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January 31, 2025

Honorable Debbie-Anne A. Reese
Secretary
Federal Energy Regulatory Commission
888 First Street, NE, Room 1A
Washington, DC 20426

Re: *PJM Interconnection, L.L.C.*, Docket No. ER25-____-000
Proposed Tariff Amendments for Replacement Generation Interconnection Service

Dear Secretary Reese:

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 proposes revisions to certain provisions of Part VIII of PJM's Open Access Transmission Tariff ("Tariff") to enhance the process for transferring Capacity Interconnection Rights ("CIRs") from deactivating generation resources to new replacement resources (each a "Replacement Generation Resource").

The proposed revisions will expedite the replacement of Capacity[3] from deactivating resources at a time when PJM has serious resource adequacy concerns by establishing a separate process for Replacement Generation Interconnection Requests and will:

- clarify that all types of resources are eligible to receive CIRs transferred from deactivating facilities, e.g., a deactivating thermal generation resource can be

[1] 16 U.S.C. § 824d.

[2] 18 C.F.R. part 35.

[3] Capitalized terms not otherwise defined herein shall have the meanings given to them in the Tariff or in the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region ("RAA").

replaced by a battery storage facility, which expands the universe of potential Capacity Resources that can utilize this faster process;

- allow for an efficient and timely process to minimize diverting resources away from clustered Cycle studies;
- apply "first ready, first served" principles to Replacement Generation Interconnection Requests in a transparent and nondiscriminatory manner;
- ensure that system capability is utilized to a greater extent and on a non-discriminatory basis; and
- clarify the reliability analyses to be applied to Replacement Generation Interconnection Requests, while ensuring that PJM system reliability and the scope of the necessary reliability studies are not degraded.

I. INTRODUCTION

CIRs represent the rights to input generation as a Capacity Resource, as defined in the RAA, into the Transmission System at the point where the facility connects to the PJM Transmission System (the Point of Interconnection).[4] Once a Project Developer's generating facility is accredited as deliverable through the applicable procedures in Tariff, Part VIII, Subpart E, section 426, the Project Developer receives CIRs commensurate with the megawatts identified in its Generation Interconnection Agreement ("GIA").

The CIRs associated with a generating facility continue to exist for one year following the actual deactivation date of that resource and can be transferred to another generating facility owned by an affiliate or nonaffiliate of the owner of the deactivating facility.[5] Once transferred, the CIRs will continue to exist so long as the new resource continues to meet deliverability testing requirements.[6]

[4] RAA, Article 1 – Definitions (definition of Capacity Resources).

[5] Tariff, Part VIII, Subpart E, sections 426(C)(3)-(4).

[6] Tariff, Part VIII, Subpart E, section 426(C)(4).

A. Stakeholder Process

PJM commenced a stakeholder process in the Interconnection Process Subcommittee of the Planning Committee in July 2023, initiated by a problem/opportunity statement and issue charge submitted by East Kentucky Power Cooperative and Elevate Renewable Energy to the Planning Committee in May 2023, which was endorsed at the June 2023 Planning Committee meeting.[7] The issue charge states the goal of this process as "[d]evelop[ing] a solution that enhances PJM's process for transferring CIRs from deactivating resources that both improves the efficiency of the process and clarifies that it applies to all energy-injecting capacity resource types."[8] The proponents of the new process looked for guidance to the replacement generation processes the Commission had already approved for Midcontinent Independent System Operator, Inc. ("MISO") and Southwest Power Pool, Inc. ("SPP").[9]

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[7] *See* Planning Committee, *Agenda*, PJM Interconnection, L.L.C. (May 9, 2023), https://www.pjm.com/-/media/DotCom/committees-groups/committees/pc/2023/20230509/20230509-agenda.pdf; Planning Committee, *Agenda*, PJM Interconnection, L.L.C. (June 6, 2023), https://www.pjm.com/-/media/DotCom/committees-groups/committees/pc/2023/20230606/20230606-agenda.pdf; Planning Committee, *Enhancing Capacity Interconnection Rights (CIR) Transfer Efficiency Problem / Opportunity Statement*, PJM Interconnection, L.L.C. (June 6, 2023), https://www.pjm.com/-/media/DotCom/committees-groups/committees/pc/2023/20230606/20230606-item-04a---cir-transfer-problem-statement.pdf ("Problem Statement"); Planning Committee, *Enhancing Capacity Interconnection Rights (CIR) Transfer Efficiency Issue Source*, PJM Interconnection, L.L.C. (June 6, 2023), https://www.pjm.com/-/media/DotCom/committees-groups/committees/pc/2023/20230606/20230606-item-04b---cir-transfer-issue-charge.pdf ("Issue Charge"); Interconnection Process Subcommittee (IPS), *Agenda*, PJM Interconnection, L.L.C. (July 31, 2023), https://www.pjm.com/-/media/DotCom/committees-groups/subcommittees/ips/2023/20230731/20230731-agenda.pdf; Interconnection Process Subcommittee (IPS), *Options and Packages Matrix*, PJM Interconnection, L.L.C. (July 31, 2023), https://www.pjm.com/-/media/DotCom/committees-groups/subcommittees/ips/2023/20230731/20230731-capacity-interconnection-rights---cir---transfer-efficiency---options-and-packages-matrix.xls.

