specifies a separate Obligation Peak Load MW value. A zone/area is a service area of an Electric Distributor that is a separately identifiable, geographic area bounded by wholesale metering);
- In-service date for each increment of load;
- Peak shaving adjustment value pursuant to a state program codified in state law and whether and how it meets the requirements of Tariff, Attachment DD-2;
- Delivery point / Point(s) of interconnection (include all if more than one);
- Peak load quantity (MW) and ramp schedule, if applicable;

- Telemetry specifications;
- BYONC quantity (MW) and ramp schedule, if applicable;
- Allocated RBP UCAP MW quantity (MW), if applicable;
- Backup generation (MW), including fuel type and relevant permitting limitations;
- Contracts or service agreements between the Large Load and the LSE;
- Points of contact at the applicable Transmission Owner, Electric Distributor, and Load Serving Entity;
- EMS B1/B2/B3 name (for the applicable Transmission Owner, Electric Distributor); and
- Additional details and contents as necessary, in accordance with the PJM Manuals.

(b) The Parties acknowledge that information related to the development and maintenance of the Large Load Registry may be obtained by the Office of the Interconnection from Electric Distributors in accordance with the provisions of the Operating Agreement and the Tariff.

(c) The Office of the Interconnection may review information and coordinate with the applicable Transmission Owner and Electric Distributor as needed, regarding the validity of the information provided, including through requesting additional information as the Office of the Interconnection deems necessary, as further set forth in the PJM Manuals. The Office of the Interconnection also may consult with the Large Load.

(d) Based on the information provided, or caused to be provided, by each Party, as well as other information provided by, for example, Electric Distributors, the Office of the Interconnection shall maintain a registry of all Large Loads, and update it periodically. To the extent such documents, data, or other information provided to the Office of the Interconnection has been designated as confidential by a Party, Electric Distributor, or other entity supplying the information, the Office of the Interconnection shall maintain the confidentiality of the information provided under this RAA, Schedule 11, section B consistent with its obligations under Operating Agreement, section 18.17. Information maintained in the Large Load registry may be available to Authorized Commissions, Transmission Owners, Electric Distributors, Load Serving Entities, the Market Monitoring Unit, and FERC subject to appropriate data protection safeguards required by Operating Agreement, section 18.17.

(e) The Office of the Interconnection shall post aggregate data from the Large Load Registry on the PJM website, aggregated by Electric Distributor zone/area, where possible and in a manner consistent with existing confidentiality protections in the PJM Governing Agreements.

2. (a) Each Party serving or contracted to serve a Large Load that is or will be in service prior to June 1, 2027, shall provide the information required by RAA, Schedule 11.B.1 to the Office of the Interconnection by March 1, 2027.

(b) Each Party serving or contracted to serve a New Large Load that will be in service on or after June 1, 2027, shall provide the information required by RAA, Schedule 11.B.1 to the Office of the Interconnection before the in-service date of the Large Load.

(c) Each Party contracted to serve a New Large Load shall provide the location(s) as required by RAA, Schedule 11.B.1 to the Office of the Interconnection before determination of the final PJM Regional Peak Load Forecast for the effective RPM Auction for the Delivery Year in which the New Large Load is expected to be in-service starting with the 2028 PJM Regional Peak Load Forecast.

Each Party shall promptly inform the Office of the Interconnection of any change in the information required by RAA, Schedule 11.B.1 with respect to a Large Load served by the Party, including whether the Party no longer serves the Large Load or has acquired the contractual right to serve a registered Large Load.

3. The information provided pursuant to RAA, Schedule 11, section B will be used, to the extent necessary, for purposes including but not limited to implementation of Interim Resource Adequacy Service, which is a load reduction service, effective starting with the 2027/2028 Delivery Year, through which Eligible New Large Loads may be compensated for providing load reductions requested by the Office of the Interconnection to maintain system reliability for the purpose of supporting the integration of New Large Loads to the PJM Region that have not entered into an arrangement with new capacity additions to the PJM Region, as more fully set forth in Tariff, Attachment DD-4.

