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August 18, 2023

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426-0001

*Re: PJM Interconnection, L.L.C., Docket No. ER23-2649-000
IROL Critical Resource Cost Recovery*

Dear Secretary Bose,

Pursuant to Section 205 of the Federal Power Act (“FPA”),¹ and Part 35 of the Federal Energy Regulatory Commission’s (“Commission”) Regulations,² PJM Interconnection, L.L.C. (“PJM”) hereby submits for filing proposed revisions to the PJM Open Access Transmission Tariff (“Tariff”)³ to create a new rate schedule—Tariff, Schedule 18.⁴ The purpose of this new rate schedule is to establish a mechanism through which Generation Owners of units that PJM designates, pursuant to North American Electric Reliability Corporation (“NERC”) reliability standards, as “IROL Critical Resources,”⁵ may recover the costs of necessary upgrades as a result of PJM’s designation.

¹ 16 U.S.C. § 824d.

² 18 C.F.R. Part 35.

³ The Tariff is currently located under PJM’s “Intra-PJM Tariffs” eTariff title, available here: <https://etariff.ferc.gov/TariffBrowser.aspx?tid=1731>. Terms not otherwise defined herein shall have the same meaning as set forth in the Tariff, the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (“Operating Agreement”), and the Reliability Assurance Agreement Among Load-Serving Entities in the PJM Region (“RAA”).

⁴ PJM is also proposing a newly defined term, “IROL Critical Resource.” See proposed redlines for Tariff, Definitions – I – J – K.

⁵ As discussed herein, “IROL” is an acronym for “Interconnection Reliability Operating Limit.”

The amendments to the Tariff proposed herein were overwhelmingly endorsed by PJM Members at the June 22, 2023 PJM Markets and Reliability Committee (“MRC”) meeting by acclamation, with four objections and twelve abstentions, and at the July 26, 2023 PJM Members Committee (“MC”) meeting, by acclamation, with six objections and eleven abstentions.

PJM respectfully requests that the Commission accept the Tariff revisions described herein with an effective date of October 18, 2023—the sixty-first day after the date of this filing.

I. BACKGROUND

A. Interconnection Reliability Operating Limits.

An Interconnection Reliability Operation Limit (“IROL”) is “[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.”⁶ As NERC has explained, while operating within both System Operating Limits (“SOLs”) and IROLs is required for Reliable Operation of the Bulk Electric System (“BES”), “IROLs are a *subset* of SOLs established to prevent the broader, more adverse, reliability impacts to the BES.”⁷ As a NERC-registered Balancing Authority, Transmission Operator, and Reliability Coordinator, PJM is responsible for identifying, defining, and operating within IROLs to maintain BES reliability.⁸ Pursuant to PJM Manual 37, Section 3,⁹ all IROLs in PJM represent thermal (rather than stability) limits, which are

⁶ See Glossary of Terms Used in NERC Reliability Standards (Mar. 8, 2023) available here: https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf.

⁷ Emphasis added. See NERC Reliability Guideline: Methods for Establishing IROLs at xii, available here: https://www.nerc.com/comm/RSTC_Reliability_Guidelines/Reliability_Guideline_Methods_for_Establishing_IRO_Ls.pdf.

⁸ See, e.g., NERC Reliability Standard IRO-009-2.

⁹ PJM, *Manual 37: Reliability Coordination* (rev. 20, Mar. 22, 2023), <https://www.pjm.com/-/media/documents/manuals/m37.ashx>.

derived for voltage contingencies known as “reactive interfaces.”¹⁰ There are currently nine IROLs in PJM, as identified in PJM Manual 37, Section 3.

B. PJM’s Obligation to Identify Generation Facilities Critical to the Derivation of IROLs.

On November 22, 2013, in Order No. 791, the Commission approved version 5 of the NERC CIP Cyber Security Standards, which included a revised methodology for categorizing Bulk Electric System Cyber Assets that incorporated mandatory protections for all high, medium, and low impact Bulk Electric System Cyber Assets.¹¹ Pursuant to the implementation plan approved in Order No. 791, responsible entities had to achieve compliance by April 1, 2016, for provisions pertaining to medium impact assets.¹² As relevant here, the CIP Version 5 Standards require Reliability Coordinators like PJM to identify and categorize each of their Bulk Electric System Cyber Systems according to specific criteria (low, medium, high) set forth in Attachment 1 - Impact Rating Criteria of CIP-002-5.1a.¹³ By extension, CIP-002-5.1a, Attachment 1, Section 2.6 specifies that a “medium impact” designation shall be given to any BES Cyber Systems associated with “*Generation at a single plant location or Transmission Facilities at a single station or substation location that are identified by its Reliability Coordinator, Planning Coordinator, or*

¹⁰ See *id.* at § 3.1 (“PJM’s Operational methodology to determine IROL facilities simulates transfers across a facility or interface (combination of facilities), comparing thermal and voltage violations associated with a facility. The transfers are simulated by increasing the load at the Sink (Control Area(s) or subset of Control Area) with the corresponding generation increase at the Source (typically west of the facility/interface being studied) until a voltage violation/collapse is reached. For simulating transfers into a Sink load pocket, an alternate approach of reducing generation in the Sink may be utilized since increasing Sink load well above its historic peak is not likely to be realized during actual operation”).