[8] Issue Charge at 1.

[9] *See Sw. Power Pool, Inc*., 171 FERC ¶ 61,270, at PP 13-15 (2020) ("*SPP*") (accepting proposal to establish expedited generator replacement procedures, also stating "the process accomplishes the purposes of Order No. 2003 by fostering increased development of economic generation by reducing interconnection costs and time, encouraging needed investment in generator and transmission infrastructure, and protecting system reliability"); *Midcontinent Indep. Sys. Operator, Inc*., 167 FERC ¶ 61,146, at PP 61-62 (2019) ("*MISO*") (accepting MISO proposal to establish expedited generator replacement procedures).

At the Interconnection Process Subcommittee, PJM and stakeholders developed an options and packages matrix and, over time, multiple solutions packages.[10] The Planning Committee endorsed the solutions package put forward by the Stakeholder Coalition at its October 8, 2024, meeting.[11] The Stakeholder Coalition's solution package, with minor revisions following its endorsement by the Planning Committee, was endorsed by the Markets and Reliability Committee and the Members Committee in their November 21, 2024 meetings.[12]

B. PJM Interconnection Process Reform

PJM has been actively working for the last several years on reforming its generation interconnection process. PJM in 2021 commenced an extensive stakeholder process to revise its interconnection procedures and, on June 14, 2022, PJM filed a comprehensive overhaul of its interconnection process to address the major shifts in the industry and tremendous increase in interconnection requests, and to shift from a serial "first-come, first-served" queue approach to a "first-ready, first-served" Cycle approach.[13] The

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[10] *See supra* note 7; *see, e.g.*, Interconnection Process Subcommittee (IPS), *Agenda*, PJM Interconnection, L.L.C. (July 31, 2023), https://www.pjm.com/-/media/DotCom/committees-groups/subcommittees/ips/2023/20230731/20230731-agenda.pdf; Interconnection Process Subcommittee (IPS), *Agenda*, PJM Interconnection, L.L.C. (Aug. 28, 2023), https://www.pjm.com/-/media/DotCom/committees-groups/subcommittees/ips/2023/20230828/20230828-agenda.pdf. The CIR Transfer was discussed during multiple subsequent Interconnection Process Subcommittee meetings.

[11] *See* Planning Committee, *Agenda*, PJM Interconnection, L.L.C. (Oct. 8, 2024), https://www.pjm.com/-/media/DotCom/committees-groups/committees/pc/2024/20241008/20241008-agenda.pdf; Planning Committee, *Minutes*, PJM Interconnection, L.L.C. (Oct. 8, 2024), https://www.pjm.com/-/media/DotCom/committees-groups/committees/pc/2024/20241106/20241106-draft-minutes---pc---1082024.pdf.

[12] *See* Members Committee, *Minutes*, PJM Interconnection, L.L.C. (Nov. 21, 2024), https://www.pjm.com/-/media/DotCom/committees-groups/committees/mc/2024/20241218/20241218-consent-agenda-a---draft-mc-minutes---11212024.pdf; Markets & Reliability Committee, *Minutes*, PJM Interconnection, L.L.C. (Nov. 21, 2024), https://www.pjm.com/-/media/DotCom/committees-groups/committees/mrc/2024/20241218/20241218-consent-agenda-a---draft-mrc-minutes---11212024.pdf.

[13] *PJM Interconnection, L.L.C.*, Tariff Revisions for Interconnection Process Reform, Request for Commission Action by October 3, 2022, and Request for 30-Day Comment Period of PJM Interconnection, L.L.C., Docket No. ER22-2110-000 (June 14, 2022).

Commission accepted PJM's interconnection reform filing, finding the proposed reforms to be just and reasonable.[14]

C. PJM's Pressing Need for Additional Capacity Resources and Reliability Filings to Address Mounting Resource Adequacy Concerns

As detailed in recent PJM Tariff revision filings, PJM faces "an extreme and rapid tightening of supply and demand" for Capacity Resources in the near term[15] and needs "additional resources . . . to rapidly address PJM's near-term reliability challenge."[16] The December 13 RRI Filing recounted PJM's work since 2021 to study the effects of the ongoing energy transition, including PJM's February 2023 paper titled *Energy Transition in PJM: Resource Retirements, Replacements & Risks* and its warning that generator retirements, load growth, the pace of new entry, and the operating characteristics of the intermittent and limited duration resources that make up a large part of PJM's interconnection queue pose increasing reliability risks through 2030.[17] The December 2024 Reliability Filings also described heightened concerns caused by the preliminary figures for PJM's 2025 Large Load Additions report that PJM posted on December 5, 2024, as the preliminary numbers show substantial increases since the 2024

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[14] *PJM Interconnection, L.L.C.*, 181 FERC ¶ 61,162 (2022), *order on reh'g*, 184 FERC ¶ 61,006 (2023), *aff'd sub nom. Hecate Energy LLC v. FERC*, No. 23-1089, 2025 U.S. App. LEXIS 1267 (D.C. Cir. Jan. 21, 2025).