Attachment C

Affidavit of Christopher Pilong 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. ER26-____-000**
	)	

AFFIDAVIT OF CHRISTOPHER PILONG
ON BEHALF OF PJM INTERCONNECTION, L.L.C.

I. Introduction

1. My name is Christopher Pilong. My business address is 2750 Monroe Boulevard, Audubon, Pennsylvania, 19403. I am Senior Director of Operations Planning for PJM Interconnection, L.L.C. ("PJM"). I am submitting this affidavit on behalf of PJM to discuss when and how PJM would utilize the Interim Resource Adequacy Service ("IRAS") to manage system reliability. Specifically, in this affidavit, I explain how PJM will generally follow its existing processes and procedures in calling for IRAS load reductions and provide some examples of how it will work in practice.

2. I joined PJM in November 2001. Currently, as Senior Director of Operations Planning, I am responsible for the Transmission Operations Department, Generation Department, Transmission Service Department, and Outage Analysis Technologies Department. These departments perform near-term transmission outage analysis and approvals, generation outage analysis and approvals, facilitate annual Black Start Unit commitments, support and develop operational tools, implement and comply with all North American Energy Standards Board business rules regarding Available Flowgate Capability/Available Transfer Capability, perform gas-electric coordination activities, as well as many other tasks to prepare for, and support, real time operations. The teams also perform seasonal reliability assessments, support the various tools and applications utilized in these processes, and coordinate directly with the Market Services Division and System Planning Division.

3. Previously, as Director, Dispatch, I was responsible for the oversight and operation of the Valley Forge and Milford Control Centers. This function included ensuring the reliable operation of the power grid, in accordance with all PJM and North American Electric Reliability Corporation ("NERC") reliability standards pertaining to the functions of Reliability Coordinator, Balancing Authority, and Transmission Operator. In addition, I was responsible for ensuring the efficient economic dispatch of the system under the existing PJM market rules and neighboring Joint Operating Agreements.

4. Prior to that position, I served as a Reliability Engineer and then Manager – Reliability Engineering. As Manager for the Reliability Engineering Group, I managed the group responsible for coordinating day-ahead and real-time operating plans among PJM staff, PJM Transmission Owners, PJM Generation Owners, and our neighboring entities. I performed these functions directly in my earlier role as a Reliability Engineer. I hold a

Bachelor of Science degree in Electrical Engineering from Lehigh University and a Master of Business Administration degree from Villanova University.

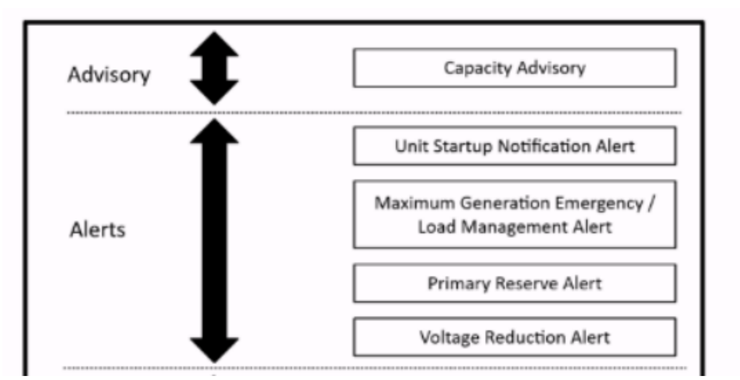
II. Overview of Practices When Capacity Shortages Give Rise to Emergency Procedures

5. As set forth in section 2.1 of PJM Manual 13, "PJM is responsible for determining and declaring that an Emergency is expected to exist, exists, or has ceased to exist in any part of the PJM [regional transmission organization ("RTO")] or in any other Control Area that is interconnected directly or indirectly with the PJM RTO. [1]."[2]

6. In PJM, there are three general levels of Emergency Procedures for capacity shortages, and an advisory level.

7. Prior to the Operating Day, PJM may issue advisories and/or alerts (see Figure 1, below). The advisory level is general in nature and for elevated awareness "only and may be issued one or more days in advance of the Operating Day."[3] Emergency Procedure Alerts may be "issued one or more days in advance of the Operating Day for elevated awareness and to give time for advanced preparations."[4]