¹¹ *Version 5 Critical Infrastructure Protection Reliability Standards*, Order No. 791, 145 FERC ¶ 61,160, at PP 41, 87 (2013), *order on clarification and reh’g*, Order No. 791-A, 146 FERC ¶ 61,188 (2014).

¹² See Order No. 791-A, 146 FERC ¶ 61,188 at PP 10-12.

¹³ NERC Reliability Standard CIP-002-5.1a, R1.

Transmission Planner as critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.”¹⁴

In compliance with CIP-002-5.1a, each year PJM implements a methodology to identify any “medium impact” BES Cyber Systems associated with generation units “critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.”¹⁵ PJM informally refers to these units as “IROL Critical Resources.”¹⁶

Once the applicable generation units are identified, PJM notifies the corresponding Generation Owners in writing, apprising them of their unit’s designation as an IROL Critical Resource. To the extent that the applicable generation unit is not already compliant with all “medium impact” CIP requirements, the Generation Owner must then make any requisite investments in the unit to ensure compliance with all applicable CIP reliability standards. These investments may include *both* physical and cyber security upgrades.

Importantly, because (i) PJM (not the Generation Owner) is the entity that designates IROL Critical Resources, (ii) the internal process that PJM utilizes to make this designation is non-public for security reasons, (iii) the specific designation as an IROL Critical Resource only lasts for a defined twelve-month period, and the unit may or may not be designated again in subsequent years,

¹⁴ Emphasis added.

¹⁵ As referenced above *supra* n. 10, PJM’s Operational methodology to determine IROL facilities simulates transfers across a facility or interface (combination of facilities), comparing thermal and voltage violations associated with a facility. The transfers are simulated by increasing the load at the Sink (Control Area(s) or subset of Control Area) with the corresponding generation increase at the Source (typically west of the facility/interface being studied) until a voltage violation/collapse is reached. For simulating transfers into a Sink load pocket, an alternate approach of reducing generation in the Sink may be utilized since increasing Sink load well above its historic peak is not likely to be realized during actual operation. The phrase generation units “critical to the derivation of IROLs” refers to a unit that under PJM’s simulation creates an impact that leads to a voltage violation/collapse, and is separately designated as “medium impact” under PJM’s CIP-002-5.1a methodology.

¹⁶ Note that the units designated as “medium impact” and critical to the derivation of IROLs may change from year to year, in light transmission upgrades, unit retirements, and other changes to PJM’s system topology

and (iv) PJM system topology and associated IROLs may change over time, it is difficult for many Generation Owners to know in advance if their unit will be designated as an IROL Critical Resource, and adjust their market activity accordingly to account for any requisite investments.

C. Historic and Present Scale of Units Identified by PJM as “IROL Critical Resources.”

Since PJM began implementing this process in 2015, there have never been more than nine generation units identified as critical to the derivation of IROLs for any given year, and in the last six years, there have only been fourteen total generation units identified. The number of identified units has decreased almost every year, and for the 2022-2023 and 2023-2024 periods, only one unit was designated as an IROL Critical Resource.¹⁷

D. Stakeholder Process

On April 8, 2021, the PJM Operating Committee (“OC”) endorsed an Issue Charge to examine recovery of costs associated with IROL Critical Resources.¹⁸ After a deferral in May 2021, PJM stakeholders began the Consensus-Based Issue Resolution (“CBIR”) process in January 2022, and continued work in the OC on potential reforms, culminating with the endorsement of the Tariff revisions proposed in this filing.

¹⁷ Note that under CIP-002-5.1a, Attachment 1, Section 2.1, resources “with an aggregate highest rated net Real Power capability of the preceding 12 calendar months equal to or exceeding 1500 MW in a single Interconnection” are automatically considered “medium impact.” Note also that, under CIP-002-5.1a, R 4.2.3.3, the “systems, structures, and components that are regulated by the Nuclear Regulatory Commission under a cyber-security plan pursuant to 10 C.F.R. Section 73.54” are exempt from CIP-002-5.1a.

¹⁸ See Meeting Minutes from April 8, 2021 Operating Committee, available here: <https://www.pjm.com/-/media/committees-groups/committees/oc/2021/20210514/20210514-item-01a-draft-minutes-oc-20210408.ashx>.

II. GENERAL OVERVIEW OF PROPOSED PROCESS FOR IROL CRITICAL RESOURCE COST RECOVERY

Under proposed Tariff, Schedule 18, PJM will identify all IROL Critical Resources¹⁹ and notify each corresponding Generation Owner by no later than June 1 of each year. The designation as an IROL Critical Resource will remain in effect for a twelve month period, from June 1 through May 31 of the following year.

By no later than the last day of the twelve month period that a generation resource is designated as an IROL Critical Resource, the Generation Owner of the IROL Critical Resource must notify the Market Monitoring Unit and PJM in writing of the Generation Owner's intent to seek cost recovery.

By no later than August 15 of the year following PJM's designation of the IROL Critical Resource, the Generation Owner of the IROL Critical Resource that intends to seek cost recovery must submit all actual costs proposed for recovery to the Market Monitoring Unit, in accordance with the Market Monitoring Unit's specifications regarding format and level of detail. Each cost submitted to the Market Monitoring Unit must be accompanied by supporting documentation and a detailed explanation as to why the cost: (i) is necessary to comply with NERC Reliability Standards, and (ii) would not have been incurred solely "but for" the Office of the Interconnection's designation of the Generation Owner's generation resource as an IROL Critical Resource.