[15] *PJM Interconnection, L.L.C.*, Revisions to Reliability Pricing Model of PJM Interconnection, L.L.C., Docket No. ER25-682-000, at 5 (Dec. 9, 2024) ("December 9 RPM Filing").

[16] *PJM Interconnection, L.L.C.*, Tariff Revisions for Reliability Resource Initiative of PJM Interconnection, L.L.C., Docket No. ER25-712-000, at 1 (Dec. 13, 2024) ("December 13 RRI Filing"); *see PJM Interconnection, L.L.C.*, Proposed Tariff Amendments for Surplus Interconnection Service of PJM Interconnection, L.L.C., Docket No. ER25-778-000 (Dec. 20, 2024) ("December 20 Surplus Interconnection Filing"); *PJM Interconnection, L.L.C.*, Extending the Capacity Must-Offer Requirement to All Generation Capacity Resources of PJM Interconnection, L.L.C., Docket No. ER25-785-000 (Dec. 20, 2024) ("December 20 Must-Offer Filing" and, with the December 9 RPM Filing, December 13 RRI Filing, and the December 20 Surplus Interconnection Filing, the "December 2024 Reliability Filings").

[17] *Energy Transition in PJM: Resource Retirements, Replacements & Risks*, PJM Interconnection, L.L.C., 1-2 (Feb. 24, 2023), https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx.

forecast in the forecast annualized load growth rate by the end of this decade and into the next decade.[18] The December 13 RRI Filing included the Affidavit of Donald Bielak supporting PJM's resource adequacy concerns.[19]

Based on these heightened reliability concerns, PJM made the December 2024 Reliability Filings and noted in those filings its plan to make this filing in January 2025 to revise Part VIII of the Tariff to make the transfer of CIRs from deactivating resources more efficient.[20] In the attached Affidavit of Donald Bielak, Mr. Bielak adopts the RRI Bielak Affidavit to support the need for this filing.[21] As Mr. Edmund Franks explains, this filing, along with the December 13 RRI Filing and the December 20 Surplus Interconnection Filing, represents additional refinements and enhancements to PJM's interconnection process while it is still in the Transition Period between the prior interconnection rules and procedures and the reformed interconnection rules and procedures.[22] All three filings seek to expedite resource interconnection because, as explained in the RRI Bielak Affidavit, projects in Cycle No. 1 under the reformed interconnection rules will not have effective interconnection-related service agreements until approximately mid-2028 at the earliest and therefore likely will not be constructed and in commercial operation until 2031, which

[18] December 13 RRI Filing at 11-12 (citing to Molly Mooney, *2025 Preliminary PJM Load Forecast*, PJM Interconnection, L.L.C. (Dec. 9, 2024), https://www.pjm.com/-/media/committees-groups/subcommittees/las/2024/20241209/20241209-item-03---2025-preliminary-pjm-load-forecast.ashx); *see* PJM Resource Adequacy Planning Department, *PJM Long-Term Load Forecast Report* PJM Interconnection, L.L.C. (Jan. 24, 2025), https://www.pjm.com/-/media/DotCom/library/reports-notices/load-forecast/2025-load-report.pdf; December 13 RRI Filing at Attachment C (Affidavit of Donald Bielak, P.E. on Behalf of PJM Interconnection, L.L.C. ¶ 10 ("RRI Bielak Affidavit")). The RRI Bielak Affidavit is included in the attached Affidavit of Donald Bielak, P.E. on Behalf of PJM Interconnection, L.L.C. ("Bielak Aff.") as Exh. No. 1.

[19] RRI BielakAffidavit.

[20] *See* December 13 RRI Filing at 16; December 20 Surplus Interconnection Filing at 6.

[21] Bielak Aff. ¶ 2.

[22] Affidavit of Edmund Franks on Behalf of PJM Interconnection, L.L.C. ("Franks Aff.") ¶ 15.

will not address the identified resource adequacy need in the 2030/31 Delivery Year, when load growth and generator retirements are expected to outstrip installed Capacity in the PJM Region, including new entry of Capacity.[23]

II. THE COMMISSION SHOULD ACCEPT THE PROPOSED REPLACEMENT GENERATION INTERCONNECTION TARIFF REVISIONS AS JUST AND REASONABLE

A. The Proposed Tariff Revisions Will Enhance the Efficiency of CIR Transfer, Clarify the Scope of Permissible CIR Transfers to Expand the Universe of Potential Replacement Generation Resources, Bring Replacement Generation Resources Online Quickly, and Ensure Reliability

The proposed Tariff revisions will expedite and enhance the transfer of CIRs from deactivating generation resources to Replacement Generation Resources by providing a process for Replacement Generation Interconnection Requests that is separate from but parallel to PJM's three-phase, clustered Cycle process, much as the Surplus Interconnection Service process operates, and applies "first ready, first served" principles to Replacement Generation Interconnection Requests in a transparent and nondiscriminatory manner.[24] This separate but parallel process will provide an efficient and timely process for studying Replacement Generation Interconnection Requests while minimizing the diversion of PJM staff resources away from the clustered Cycle process.[25]

The proposed Tariff revisions clarify that all types of resources are eligible to receive CIRs transferred from deactivating facilities, e.g., a deactivating thermal generation resource can be replaced by a battery storage facility, so long as the Replacement

[23] Bielak Aff. at Exh. No. 1 ¶ 17.