Figure 1: Advisory and Alerts[5]



A. Steps in Real-Time Prior to Emergency Actions

8. PJM Dispatchers monitor projected and current reserves and determine whether actions are needed to maintain reserves within the required limits. In accordance with PJM Manual 13, before entering into capacity-related emergency actions in real-time, PJM Dispatch will

[2] Systems Operations Division, *PJM Manual 13: Emergency Operations*, PJM Interconnection, L.L.C., section 2.1 (rev. 98, June 24, 2026), https://www.pjm.com/-/media/DotCom/documents/manuals/m13.pdf [https://perma.cc/HE9Y-BNQK] ("PJM Manual 13").

[3] PJM Manual 13, section 2.3.

[4] PJM Manual 13, section 2.3.

[5] PJM Manual 13, section 2.3.

use available generation and economic demand response, based on economic dispatch, which ensures that Real-Time Locational Marginal Prices reflect actual system conditions.[6]

9. Second, as set forth in PJM Manual 13, if generation and economic demand resources are not sufficient to maintain reserves, PJM Dispatch will then recall energy from its Capacity Resources by curtailing non-firm export transactions, i.e., interchange transactions, in accordance with Part II of the PJM Open Access Transmission Tariff ("Tariff").

10. PJM Dispatch will also have declared a NERC Energy Emergency Alert Level 1 ("EEA1"), as required by NERC Standard EOP-011 Attachment 1, via the Reliability Coordinator Information System and Emergency Procedures webpage.[7]

11. There are three levels of NERC Energy Emergency Alert Levels (EEA1 through EEA3), with an EEA3 being the highest alert level. "EEA1 signals that PJM foresees or is experiencing conditions where all available resources are scheduled to meet firm load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves."[8] "An EEA3 is issued when [PJM] is unable to meet minimum Contingency Reserve Requirements."[9]

12. Third, if system conditions remain constrained and reserves are projected to be short of requirements, assuming PJM's new, yet-to-be-effective transmission service products—Non-Firm Contract Demand Service ("CDS") and Interim Network Integrated Transmission Service ("Interim NITS") are effective, PJM may direct curtailment of Non-Firm CDS and/or Interim NITS transmission service.[10]

13. Fourth, if system conditions remain constrained and reserves are projected to be short of requirements, then PJM will curtail the new IRAS load as outlined in the Examples below.

14. Fifth, if a system emergency develops, then PJM will initiate Steps 1 through Step 10 of the Capacity Emergency procedures as necessary to maintain the reliability of the grid. If Step 10 (Manual Load Dump Action) is reached, this may require firm load to shed pursuant to emergency actions. PJM members are expected to implement all emergency procedures based on the timeliness associated with each specific procedure.[11]

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[6] PJM Manual 13, section 2.3.2.

[7] PJM Manual 13, section 2.3.2.

[8] PJM Manual 13, section 2.3.1.

[9] PJM Manual 13, section 2.3.2.

[10] *PJM Interconnection, L.L.C.*, 195 FERC ¶ 61,209, at P 551 (2026) ("[W]e find PJM's proposal to curtail Interim NITS and [Non-Firm Contract Demand] transmission service prior to deployment of its Pre-Emergency Load Response Program, or in response to a transfer capability shortage as a result of system reliability conditions, to be just and reasonable because it is consistent with how Non-Firm [Point-to-Point Service] is curtailed. . . . [W]e find that PJM's proposal to curtail Interim NITS during capacity or reserve shortages is just and reasonable and consistent with both the nature of the transmission service as a non-firm transmission service for which Eligible Customers do not pay generation capacity charges, and the need to maintain reliability." (footnote omitted)).