¹⁹ PJM proposed to define "IROL Critical Resource" as "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." This language draws directly from the definition of "Interconnection Reliability Operating Limit" in the NERC Glossary of Terms. *See supra* n. 6.

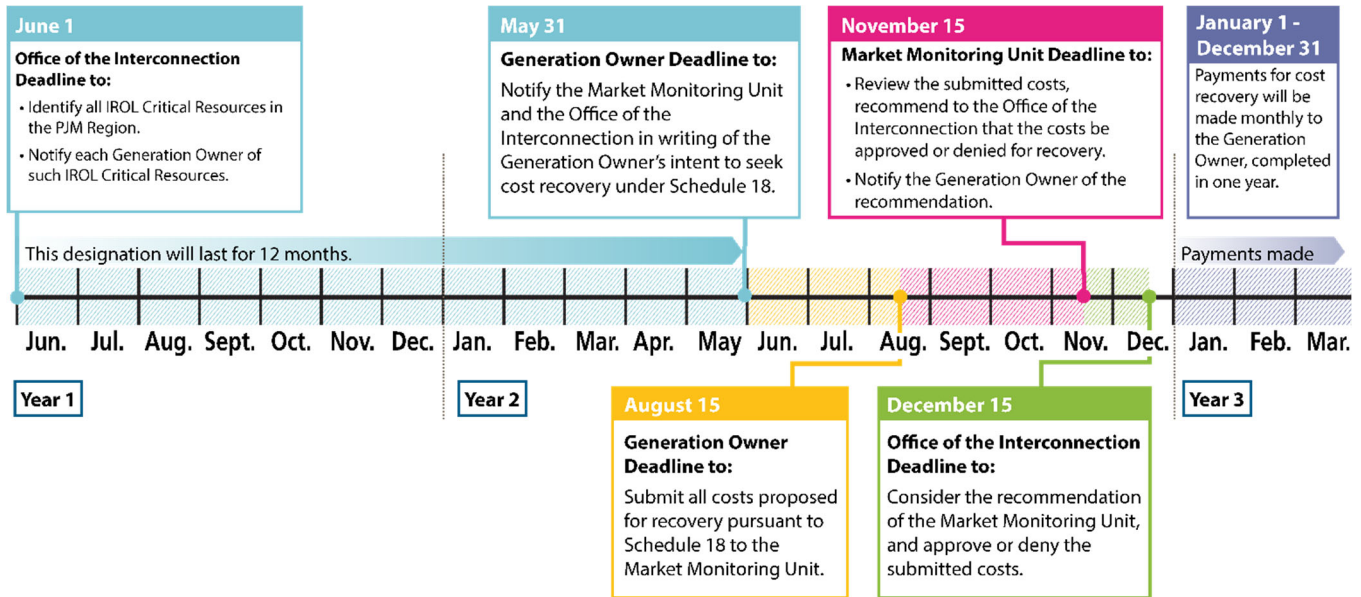
By no later than November 15 of the year following PJM's designation of the IROL Critical Resource, the Market Monitoring Unit will review the submitted costs, recommend to PJM that the costs be approved or denied for recovery, and notify the Generation Owner of the IROL Critical Resource of the Market Monitoring Unit's recommendation. A Generation Owner may submit any costs that the Market Monitoring Unit does not recommend for recovery to PJM provided that the Generation Owner has timely provided to the Market Monitoring Unit the required supporting documentation and detailed explanation.

The Market Monitoring Unit's review is purely advisory to PJM. By no later than December 15 of the year following PJM's designation of the IROL Critical Resource, PJM will consider the recommendation of the Market Monitoring Unit, and approve or deny the submitted costs.

Costs approved by PJM will be assessed on purchasers receiving Network Integration Transmission Service or Point-to-Point Transmission Service beginning January 1 of the second year following each year for which PJM designates the resource as an IROL Critical Resource, with payout completed in twelve months.

The process under proposed Tariff, Schedule 18 may be visualized by the following diagram.

Figure PJM-1



III. JUSTIFICATION FOR PROPOSED TARIFF REVISIONS

PJM respectfully requests that the Commission find the proposed Tariff revisions submitted herein just and reasonable under FPA section 205, for the following reasons.

A. Proposed Tariff, Schedule 18 Aligns with the Policy Objectives of FPA Section 219, and Simultaneously Respects the Filed Rate Doctrine and Rule Against Retroactive Ratemaking.

In 2005, Congress added section 219 to the FPA, which among other things directs the Commission to establish regulations that will “allow recovery of . . . all prudently incurred costs necessary to comply with mandatory [R]eliability [S]tandards issued pursuant to section 215.”²⁰ This principle is correspondingly codified in Section 35.35(f) of the Commission’s regulations,²¹

²⁰ 16 U.S.C. § 824s(b)(4)(A).