[24] *See* Tariff, Part VII, Subpart A, section 400, definitions S (definition of Surplus Service Request Number indicating such request as a serial position and priority); Franks Aff. ¶ 15.

[25] *See* Franks Aff. ¶ 23.

Generation Resource is interconnecting at the same Point of Interconnection as the deactivating resource.[26] The lack of restrictions on the fuel type or technology of Replacement Generation Projects is a key component of the proposed revisions as it expands the universe of potential Capacity Resources that can utilize this faster process, thereby increasing the amount of Capacity on the system at a time when more Capacity is needed. By expanding the universe of Replacement Generation Resources and facilitating the interconnection of Replacement Generation Resources, the proposed Tariff revisions also ensure that PJM Transmission System capability is utilized to a greater extent and on a non-discriminatory basis.

In light of the resource adequacy concerns driving the December 2024 Reliability Filings and this filing, another critical component of the proposed Replacement Generation Interconnection process is the requirement that Replacement Generation Projects must have a Commercial Operation Date that is no later than the latter of three years after the actual deactivation date or the date the Replacement Generation Project Developer executes its GIA or requests that the GIA be filed unexecuted (however, the Replacement Generation Project may not commence operation until the actual deactivation of the resource it is replacing).[27] The proposed Tariff provisions establish a higher level of evidence of Site Control and fuel and water supply arrangements that must be provided at the Application stage to provide assurance that the three-year Commercial Operation Date requirement can be met.[28]

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[26] Proposed Tariff, Part VIII, Subpart E, section 437(A)(2); Franks Aff. ¶ 9.

[27] Proposed Tariff, Part VIII, Subpart E, section 437(A)(6); Franks Aff. ¶ 18.

[28] Proposed Tariff, Part VIII, Subpart E, sections 437(B)(2)-(3); Franks Aff. ¶ 18. The strictures of this requirement are subject, however, to a Replacement Generation Project Developer's one-time option to extend the expected Commercial Operation Date beyond the three-year period regardless of cause, as well as

The proposed Tariff revisions also clarify the reliability analyses to be applied to Replacement Generation Interconnection Requests and the threshold screens that will be used in those analyses, including a "Material Adverse Impact" standard to be applied to Replacement Generation Interconnection Requests.[29] The proposed Tariff revisions also establish those changes a Replacement Generation Project Developer may make and may not make to its project once the study process is underway.[30] These provisions clarify the applicable reliability analyses, ensuring that PJM Transmission System reliability and the scope of the necessary reliability studies are not degraded.

B. The Proposed Replacement Generation Interconnection Process Promotes the Efficient Redevelopment of Existing Infrastructure and Timely Addition of New Resources

The Commission has recognized that expedited processes that allow for the use of existing interconnection capacity promote the efficient use of existing infrastructure and timely replacement of deactivating resources with new Capacity Resources. At a time when PJM is in need of additional Capacity Resources in the near term to meet serious resource adequacy challenges, the expedited processing of Replacement Generation Interconnection Requests that claim a deactivating facility's CIRs can generate significant reliability benefits by facilitating the timely addition of new Capacity while promoting the efficient use of existing infrastructure. The Commission has specifically observed that processes such as PJM's proposed Replacement Generation Interconnection process can:

- remove barriers to "more economic, efficient use of existing interconnection capability and reduce some of the current inefficiencies faced by the owners of

to an exemption for proposed Replacement Generation Projects with industry-recognized significant construction timelines, such as nuclear or combined-cycle generating facilities. Proposed Tariff, Part VIII, Subpart E, sections 437(A)(6)(a)(i) & (b)(i).

[29] Proposed Tariff, Part VIII, Subpart E, section 437(C)(1)(d); Franks Aff. ¶¶ 9, 21.

[30] Proposed Tariff, Part VIII, Subpart E, section 437(C)(1)(b); Franks Aff. ¶ 22.

existing generating facilities who wish to replace those facilities but must go through [a] multi-year dual-track [retirement and interconnection] process";[31]

- avoid delays in the "replacement of older resources with more efficient and cost-effective resources";[32]

- "foster[] increased development of economic generation by reducing interconnection costs and time, encouraging needed investment in generator and transmission infrastructure, and protecting system reliability";[33]

- facilitate the use of a generation owner's existing assets, "including customer-owned interconnection facilities, land, and support buildings and equipment" to support the development of additional capacity, "creating efficiencies that eventually will be reflected in lower rates for ratepayers";[34]

- create "cost savings for customers by reducing study and construction costs";[35] and

- reduce "interconnection-related uncertainty in generation resource planning."[36]

The Commission has further explained that it is unnecessary "to send [existing generation owners] through a full interconnection process when the [additional generation capacity] will be using the same type and level of service as the existing generating facility and will cause no material impact on the . . . transmission system."[37] Because

> [t]hese existing generating facilities have been part of the "base case" for transmission planning purposes, and their capacity and electrical characteristics were studied when they went through the applicable interconnection study process[,] . . . this data provides a practical benchmark of what generation capacity and electrical characteristics can operate without new network upgrades at that particular point of interconnection.[38]

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[31] *MISO*, 167 FERC ¶ 61,146, at P 71.