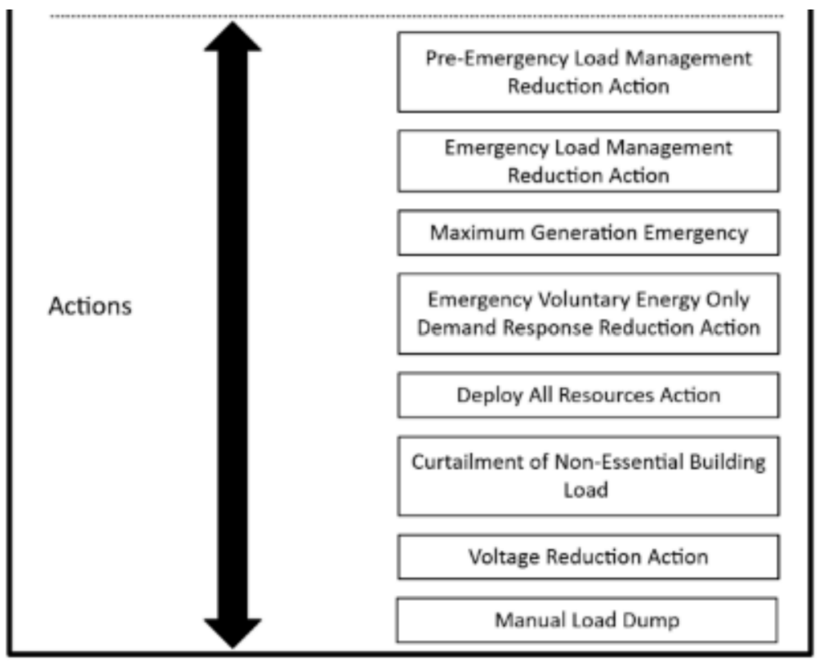
[11] PJM Manual 13, section 2.3.

B. Steps for Real-Time Emergency Actions Set Forth in PJM Manual 13

15. Importantly, while there is a sequence of escalating emergency action steps set forth in PJM Manual 13, the rapidness of system events influences the timing and order of actions necessary to maintain system reliability. Therefore, PJM Dispatchers "have the flexibility to implement emergency procedures in whatever order is required to ensure system reliability.[12] Likewise, they have the flexibility to exit emergency procedures in a different order than they were implemented."[13]

16. Figure 2, below, excerpted from PJM Manual 13, illustrates the escalating emergency actions that PJM may take and/or require of Members under the status quo rules.[14]

Figure 2.



17. As Figure 2, above, demonstrates, under current Emergency Procedures, the first step when an emergency action is declared is to require Pre-Emergency Load Management Reductions, which essentially require a class of Demand Resources and DER Aggregation Resources to reduce load.

18. At the most extreme, PJM will declare an EEA3, in which PJM may call for a Manual Load Dump (i.e., shedding load taking NITS), a last-resort emergency instruction issued by PJM, triggered during severe capacity deficiencies or critical transmission overloads when all other operational steps have failed.

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[12] PJM Manual 13, section 2.3.

[13] PJM Manual 13, section 2.3.

[14] PJM Manual 13, section 2.3.

III. Addition of Interim Resource Adequacy Service Emergency Procedures to Existing Emergency Procedures in PJM Manual 13

19. New Large Loads are developing more quickly than generation and transmission can be built. As a result, this may impact the ability for PJM to maintain a reliable system and continue to meet the demand for existing customers and maintain reserve requirements during times of peak demand and/or significant generator outages. Therefore, a new operational tool is needed to ensure the current level of reliability for our customers is maintained.

20. IRAS, as proposed, is an additional load reduction service that PJM may deploy in real-time, starting with the 2027/2028 Delivery Year. As part of this filing, PJM is proposing a new term, "Interim Resource Adequacy Service Action," to mean "an Operating Instruction, as defined by NERC, issued from the Office of the Interconnection to reduce load prior to calling on Pre-Emergency Load Management Reductions after determining that available economic real-time supply may not be sufficient to maintain reserves to meet applicable Reserve Requirements and/or Interconnection Reliability Operating Limits ("IROL") within prescribed limits and prevent cascading outages."[15]

21. The IRAS framework is intended to operate as both a forward-looking reliability assurance mechanism and an operational tool. The identification of an IRAS requirement for each Electric Distributor's zone/area establishes the reliability obligation applicable to affected load, while PJM's real-time operating processes determine when and how that obligation is activated based on actual system conditions.