²¹ 18 C.F.R. § 35.35(f).

and the Commission similarly reiterated this principle in Order No. 672.²² Importantly, FPA section 219 *also* explicitly states that “[a]ll rates approved under the rules adopted pursuant to this section, including any revisions to the rules, are subject to the requirements of sections 824d and 824e of this title”²³

In reading these two provisions of FPA section 219 together, the Commission explained in a 2020 proceeding regarding ISO New England Inc.’s (“ISO-NE”) proposed IROL generator cost-recovery mechanism that “disregard of the rule against retroactive ratemaking or the filed rate doctrine . . . would obstruct the purpose and application of FPA section 205,” and, by extension, “that outcome would be inconsistent with FPA section 219.”²⁴ In 2022 this legal conclusion was affirmed by the United States Court of Appeals for the District of Columbia Circuit in *Cogentrix Energy Power Management, LLC v. FERC*.²⁵

In accordance with this precedent, proposed Tariff, Schedule 18 creates an avenue for Generation Owners of IROL Critical Resources in PJM to pursue cost recovery, but explicitly

²² *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, 114 FERC ¶ 61,104 at P 259 (2006) (“Pursuant to section 1241 of EPAct, the Commission will allow recovery of all costs prudently incurred to comply with the Reliability Standards.”).

²³ 16 U.S.C. § 824s(d).

²⁴ *ISO-NE, Inc.*, 172 FERC ¶ 61,251 at P 15 (2020).

²⁵ *Cogentrix Energy Power Mgmt., LLC v. FERC*, 24 F.4th 677, 684 (D.C. Cir. 2022) (“This reading of FPA § 219 accords with the Commission’s implementing regulation, 18 C.F.R. § 35.35. Like FPA § 219, the regulation specifies that the Commission will ‘approve recovery of prudently-incurred costs necessary to comply with the mandatory reliability standards ... provided that the proposed rates are just and reasonable and not unduly discriminatory or preferential.’ 18 C.F.R. § 35.35(f). But in addition to these substantive requirements, the regulation also incorporates the procedural filing rules in FPA § 205(c) to (e). *See id.* § 35.35(c) (section 219 rates are ‘subject to the filing requirements of sections 205 and 206 of the Federal Power Act and to the substantive requirements of sections 205 and 206’ (emphases added)). The regulation thus incorporates the filed rate doctrine and the rule against retroactive ratemaking by applying all of section 205’s requirements to any rate filings seeking recovery for costs to comply with the mandatory reliability standards.”).

states that cost recovery may only be permitted for costs incurred *after* the effective date of the rate schedule, and *after* PJM's designation of a unit as an IROL Critical Resource.

Costs incurred prior to the effective date of this Schedule 18, or prior to the Office of the Interconnection's designation of a Generation Owner's generation resource as an IROL Critical Resource, shall not be recoverable pursuant to this Schedule 18.

Proposed Tariff, Schedule 18 therefore furthers the policy objectives of FPA section 219, while simultaneously respecting the filed-rate doctrine and the rule against retroactive ratemaking.

B. Proposed Tariff, Schedule 18 Includes Multiple Protection Mechanisms for Customers.

Tariff, Schedule 18 includes several specific protection mechanisms for customers. First, Tariff, Schedule 18 narrowly scopes the kinds of costs that are eligible for recovery. This is accomplished by establishing a tight nexus between the *necessity* of an IROL Critical Resource for compliance with NERC reliability standards, and its *eligibility* for cost recovery. Specifically, the first paragraph of Tariff, Schedule 18 describes two key factors that make a cost eligible for recovery: (i) the cost must be *necessary* to comply with NERC Reliability Standards; and (ii) the cost would not have been incurred solely *but for* PJM's designation of the unit as an IROL Critical Resource. These factors are similarly memorialized as explicit requirements for every cost submitted to the Market Monitoring Unit for review and analysis. Additionally, Tariff, Schedule 18 provides meaningful specificity to customers regarding the kinds of costs that may be recoverable, by providing specific category descriptions—"one-time or ongoing capital, operation and maintenance, and associated administrative and regulatory costs"—and illustrative examples—" [t]hese costs may include, but are not limited to, labor, equipment, hardware, software, licenses, maintenance and support, upgrade costs, outside related services and fees, and physical improvements." This specificity enhances compliance with the Commission's

regulations requiring that jurisdictional rate schedules “clearly and specifically” identify applicable rates, terms and conditions.²⁶

Second, Tariff, Schedule 18 explicitly defines the kinds of costs that are *ineligible* for recovery, stating that “[n]o other costs, including without limitation, allocations of administrative and general overhead, shall be recoverable pursuant to this Schedule 18, and no costs recovered pursuant to this Schedule 18 shall include a rate of return.”²⁷ The rate schedule also directly protects customers in the event of unit deactivation, stating “[a]n IROL Critical Resource is ineligible for cost recovery pursuant to this Schedule 18 upon unit retirement or deactivation, and all applicable cost recovery payments made pursuant to this Schedule 18 shall cease upon the date of unit retirement or deactivation.”

Third, Tariff, Schedule 18 prohibits duplicative cost recovery, including an explicit disallowance of costs “already recoverable through any other mechanism subject to the jurisdiction of a Relevant Electric Retail Regulatory Authority” and a statement that Generation Owners electing to recover their costs under the rate schedule “shall not pursue recovery of such costs through any other mechanism under the PJM Governing Agreements.” To ensure there is no overlap in twelve-month recovery periods, the rate schedule states that “[a] Generation Owner of an IROL Critical Resource designated as an IROL Critical Resource for multiple twelve month periods must submit any recurring costs on a yearly basis, using the process described in this

²⁶ 18 C.F.R. § 35.1(a) (“Every public utility shall file with the Commission and post . . . full and complete rate schedules . . . clearly and specifically setting forth all rates and charges for any transmission or sale of electric energy subject to the jurisdiction of this Commission, the classifications, practices, rules and regulations affecting such rates, charges, classifications, services, rules, regulations or practices, as required by section 205(c) of the Federal Power Act.”).