[32] *Id.* at P 61.

[33] *SPP*, 171 FERC ¶ 61,270, at P 13.

[34] *MISO*, 167 FERC ¶ 61,146, at P 62.

[35] *PacifiCorp*, 182 FERC ¶ 61,003, at P 56 (2023) ("*PacifiCorp*").

[36] *Id.*; *see infra* note 40.

[37] *MISO*, 167 FERC ¶ 61,146, at P 62.

[38] *Id.* at P 64.

Requiring a generation owner to submit a new interconnection request in such cases would serve only to subject the owner to the risk of "losing their existing interconnection service and potentially incurring significant costs to obtain replacement interconnection service at the same location."[39] It would also create an unnecessary obstacle to bringing much needed capacity online in PJM in the near term.

C. The Proposed Replacement Generation Interconnection Process Is Consistent with Open Access, Non-Discriminatory Principles and with Replacement Generation Processes the Commission Has Approved for Other RTOs and Non-RTO Transmission Providers

The Commission routinely has found that processing requests to use existing interconnection capacity, such as CIRs, through a separate, expedited process without requiring the submission of a new interconnection request is consistent with its non-discriminatory, open access policies.[40] The Commission has emphasized that processing such requests on an expedited basis outside of the generator interconnection process is "not unduly preferential because [existing generation owners] are not similarly situated to prospective owners of new generation, as they already have gone through an interconnection process and faced cost responsibility for any network upgrades that may

[39] *Id.* at P 62.

[40] *See MISO*, 167 FERC ¶ 61,146, at PP 61-62 (accepting MISO proposal to establish expedited generator replacement procedures); *SPP*, 171 FERC ¶ 61,270, at PP 13-15 (similar finding, also stating "the process accomplishes the purposes of Order No. 2003 by fostering increased development of economic generation by reducing interconnection costs and time, encouraging needed investment in generator and transmission infrastructure, and protecting system reliability"); *Dominion Energy S.C., Inc.*, 173 FERC ¶ 61,171, at PP 24-25 (2020) ("*Dominion*") (similar finding for non-RTO entity, where generator replacement process would be administered by an independent entity); *Pub. Serv. Co. of Colo.*, 175 FERC ¶ 61,100, at P 15 (2021) ("*PSCo*") (similar finding to *Dominion* order); *Duke Energy Carolinas, LLC*, 180 FERC ¶ 61,156, at P 18 (2022) ("*Duke*") (similar finding to *Dominion* order); *PacifiCorp*, 182 FERC ¶ 61,003, at P 55 (similar finding to *Dominion* order); *Arizona Public Service Co.*, 184 FERC ¶ 61,011, at P 38 (2023) (similar finding to *Dominion* order); *Indianapolis Power & Light Co.*, 175 FERC ¶ 61,106, at P 24 (2021) ("*IPL*") (granting request for waiver of MISO's generator replacement procedures to retire one generator unit and replace with another at the same point of interconnection); *Vistra Corp.*, 181 FERC ¶ 61,113, at P 13 (2022) (order granting waiver request similar to that authorized in *IPL*).

have been necessary."[41] And the risk that such a process would be used as a vehicle for undue discrimination is particularly remote when the process is administered by an independent entity such as PJM.[42]

D. The Proposed Replacement Generation Interconnection Process Does Not Conflict with Order No. 2023

The Commission has also found that replacement generation interconnection processes are not inconsistent with Order No. 2023, but rather are "beyond the scope of Order No. 2023."[43] Order No. 2023 did not bar replacement generation processes running in parallel outside the clustered generator interconnection study processes; instead, the Commission in Order No. 2023-A declined to make replacement generation interconnection processes part of the *pro forma* Large Generator Interconnection Procedures or to establish a generic exception to processing any interconnection requests, including those involving generator replacements, outside of the cluster study process.[44] However, the Commission clarified "that nothing in Order No. 2023 limits transmission

[41] *See, e.g.*, *PacifiCorp*, 182 FERC ¶ 61,003, at PP 55, 59-61; *see also MISO*, 167 FERC ¶ 61,146, at PP 63-65 (agreeing that existing generating facilities are not similarly situated to new entrants); *Dominion*, 173 FERC ¶ 61,171, at P 26 (same); *Duke*, 180 FERC ¶ 61,156, at P 20 (same).

[42] *See SPP*, 171 FERC ¶ 61,270, at PP 13-15. The Commission has also found that having an independent entity administer the generation replacement procedures can protect against undue discrimination. *See PacifiCorp*, 182 FERC ¶ 61,003, at PP 59, 61; *PSCo*, 175 FERC ¶ 61,100, at P 17.