22. The IRAS framework therefore does not require PJM to reduce affected load whenever an IRAS requirement exists. Rather, the IRAS requirement establishes an operational reliability resource available to PJM, which can be called upon when actual system conditions indicate that the reliability need addressed by the IRAS requirement is materializing.

23. PJM will incorporate IRAS-designated load, that PJM will determine under the IRAS rules, into its operating models, operating plans, and real-time reliability assessments. PJM's existing real-time Energy Management System and contingency-analysis processes provide the platform for evaluating system conditions and identifying potential reliability violations.

24. If the proposed IRAS framework is accepted by the Commission, PJM Manual 13 will be revised to establish the specific details of how PJM will deploy IRAS through new Emergency Procedures, i.e., Emergency Alerts, Actions, Advisories, and/or Warnings. As is the norm, PJM will work with stakeholders to revise PJM Manual 13 to establish specific language for IRAS Emergency Procedures after the IRAS proposal has been filed with the

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[15] Tariff, Definitions – Interconnection Reliability Operating Limits; *Glossary Terms*, North American Electric Reliability Corporation, https://www.nerc.com/glossary-of-terms?alpha=I [https://perma.cc/TZ9W-MZ4K] (last visited Aug. 11, 2026) (defining Interconnection Reliability Operating Limit as "[a] System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System.").

Commission. Any revisions to PJM Manual 13 to reflect IRAS will not become effective unless the Commission accepts the IRAS framework.

25. That said, I will provide, below, a general overview of how IRAS, as a new operational tool, will be deployed. PJM expects that existing Emergency Procedures set forth in PJM Manual 13 will not change except to add IRAS as another potential tool at PJM's disposal that PJM may deploy in efforts to address a potential emergency prior to Pre-Emergency Load Management Reduction Action.

26. In day-ahead, Interim Resource Adequacy Service Alerts may precede a Maximum Generation Alert ("Max Gen Alert"). Thus, IRAS provides a new, lower-level Emergency Procedure Alert that PJM Dispatch may issue prior to a Max Gen Alert. In real-time, PJM Dispatch will deploy Interim Resource Adequacy Service Actions before Pre-Emergency Load Management Reduction Actions. Thus, in real-time, IRAS provides a new step, at PJM's disposal, prior to impacting existing customers. If the Interim Resource Adequacy Service Actions do not address the emergency, PJM Dispatchers would then take necessary Pre-Emergency Load Management Reduction Actions and declare escalating Emergency Procedures as necessary.

27. In the next subsections of my affidavit, I explain how a PJM Dispatcher may deploy IRAS. In Example 1, below, I describe how PJM issues an Interim Resource Adequacy Service Alert in the day-ahead. In Example 2, I describe a scenario when, in real-time, PJM experiences an RTO-wide reliability and/or capacity shortfall event and responds by deploying IRAS. In Example 3, in real-time, PJM experiences an IROL and responds by deploying IRAS.

28. It is important to note that prior to the start of each Delivery Year, the megawatts ("MW") quantity of IRAS that will be required to respond to an Interim Resource Adequacy Service Alert will be determined by PJM for each Electric Distributor zone/area. This value will be utilized by PJM Dispatch in their system projections, alerts and actions in the examples below (e.g., PJM may determine, for example, that prior to the Delivery Year, there may be 4 gigawatts of IRAS available across the RTO, with smaller amounts assigned to an Electric Distributor zone/area for real-time curtailment if an Interim Resource Adequacy Service Action is issued).

A. Example 1—Day-Ahead Interim Resource Adequacy Service Alert

29. As PJM operators look ahead to the next Operating Day, they periodically evaluate forecasted demand and scheduled supply. They also evaluate, among many other things, expected weather conditions to determine, e.g., wind and solar resource availability, temperature, etc. PJM schedules reserves on a day-ahead basis to address such contingencies and variabilities.

30. In this example, in day-ahead, PJM operators reasonably expect that insufficient supply will be available to meet expected real-time demand and reserves for the next Operating Day. PJM's operators will have available to them, on a daily basis, the expected aggregate amount of Interim Resource Adequacy Service MW that can be reduced at the Electric

Distributor level. If reduction of some/all of the IRAS load may be necessary to meet real-time demand and reserve requirements, PJM Dispatchers may elect to issue an Interim Resource Adequacy Service Alert in day-ahead.