²⁷ Because the total payout is completed in one year, there is no need for a rate of return.

Schedule 18,” and “[o]nly new or recurring costs are eligible for recovery under this Schedule 18 for subsequent twelve month periods.”

C. Proposed Tariff, Schedule 18 Requires that Costs Proposed for Recovery be Scrutinized by PJM’s Independent Market Monitor, Which the Commission has Previously Found to be Just and Reasonable Under PJM’s Governing Agreements.

Tariff, Schedule 18 requires that Generation Owners submit costs proposed for recovery to the Market Monitoring Unit for review prior to approval by PJM. The Commission has previously found use of the Market Monitoring Unit in this capacity to be just and reasonable in other contexts under the PJM Governing Agreements.

For example, the Commission has approved Tariff, Schedule 6A, which requires that all requests for Black Start Service revenue requirements and for changes to the Black Start Service annual revenue requirements be submitted to the Market Monitoring Unit for review and analysis.²⁸

Similarly, the Commission has approved Operating Agreement, Schedule 2, which incorporates Market Monitoring Unit review of variable operating and maintenance costs, and requires that PJM consider timely input from the Market Monitoring Unit in its determination of whether to approve specific Maintenance Adders and operating costs.²⁹

D. From a Cost/Benefit Perspective, Tariff, Schedule 18 Creates a Significant Reliability Benefit at Minimal Cost to Customers.

While the Commission “does not generally require the mathematical specificity of a cost-benefit analysis to render a proposal just and reasonable,”³⁰ the Commission has nonetheless

²⁸ Tariff, Schedule 6A, section 17A.

²⁹ Operating Agreement, Schedule 2, section 4.4.

³⁰ *ISO-NE Inc.*, 173 FERC ¶ 61,106 at P 55 (2020) (internal quotation marks omitted).

explained that “costs are an important consideration in our decision-making.”³¹ To this end, the Commission has previously found proposals to be just and reasonable when they will create a significant reliability benefit at a reasonable cost to customers,³² and proposals unjust and unreasonable when they will impose significant costs on customers without a commensurate reliability benefit.³³

Proposed Tariff, Schedule 18 creates a significant reliability benefit at minimal cost to customers. As referenced above, IROL Critical Resources are essential to maintaining IROLs, and by extension, the reliability of the PJM Region. The ability of Generation Owners to recover investments made to bring their IROL Critical Resources into compliance with applicable NERC reliability standards increases the likelihood that those investments will actually be made, and decreases the likelihood that the Generation Owner may alternatively pursue other options (*e.g.*, unit retirement) that may have an adverse impact on reliability.

At the same time, the cost to customers associated with this reliability benefit is expected to be minimal. This is for two distinct reasons. First, because IROLs have a PJM-wide reliability impact, and, by extension, all customers in PJM benefit from requisite investments in the security of generation units critical to the derivation of IROLs, Tariff, Schedule 18 appropriately allocates charges to *all* transmission customers across the PJM footprint, using a load-ratio share methodology. Second, while the total upgrade cost for each individual IROL Critical Resource

³¹ *PJM Interconnection, L.L.C.*, 155 FERC ¶ 61,157 at P 30 (2016).

³² *See, e.g., id.* at PP 30-31 (“We conclude that, based on the record in this proceeding, the reliability benefits of PJM’s proposal are significant. Customers will receive greater assurance that the resources needed to keep their lights on will deliver when needed because the Capacity Performance reforms will incentivize better performance and penalize poor performance, thereby allowing PJM to meet its reliability objective at a reasonable cost over time.”).

³³ *See, e.g., ISO-NE Inc.*, 173 FERC ¶ 61,106 at P 49 (2020) (“We find that the ESI proposal is unjust and unreasonable because it would impose substantial costs on consumers without meaningfully improving fuel security.”).

will vary, PJM does not anticipate the cost per resource to generally exceed several (low single-digit) millions of dollars annually, based on feedback received from Generation Owners of units previously designated as IROL Critical Resources. Additionally, as referenced above, the number of identified IROL Critical Resources has decreased almost every year, and for the 2022-2023 and 2023-2024 periods, only one unit was designated as an IROL Critical Resource.³⁴

To assist in the Commission's assessment of the potential cost impacts of PJM's proposal, PJM used 2022 load ratio share data for Network Integration Transmission Service and Point-to-Point Transmission Service to analyze the cost per transmission zone at specific increments of hypothetical annual total approved IROL Critical Resource cost (up to \$25 million), had PJM's proposal been in effect during 2022. Under PJM's proposal, charges reflected here would be further allocated in each zone to Network Customers in proportion to their network service peak load share in that zone.³⁵

³⁴ Note that under CIP-002-5.1a, Attachment 1, Section 2.1, resources "with an aggregate highest rated net Real Power capability of the preceding 12 calendar months equal to or exceeding 1500 MW in a single Interconnection" are automatically considered "medium impact." Note also that, under CIP-002-5.1a, R 4.2.3.3, the "systems, structures, and components that are regulated by the Nuclear Regulatory Commission under a cyber-security plan pursuant to 10 C.F.R. Section 73.54" are exempt from CIP-002-5.1a.