[43] *Improvements to Generator Interconnection Procedures & Agreements*, Order No. 2023, 184 FERC ¶ 61,054 (2023), *order on reh'g*, Order No. 2023-A, 186 FERC ¶ 61,199, at P 165 (2024) ("[W]e clarify that Order No. 2023 does not require transmission providers to change, eliminate, or re-justify existing Commission-approved generator replacement processes on compliance. We reiterate our determination in Order No. 2023 that comments concerning generator replacement processes are beyond the scope of Order No. 2023."), *appeals pending*, Petition for Review, *Advanced Energy United v. FERC*, Nos. 23-1282, et al. (D.C. Cir. Oct. 6, 2023).

[44] *See* Order No. 2023-A at P 165 (stating "[w]e are not persuaded by AEP's argument that the Commission should have included a generator replacement process in the *pro forma* LGIP. The NOPR did not propose such a process, and we continue to believe that the record in this proceeding is insufficient to require such a process generically").

providers' ability to make an FPA section 205 filing, and we will continue to assess such filings on a case-by-case basis."[45]

E. The Proposed Replacement Generation Interconnection Process Will Not Detract or Divert Resources from the Cycle Process

The Commission's stated concern with processing interconnection requests outside the cluster study process was that "establishing a separate interconnection process outside the cluster study process could detract from transmission providers' efforts to efficiently process cluster studies."[46] PJM believes the Replacement Generation Interconnection process it proposes is not likely to detract or divert PJM staff resources from the clustered Cycle studies, particularly as it expects the number of Replacement Generation Interconnection Requests it will receive will be small as compared to the total Interconnection Requests PJM receives.[47] Further, the Replacement Generation Interconnection process will not actually increase the total number of Interconnection Requests PJM handles because an Interconnection Request associated with a CIR transfer would, if there were no Replacement Generation Interconnection process, be submitted in the Cycle process.[48] Finally, because Replacement Generation Interconnection Requests are for interconnection rights that originally were obtained by a generator proceeding through the standard interconnection process, the bulk of the studies already have been performed and interconnection of a generating facility at that Point of Interconnection is built into the study models.[49] While it is true that Replacement Generation Interconnection

[45] *Id.*

[46] *Id.* at P 166.

[47] Franks Aff. ¶ 23.

[48] *Id.* ¶ 24.

[49] *Id.* ¶ 27.

Requests require a set of studies, mainly of stability, in addition to the studies performed for the deactivating resource, the number of such studies likely will be small, based on PJM's past experience and thus not unduly burden PJM staff or divert them from the clustered Cycle studies.

F. The Proposed Replacement Generation Interconnection Process Does Not Constitute Queue Jumping

The Commission has recognized that creating a separate, expedited process does not raise queue-jumping concerns or otherwise harm other interconnection customers so long as the existing interconnection capacity is being used or transferred by the existing generation owner or its affiliate because the rights were originally obtained through the standard interconnection process.[50] In other words, there is no queue jumping where the rights at issue were initially obtained by the existing generator proceeding through the standard interconnection queue process. Moreover, the Commission has explained that queue jumping is not a concern when "the necessary transfers do not involve entities outside of the interconnection queue, and no entities in the interconnection queue will be affected by the continued operation of a generating facility at this point of interconnection."[51] PJM's proposal does not raise queue-jumping concerns because the use or transfer of CIRs is limited to the existing Project Developer, its affiliate(s), or Project Developers already in the interconnection process, and will not harm other Project Developers.

[50] *IPL*, 175 FERC ¶ 61,106, at P 25; *Vistra Corp.*, 181 FERC ¶ 61,113, at P 16.

[51] *IPL*, 175 FERC ¶ 61,106, at P 25.

G. The Proposed Replacement Generation Interconnection Process Is Fuel and Technology Neutral

There may be arguments that the Replacement Generation Interconnection process favors some types of resources, such as thermal generating facilities, over other types of resources, such as inverter-based resources. This is not true. The proposed Tariff revisions are clear that all resource types are eligible to transfer and receive CIRs from deactivating resources.[52] Comparing any deactivating unit to a replacement unit of a different type, regardless of the fuel types of the facilities, will involve different parameters in terms of thermal ramping and deliverability requirements, short circuit impacts, and stability impacts.[53] This will be the case even if both the deactivating unit and the replacement unit are thermal units but one is coal-fired and the other is natural gas-fired because the units will have different generator parameters, generator step-up transformer specifications, and other differences.[54] With respect to short circuit impacts, inverter based resources have lower short circuit current contributions than do thermal, synchronous units.[55] One could argue, therefore, that the Replacement Generation Interconnection process favors, at least as to short circuit impacts, renewable resources as the replacement renewable resource will reduce fault levels on the system if it is replacing a thermal unit.

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[52] Proposed Tariff, Part VIII, Subpart E, section 437(A)(2); Franks Aff. ¶ 28.

[53] Franks Aff. ¶ 28.

[54] *Id.*

[55] *Id.*

H. The Proposed Replacement Generation Interconnection Process Strikes the Right Balance Between Providing Flexibility for CIR Holders and Avoiding Gaming of the Replacement Generation Interconnection Process as PJM Transitions to the New Interconnection Rules

PJM and stakeholders were mindful in developing the proposed Replacement Generation Interconnection Process of the need to balance the ability of Project Developers that have CIRs from deactivating units and are in the current Cycles within PJM's process (Transition Cycle Nos. 1 and 2, and Cycle No. 1) to retain those CIRs during the Transition Period and protecting against Replacement Generator Project Developers being able to game the Replacement Generation Interconnection process by pursuing components of the same project in both the clustered Cycle process and the Replacement Generation Interconnection process.