31. PJM issues an Interim Resource Adequacy Service Alert before and/or concurrently with a Max Gen Alert/Load Management Alert. The Interim Resource Adequacy Service Alert puts all Eligible New Large Loads on notice that PJM could request reductions in load in quantities equal to or lesser than each Electric Distributor zone/area's assigned IRAS amounts during the next Operating Day. However, under an alert, no IRAS reduction is actually requested or implemented. This is simply a notice to prepare and will be issued to provide maximum notice possible.

32. In this example, PJM also elects to issue a Max Gen Alert/Load Management Alert in day-ahead.

33. As explained in section 2.3.1 of PJM Manual 13, "The intent of the alert(s) is to keep all affected system personnel aware of the forecasted and/or actual status of the PJM RTO. All alerts and cancellation thereof are broadcast on the ALLCALL system and posted to selected PJM websites to assure that all members receive the same information. Alerts are issued in advance of a scheduled load period to allow sufficient time for members to prepare for anticipated initial capacity shortages."[16]

34. For Examples 2-3, where PJM issues an Interim Resource Adequacy Service Action in real-time, it can be assumed that PJM Dispatch would have already issued an Interim Resource Adequacy Service Alert. Thus, in real-time, PJM's members are already aware that potential Emergency Procedure actions may take place in real-time. However, it should be noted that not all conditions can be forecasted, and it is not a requirement that an Interim Resource Adequacy Service Alert be issued prior to an Interim Resource Adequacy Service Action. Therefore, it is possible to have no day-ahead alerts, but nevertheless have an Interim Resource Adequacy Service Action or other Actions issued during the Operating Day.

B. Example 2—Real-Time Interim Resource Adequacy Service Action, RTO-Wide Emergency

35. In real-time, PJM faces an RTO-wide system emergency. Prior to directing an Interim Resource Adequacy Service Action, however, PJM has several other ways to address RTO-wide reliability concerns.

36. First, in keeping with the practice in place today and set forth in PJM Manual 13, PJM Dispatchers deploy available generation and economic demand resources, in economic dispatch order while maintaining required reserves. Even with all available economic resources dispatched, PJM's operators may still face a potential reliability issue and capacity shortfall in real-time.

[16] PJM Manual 13, section 2.3.1.

37. Second, in keeping with the practice in place today and as set forth in PJM Manual 13, if issues persist or are projected to deteriorate, PJM operators may require non-firm interchange transaction curtailment, as needed.

38. PJM Dispatchers will have already issued an EEA1. After the first and second steps taken by PJM Dispatchers, PJM remains under an EEA1.

39. Third, assuming for purposes of this example that the yet-to-be-effective Interim NITS and Non-Firm CDS transmission services are now in place, PJM may curtail Non-Firm CDS, followed by Interim NITS.

40. Fourth, after all non-firm transmission services are curtailed, PJM Dispatchers would then issue the new Interim Resource Adequacy Service Action prior to deployment of a Pre-Emergency Load Management Reduction Action.

41. PJM intends to issue an Interim Resource Adequacy Service Action through the status quo notification processes set forth in PJM Manual 13.[17] Pursuant to the Interim Resource Adequacy Service Action, PJM prioritizes load reduction from those Electric Distributor zones/areas where New Large Loads have not brought their own new capacity and do not have Allocated Reliability Backstop Procurement Unforced Capacity Megawatts ("RBP UCAP MW") sufficient to cover their capacity needs. PJM's operators will direct the IRAS reduction to Electric Distributor zones/areas as needed based on system conditions.

42. More specifically, through an Interim Resource Adequacy Service Action, PJM Dispatchers will direct Electric Distributors to implement reductions in load up to, and capped at, the pre-Delivery Year IRAS obligations they were assigned. Importantly, PJM will not direct specific New Large Loads to reduce load, even though Electric Distributors—in coordination, where applicable, with relevant states, Load Serving Entities, and New Large Loads—may issue more specific directives to specific retail customers.[18] PJM will only direct load reduction of an aggregate MW IRAS within the zone or area.