³⁵ Point-to-Point Transmission Service peak usage equals the total hourly amounts of transmission capacity reserved, and not curtailed by PJM, divided by 24.

Figure PJM-2

YEARLY CIP-IROL COST PROJECTIONS					
<i>2022 Estimate Only</i>					
	\$5,000,000.0 0	\$10,000,000.0 0	\$15,000,000.0 0	\$20,000,000.0 0	\$25,000,000.0 0
ZONE					
AECO	\$78,756.10	\$157,512.21	236,268.31	315,024.42	393,780.52
AEP	656,309.85	1,312,619.70	1,968,929.55	2,625,239.39	3,281,549.24
APS	265,364.07	530,728.14	796,092.20	1,061,456.27	1,326,820.34
ATSI	377,292.93	754,585.85	1,131,878.78	1,509,171.70	1,886,464.63
BGE	194,151.31	388,302.62	582,453.92	776,605.23	970,756.54
COMED	633,616.96	1,267,233.91	1,900,850.87	2,534,467.82	3,168,084.78
DAY	99,676.91	199,353.82	299,030.73	398,707.64	498,384.55
DEOK	158,820.32	317,640.64	476,460.96	635,281.28	794,101.60
DOM	610,786.37	1,221,572.73	1,832,359.10	2,443,145.46	3,053,931.83
DPL	119,915.22	239,830.45	359,745.67	479,660.89	599,576.12
DUQ	82,596.62	165,193.25	247,789.87	330,386.50	412,983.12
EKPC	85,335.58	170,671.15	256,006.73	341,342.31	426,677.88
JCPL	184,665.25	369,330.51	553,995.76	738,661.01	923,326.27
METED	91,941.99	183,883.98	275,825.97	367,767.96	459,709.95
PECO	253,812.57	507,625.15	761,437.72	1,015,250.30	1,269,062.87
PENELEC	86,793.36	173,586.72	260,380.07	347,173.43	433,966.79
PEPCO	174,484.73	348,969.47	523,454.20	697,938.93	872,423.66
PPL	225,010.17	450,020.34	675,030.51	900,040.68	1,125,050.85
PSEG	301,257.81	602,515.63	903,773.44	1,205,031.26	1,506,289.07
RECO	12,793.75	25,587.50	38,381.25	51,175.00	63,968.76
Point-to-Point Customers	306,618.13	613,236.25	919,854.38	1,226,472.50	1,533,090.63

Charges would be further allocated in each zone to network customers in proportion to their network service peak load share in that zone.

Importantly, PJM will include charges assessed under Tariff, Schedule 18 as a separate line item on the monthly bill of each transmission customer, and will publish additional settlements data via

its Market Settlements Reporting System (“MSRS”) for transmission customers to examine and recalculate their respective charges, ensuring additional transparency and accuracy.³⁶

IV. PROPOSED EFFECTIVE DATE

PJM respectfully requests that the Commission accept the proposed Tariff revisions described herein with an effective date of October 18, 2023 —the sixty-first day after the date of this filing.

V. DESCRIPTION OF SUBMITTAL

This filing consists of the following:

1. This transmittal letter;
2. Attachment A - Revised sections of the Tariff (redlined version); and
3. Attachment B - Revised sections of the Tariff (clean version).

VI. 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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VII. 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

³⁶ PJM’s Settlements Department takes a similar approach regarding charges for Black Start Service.

Commission's regulations,³⁷ PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: <https://www.pjm.com/library/filing-order> 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 Region³⁸ alerting them that this filing has been made by PJM and is available by following such link. If the document is not immediately available by using the referenced link, the document will be available through the referenced link within 24 hours of the filing. Also, a copy of this filing will be available on the FERC'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.

VIII. CONCLUSION

In accordance with the foregoing, PJM respectfully requests that the Commission accept the proposed amendments to the Tariff, effective October 18, 2023, as discussed herein.

Respectfully submitted,

/s/ Thomas DeVita

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³⁷ See 18 C.F.R. §§ 35.2(e) and 385.2010(f)(3).

³⁸ PJM already maintains, updates and regularly uses e-mail lists for all PJM Members and affected state commissions.

Attachment A

Revisions to the PJM Open Access Transmission Tariff

(Marked/Redline Format)

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.

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 PJM Settlement 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.

SCHEDULE 18
IROL Critical Resource Cost Recovery

The Generation Owner of an IROL Critical Resource may incur one-time or ongoing capital, operation and maintenance, and associated administrative and regulatory costs necessary to comply with NERC Reliability Standards, that would not have been incurred solely but for the Office of the Interconnection's designation of the Generation Owner's generation resource as an IROL Critical Resource, and are not already recoverable through any other mechanism subject to the jurisdiction of a Relevant Electric Retail Regulatory Authority. These costs may include, but are not limited to, labor, equipment, hardware, software, licenses, maintenance and support, upgrade costs, outside related services and fees, and physical improvements. A Generation Owner may elect to pursue recovery of such costs exclusively pursuant to this Schedule 18, and shall not pursue recovery of such costs through any other mechanism under the PJM Governing Agreements. Costs eligible for recovery pursuant to this Schedule 18 shall only include direct, incremental, verifiable, and actual costs. No other costs, including without limitation, allocations of administrative and general overhead, shall be recoverable pursuant to this Schedule 18, and no costs recovered pursuant to this Schedule 18 shall include a rate of return. Costs incurred prior to the effective date of this Schedule 18, or prior to the Office of the Interconnection's designation of a Generation Owner's generation resource as an IROL Critical Resource, shall not be recoverable pursuant to this Schedule 18.