Accordingly, the Replacement Generation Interconnection Tariff provisions include protections from CIRs "timing out" while the request to transfer them is being studied.[56] Specifically, the Tariff provides that if a Replacement Generation Interconnection Service Request does not meet the requirements for Replacement Generation Interconnection Service, PJM will notify the Replacement Generation Project Developer to that effect.[57] If PJM provides such notice more than one year after the Deactivation Date, the Replacement Generation Project Developer will retain the CIRs provided it submits a new Generation Interconnection Request for the Generating Facility in a Cycle currently open for Applications to be submitted and complies with the applicable provisions of Tariff, Part VIII, Subpart B, section 403, including section 403(D)(1), within

[56] *Id.* ¶ 19.

[57] Tariff, Part VIII, Subpart E, section 426(C)(3); Franks Aff. ¶ 19.

60 days of receiving such notice.[58] In the event the Replacement Generation Project Developer's Replacement Generation Interconnection studies are not completed within the study timeframes provided in Tariff, Part VIII, Subpart J, section 437(C)(1) or the Replacement Generation Interconnection Service Request is, or is deemed to be, withdrawn from the Replacement Generation Interconnection process and an Application is submitted for that project in the Cycle Process, the Replacement Generation Project Developer or former Replacement Generation Project Developer, as applicable, shall retain the pertinent CIRs after the end of the one-year period from the Deactivation Date, for so long as it has a valid Replacement Generation Interconnection Service Request or New Service Request that is still being considered by PJM, and until a GIA setting forth those CIRs is effective.[59]

These provisions could allow a hybrid resource to pursue a dual track, with requests for the same project being studied in both the clustered Cycle process and the Replacement Generation Interconnection process. But the flexibility is necessary during the Transition Period when there are pending requests to transfer CIRs to projects in Transition Cycle Nos. 1 or 2 or Cycle No. 1 under the New Rules and Project Developers may choose to remain in the Cycle they are in or apply to the Replacement Generation Interconnection Process. PJM wanted to avoid scenarios in which, once a Project Developer in Transition Cycle No. 2 submitted an application to be studied in the Replacement Generation Interconnection process PJM terminated its Transition Cycle No. 2 position, then determined upon review of the application that the project is not eligible for the Replacement Generation Interconnection process. In such a scenario, the Project

[58] Tariff, Part VIII, Subpart E, section 426(C)(3); Franks Aff. ¶ 19.

[59] Tariff, Part VIII, Subpart E, section 426(C)(3); Franks Aff. ¶ 19.

Developer's CIRs could expire while the Project Developer applies to the next Cycle. The solution PJM and its stakeholders arrived at provides reasonable flexibility during the Transition Period and immediately after, for projects in Transition Cycle Nos. 1 or 2 or Cycle No. 1.

Notably, there is a check on gaming of this flexibility in the Tariff revisions, in that the language allows for only one GIA for one generating facility, including a hybrid facility.[60] PJM likely will bolster this check by adding language to its Manuals to clarify that once a GIA is tendered or executed in either the Cycle process or the Replacement Generation Interconnection process, the Interconnection Request for the same project in the other process, if one exists, will be terminated.

III. WAIVER AND EFFECTIVE DATE

To the extent necessary, PJM requests that the Commission grant any and all waivers of the Commission's rules and regulations that are necessary for acceptance of this filing.[61] PJM requests that the Commission accept the proposed revisions to the Tariff to become effective April 2, 2025, 61 days after the date of this filing.[62]

IV. DOCUMENTS ENCLOSED

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

1. Attachment A: Tariff Redline;
2. Attachment B: Clean Tariff;
3. Attachment C: Affidavit of Edmund Franks; and
4. Attachment D: Affidavit of Donald Bielak.

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[60] Tariff, Part VIII, Subpart E, section 412(D).

[61] *See* 18 C.F.R. § 35.13.

[62] 18 C.F.R. § 35.3(a)(1).

V. CORRESPONDENCE AND COMMUNICATIONS

Correspondence and communications with respect to this filing should be sent to, and PJM requests the Secretary to include on the official service list, the following:[63]

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VI. SERVICE

PJM has served a copy of this filing on all PJM Members and on the affected state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the Commission's regulations,[64] PJM will post a copy of this filing to the FERC filings section on its internet site, https://pjm.com/library/filing-order, and will send an email on the same date as this filing to all PJM Members and all state utility regulatory commissions in the PJM Region,[65] 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

[63] To the extent necessary, PJM requests waiver of Rule 203(b)(3) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.203(b)(3), to permit all of the persons listed to be placed on the official service list for this proceeding.

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

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

the referenced link, the document will be available through the referenced link within 24 hours of the filing.

VII. CONCLUSION

PJM respectfully requests that the Commission accept the attached revisions to its Tariff to implement Replacement Generation Interconnection Service, effective April 2, 2025.