43. In this example, the Interim Resource Adequacy Service Action is deployed in response to a Region-wide emergency. As such, based on the maximum IRAS amounts assigned to each Electric Distributor zone/area, PJM Dispatchers call for some or all Electric Distributors to reduce load across the PJM RTO Region in the manner they see fit to

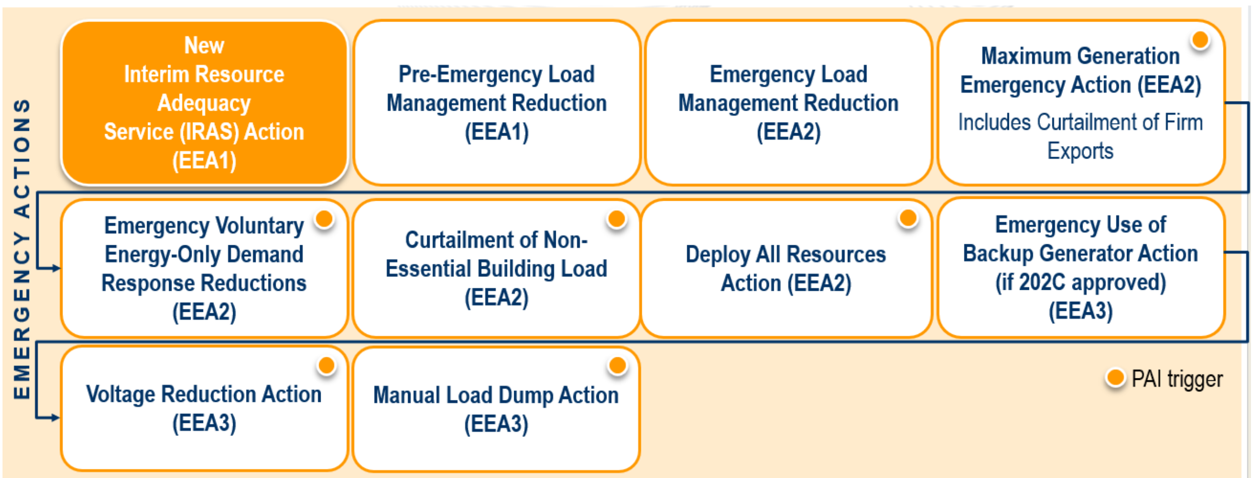
[17] System Operations Division, *PJM Manual 37: Reliability Coordination*, PJM Interconnection, L.L.C., section 3.2 (rev. 23 Apr. 22, 2026), https://www.pjm.com/-/media/DotCom/documents/manuals/m37.pdf [https://perma.cc/FY3P-8SCM].

[18] As PJM Manual 13 notes, PJM members have Member Load shed plans, which, among other things, "recognize priority and critical load including: Essential health and public safety facilities such as hospitals, police, fire facilities, 911 facilities, wastewater treatment facilities; Facilities providing electric service to facilities associated with Bulk Electric System including off-site power to generating stations, substation light and power; Critical natural gas infrastructure used to supply gas pipeline pumping plants, processing and production facilities; and Telecommunication facilities." PJM Manual 13, section 2.3.2.

address the system conditions. As directed by PJM, those Electric Distributors then reduce load in accordance with PJM's emergency action.

44. Figure 3, below, shows how an Interim Resource Adequacy Service Action fits into PJM's existing Emergency Procedures framework.

Figure 3: PJM Emergency Procedures with Interim Resource Adequacy Service (IRAS)



45. As shown in Figure 3, the Interim Resource Adequacy Service Action precedes Pre-Emergency Load Management Reductions in PJM's order of operations to maintain reliability.

46. In this example, the EEA1 continues, and PJM Dispatchers then proceed to Pre-Emergency Load Management Reductions, in keeping with the status quo steps set forth in PJM Manual 13.[19]

47. The Pre-Emergency Load Management Reductions address the RTO-wide emergency. PJM Dispatch cancels the Pre-Emergency Load Management Reductions and Interim Resource Adequacy Service Actions, when appropriate.