By no later than June 1 of each year, the Office of the Interconnection shall identify all IROL Critical Resources in the PJM Region and notify each Generation Owner of such IROL Critical Resources of the Office of the Interconnection's determination. A generation resource's designation as an IROL Critical Resource shall remain in effect for a twelve month period, from June 1 through May 31 of the following year. Nothing herein shall preclude the Office of the Interconnection from designating any IROL Critical Resource as an IROL Critical Resource for subsequent twelve month periods. A Generation Owner of an IROL Critical Resource designated as an IROL Critical Resource for multiple twelve month periods must submit any recurring costs on a yearly basis, using the process described in this Schedule 18. Only new or recurring costs are eligible for recovery under this Schedule 18 for subsequent twelve month periods.

By no later than the last day of the twelve month period that a generation resource is designated as an IROL Critical Resource, the Generation Owner of the IROL Critical Resource shall notify the Market Monitoring Unit and the Office of the Interconnection in writing of the Generation Owner's intent to seek cost recovery pursuant to this Schedule 18.

By no later than August 15 of the year following the Office of the Interconnection's designation of the IROL Critical Resource, the Generation Owner of the IROL Critical Resource that intends to seek cost recovery pursuant to this Schedule 18 shall submit all costs proposed for recovery pursuant to this Schedule 18 to the Market Monitoring Unit, in accordance with the Market Monitoring Unit's specifications regarding format and level of detail. Each cost submitted to the Market Monitoring Unit shall be accompanied by supporting documentation and a detailed explanation as to why the cost: (i) is necessary to comply with NERC Reliability Standards, and

(ii) would not have been incurred solely but for the Office of the Interconnection's designation of the Generation Owner's generation resource as an IROL Critical Resource.

By no later than November 15 of the year following the Office of the Interconnection's designation of the IROL Critical Resource, the Market Monitoring Unit shall review the submitted costs, recommend to the Office of the Interconnection that the costs be approved or denied for recovery, and notify the Generation Owner of the IROL Critical Resource of the Market Monitoring Unit's recommendation. A Generation Owner may submit any costs that the Market Monitoring Unit does not recommend for recovery to the Office of the Interconnection for review and approval, provided that the Generation Owner has timely provided to the Market Monitoring Unit the required supporting documentation and detailed explanation.

By no later than December 15 of the year following the Office of the Interconnection's designation of the IROL Critical Resource, the Office of the Interconnection shall consider the recommendation of the Market Monitoring Unit, and approve or deny the submitted costs.

Costs approved by the Office of the Interconnection shall be assessed on purchasers receiving Network Integration Transmission Service or Point-to-Point Transmission Service, in accordance with this Schedule 18, beginning January 1 of the second year following each year for which the Office of the Interconnection's designates the resource as an IROL Critical Resource.

The Office of the Interconnection shall assess charges on purchasers receiving Network Integration Transmission Service or Point-to-Point Transmission Service using the following formulae:

Monthly Charge for a purchaser receiving Network Integration Transmission Service or Point-to-Point Transmission Service to serve RTO Load = Allocation Factor * Monthly IROL CIP Revenue Requirement

Where:

purchaser serving RTO Load is a Network Customer or a Transmission Customer where the Point of Delivery is at the boundary of the PJM Region.

Monthly IROL CIP Revenue Requirement is the sum of the approved annual costs for recovery by the Office of the Interconnection of all IROL Critical Resources in the PJM Region, divided by twelve months.

Allocation Factor is the monthly transmission use of each Network Customer or Transmission Customer in the PJM Region on a megawatt basis divided by the total transmission use in the PJM Region, as applicable, on a megawatt basis.

For Network Customers, monthly transmission use on a megawatt basis is the sum of a Network Customer's daily values of DCPZ or DCPNZ (as those terms are defined in Tariff, Part III, section 34.1) for all days of the month and all Zones.

For Transmission Customers, monthly transmission use on a megawatt basis is the sum of the Transmission Customer's hourly amounts of Reserved Capacity for each day of the month (not curtailed by PJM) divided by the number of hours in the day.

Only costs approved by the Office of the Interconnection are eligible for recovery under this Schedule 18. An IROL Critical Resource is ineligible for cost recovery pursuant to this Schedule 18 upon unit retirement or deactivation, and all applicable cost recovery payments made pursuant to this Schedule 18 shall cease upon the date of unit retirement or deactivation.

Attachment B

Revisions to the PJM Open Access Transmission Tariff

(Clean Format)

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.

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 PJM Settlement 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.

SCHEDULE 18

IROL Critical Resource Cost Recovery

The Generation Owner of an IROL Critical Resource may incur one-time or ongoing capital, operation and maintenance, and associated administrative and regulatory costs necessary to comply with NERC Reliability Standards, that would not have been incurred solely but for the Office of the Interconnection's designation of the Generation Owner's generation resource as an IROL Critical Resource, and are not already recoverable through any other mechanism subject to the jurisdiction of a Relevant Electric Retail Regulatory Authority. These costs may include, but are not limited to, labor, equipment, hardware, software, licenses, maintenance and support, upgrade costs, outside related services and fees, and physical improvements. A Generation Owner may elect to pursue recovery of such costs exclusively pursuant to this Schedule 18, and shall not pursue recovery of such costs through any other mechanism under the PJM Governing Agreements. Costs eligible for recovery pursuant to this Schedule 18 shall only include direct, incremental, verifiable, and actual costs. No other costs, including without limitation, allocations of administrative and general overhead, shall be recoverable pursuant to this Schedule 18, and no costs recovered pursuant to this Schedule 18 shall include a rate of return. Costs incurred prior to the effective date of this Schedule 18, or prior to the Office of the Interconnection's designation of a Generation Owner's generation resource as an IROL Critical Resource, shall not be recoverable pursuant to this Schedule 18.

By no later than June 1 of each year, the Office of the Interconnection shall identify all IROL Critical Resources in the PJM Region and notify each Generation Owner of such IROL Critical Resources of the Office of the Interconnection's determination. A generation resource's designation as an IROL Critical Resource shall remain in effect for a twelve month period, from June 1 through May 31 of the following year. Nothing herein shall preclude the Office of the Interconnection from designating any IROL Critical Resource as an IROL Critical Resource for subsequent twelve month periods. A Generation Owner of an IROL Critical Resource designated as an IROL Critical Resource for multiple twelve month periods must submit any recurring costs on a yearly basis, using the process described in this Schedule 18. Only new or recurring costs are eligible for recovery under this Schedule 18 for subsequent twelve month periods.

By no later than the last day of the twelve month period that a generation resource is designated as an IROL Critical Resource, the Generation Owner of the IROL Critical Resource shall notify the Market Monitoring Unit and the Office of the Interconnection in writing of the Generation Owner's intent to seek cost recovery pursuant to this Schedule 18.

By no later than August 15 of the year following the Office of the Interconnection's designation of the IROL Critical Resource, the Generation Owner of the IROL Critical Resource that intends to seek cost recovery pursuant to this Schedule 18 shall submit all costs proposed for recovery pursuant to this Schedule 18 to the Market Monitoring Unit, in accordance with the Market Monitoring Unit's specifications regarding format and level of detail. Each cost submitted to the Market Monitoring Unit shall be accompanied by supporting documentation and a detailed explanation as to why the cost: (i) is necessary to comply with NERC Reliability Standards, and

(ii) would not have been incurred solely but for the Office of the Interconnection's designation of the Generation Owner's generation resource as an IROL Critical Resource.

By no later than November 15 of the year following the Office of the Interconnection's designation of the IROL Critical Resource, the Market Monitoring Unit shall review the submitted costs, recommend to the Office of the Interconnection that the costs be approved or denied for recovery, and notify the Generation Owner of the IROL Critical Resource of the Market Monitoring Unit's recommendation. A Generation Owner may submit any costs that the Market Monitoring Unit does not recommend for recovery to the Office of the Interconnection for review and approval, provided that the Generation Owner has timely provided to the Market Monitoring Unit the required supporting documentation and detailed explanation.

By no later than December 15 of the year following the Office of the Interconnection's designation of the IROL Critical Resource, the Office of the Interconnection shall consider the recommendation of the Market Monitoring Unit, and approve or deny the submitted costs.

Costs approved by the Office of the Interconnection shall be assessed on purchasers receiving Network Integration Transmission Service or Point-to-Point Transmission Service, in accordance with this Schedule 18, beginning January 1 of the second year following each year for which the Office of the Interconnection's designates the resource as an IROL Critical Resource.

The Office of the Interconnection shall assess charges on purchasers receiving Network Integration Transmission Service or Point-to-Point Transmission Service using the following formulae:

Monthly Charge for a purchaser receiving Network Integration Transmission Service or Point-to-Point Transmission Service to serve RTO Load = Allocation Factor * Monthly IROL CIP Revenue Requirement

Where:

purchaser serving RTO Load is a Network Customer or a Transmission Customer where the Point of Delivery is at the boundary of the PJM Region.

Monthly IROL CIP Revenue Requirement is the sum of the approved annual costs for recovery by the Office of the Interconnection of all IROL Critical Resources in the PJM Region, divided by twelve months.

Allocation Factor is the monthly transmission use of each Network Customer or Transmission Customer in the PJM Region on a megawatt basis divided by the total transmission use in the PJM Region, as applicable, on a megawatt basis.

For Network Customers, monthly transmission use on a megawatt basis is the sum of a Network Customer's daily values of DCPZ or DCPNZ (as those terms are defined in Tariff, Part III, section 34.1) for all days of the month and all Zones.

For Transmission Customers, monthly transmission use on a megawatt basis is the sum of the Transmission Customer's hourly amounts of Reserved Capacity for each day of the month (not curtailed by PJM) divided by the number of hours in the day.

Only costs approved by the Office of the Interconnection are eligible for recovery under this Schedule 18. An IROL Critical Resource is ineligible for cost recovery pursuant to this Schedule 18 upon unit retirement or deactivation, and all applicable cost recovery payments made pursuant to this Schedule 18 shall cease upon the date of unit retirement or deactivation.