C. Example 3—Real-Time Interim Resource Adequacy Service Action, Potential Interconnection Reliability Operating Limit Violation

48. In my next real-time example, there is a potential IROL violation. Certain facilities, known as IROL facilities, can significantly impact system reliability if loaded above a designated limit.[20] If an IROL facility's designated limits are exceeded, this has the potential to result

[19] System Operations Division, *PJM Manual 37: Reliability Coordination*, PJM Interconnection, L.L.C., section 3.2, (rev. 23 Apr. 22, 2026), https://www.pjm.com/-/media/DotCom/documents/manuals/m37.pdf [https://perma.cc/FY3P-8SCM].

[20] PJM Manual 13, section 5.5 (including identification of IROL facilities).

in wide-area voltage collapse.[21] Therefore, PJM Dispatch must quickly act to mitigate IROL violations.

49. An IROL violation, unlike a PJM RTO-wide emergency, occurs when one or more IROL facilities between zones become overloaded or is otherwise experiencing zonal capacity shortages. In my example, PJM's response to a potential IROL violation includes issuance of an Interim Resource Adequacy Service Action.

50. PJM monitors potential IROL violations via PJM Energy Management System, which automatically identifies zones and loads that are at risk of triggering IROL facilities to exceed their limits.

51. In the event of a potential IROL violation, PJM engages in similar steps and notifications in real-time described in Example 2, above, but does so in a more targeted manner. For example, the response to the potential IROL violation may not require curtailment of all non-firm exports to the extent the exports do not exacerbate the potential IROL violation.

52. In this case, for example, let's say the Dominion Zone is experiencing a transmission capacity scarcity event resulting from a potential IROL violation due to overloading of an IROL facility in West Virginia, e.g., AP South. In response, it makes little sense for PJM Dispatchers to curtail non-firm exports to the West or North of the PJM system. However, PJM may require curtailment of non-firm exports between PJM and areas to the South that are flowing power across the AP South IROL Reactive Interface to mediate the potential IROL violation.

53. Similarly, when PJM Dispatchers issue an Interim Resource Adequacy Service Action in response to the potential IROL violation, it is a more targeted Interim Resource Adequacy Service Action than the pro-rata load reductions across multiple Electric Distributor zones/areas issued in Example 2, above. If load in a particular Electric Distributor zone/area is not negatively impacting transmission flows into the Dominion Zone, load reduction in that zone/area may not have any effect on the Dominion Zone.

54. The Interim Resource Adequacy Service Action, in the event of an IROL violation, will require similar steps in real-time as an Interim Resource Adequacy Service Action across the entire PJM RTO Region, except that PJM Dispatchers will only deploy load reductions up to the maximum IRAS amounts PJM determined for those affected Electric Distributors' zones/areas needed to alleviate the transmission capacity scarcity event within that specific zone/area.

55. Through distribution factor modeling from its Energy Management System, PJM will identify the Electric Distributors' zone(s)/area(s) in which an Interim Resource Adequacy Service Action will have the greatest impact in alleviating the IROL violation. PJM will then direct those relevant Electric Distributors to reduce load. The Electric Distributor, in

[21] System Operations Division, *PJM Manual 37: Reliability Coordination*, PJM Interconnection, L.L.C., section 3.2, (rev. 23Apr. 22, 2026), https://www.pjm.com/-/media/DotCom/documents/manuals/m37.pdf [https://perma.cc/FY3P-8SCM].

coordination with applicable states, Load Serving Entities, and Large Loads, will, in turn, direct specific loads to reduce in response to the Interim Resource Adequacy Service Action.

56. This concludes my affidavit.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.	)))	**Docket No. ER26-____-000**

VERIFICATION

I, **Christopher Pilong**, state, under penalty of perjury, that I am the Christopher Pilong referred to in the foregoing document entitled, "Affidavit of Christopher Pilong on Behalf of PJM Interconnection, L.L.C.," that I have read the same and am familiar with the contents thereof, and that the facts set forth therein are true and correct to the best of my knowledge, information, and belief.

/s/ *Christopher Pilong*
Christopher Pilong