Respectfully submitted,

/s/ *Wendy B. Warren*

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January 31, 2025

Attachment A

Revisions to the
PJM Open Access Transmission Tariff

(Marked/Redline Format)

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

Readiness Deposit:

"Readiness Deposit" shall mean the deposit or deposits required by Tariff, Part VIII, Subpart A, section 401(D).

Reasonable Efforts:

"Reasonable Efforts" shall mean, with respect to any action required to be made, attempted, or taken by an Interconnection Party under the Tariff, Part VIII, a Generation Interconnection Agreement, or a Construction Service Agreement, such efforts as are timely and consistent with Good Utility Practice and with efforts that such party would undertake for the protection of its own interests.

Regional Entity:

"Regional Entity" shall have the same meaning specified in the Operating Agreement.

Regional Transmission Expansion Plan:

"Regional Transmission Expansion Plan" shall mean the plan prepared by the Office of the Interconnection pursuant to Operating Agreement, Schedule 6 for the enhancement and expansion of the Transmission System in order to meet the demands for firm transmission service in the PJM Region.

Reliability Assurance Agreement or PJM Reliability Assurance Agreement:

"Reliability Assurance Agreement" or "PJM Reliability Assurance Agreement" shall mean that certain Reliability Assurance Agreement Among Load Serving Entities in the PJM Region, on file with FERC as PJM Interconnection L.L.C. Rate Schedule FERC No. 44, and as amended from time to time thereafter.

Replacement Generation Project Developer:

"Replacement Generation Project Developer" shall mean either a Project Developer whose Generating Facility is already interconnected to the PJM Transmission System and is being deactivated or one of its affiliates, or an unaffiliated entity that submits a Replacement Generation Interconnection Service Request to replace a deactivating Generating Facility interconnected with the Transmission System in the PJM Region.

Replacement Generation Interconnection Service Request:

"Replacement Generation Interconnection Service Request" shall mean a request submitted by a Replacement Generation Project Developer, pursuant to Tariff, Part VIII, Subpart J, section 437,

to replace a deactivating Generating Facility interconnected with the Transmission System in the PJM Region and claim its Capacity Interconnection Rights. A Replacement Generation Interconnection Service Request is not a New Service Request.

Replacement Generation Interconnection Service:

"Replacement Generation Interconnection Service" shall mean the claiming by a Replacement Generation Project Developer of the Capacity Interconnection Rights of a deactivating Generation Capacity Resource for a new Generating Facility.

Replacement Generation Interconnection Study Agreement:

"Replacement Generation Interconnection Study Agreement" shall mean the form of the Replacement Generation Interconnection Study Agreement set forth in Tariff, Part IX, Subpart N.

Replacement Generation Request Number:

"Replacement Generation Request Number" shall mean, when an Application from a Replacement Generation Project Developer results in a valid Replacement Generation Interconnection Service Request, in accordance with Tariff, Part VIII, Subpart J, section 437, the number assigned to such request as confirmed by Transmission Provider, indicating the serial position and priority of the Replacement Generation Interconnection Service Request with respect to other Replacement Generation Interconnection Service Requests.

Replacement Generation Resource:

"Replacement Generation Resource" shall mean the new Generating Facility that takes Replacement Generation Interconnection Service.

Request Number:

"Request Number" shall mean, when an Application from an Upgrade Customer results in a valid Upgrade Request, in accordance with Tariff, Part VII, section 306 [or Part VIII, Subpart H, section 435], the assigned Request Number to such request as confirmed by Transmission Owner. The Request Number will indicate the serial position and priority.

Tariff, Part VIII, Subpart E, section 412
Assignment of Project Identifier

A. When an Application from a Project Developer or an Eligible Customer results in a valid New Service Request, in accordance with Tariff, Part VIII, Subpart B, section 403, Transmission Provider shall confirm the assigned Project Identifier to such request. For Project Developers and Eligible Customers, the Project Identifier will indicate the applicable Cycle, and will denote a number that represents the project within the Cycle. The Project Identifier is strictly for identification purposes, and does not indicate priority within a Cycle.

B. When an Application from an Upgrade Customer results in a valid Upgrade Request, in accordance with Tariff, Part VIII, Subpart H, section 435, Transmission Provider shall confirm the assigned Request Number to such request. The Request Number will indicate the serial position and priority.

C. When an Application from a Surplus Interconnection Service Customer results in a valid Surplus Interconnection Service Request, in accordance with Tariff, Part VIII, Subpart E, section 414, Transmission Provider shall confirm the assigned Surplus Service Request Number to such request. The Request Number will indicate the serial position and priority.

D. When an Application from a Replacement Generation Project Developer results in a valid Replacement Generation Interconnection Service Request, in accordance with Tariff, Part VIII, Subpart J, section 437, Transmission Provider shall confirm the assigned Replacement Generation Request Number for such request. The Request Number will indicate the serial position and priority with respect to other Replacement Generation Interconnection Service Requests. A Replacement Generation Project Developer or Project Developer may have both an active Replacement Generation Interconnection Service Request and Request Number and an active New Service Request and Project Identifier for the same project at the same time, but in no event shall these requests result in more than one Generation Interconnection Agreement.

Tariff, Part VIII, Subpart E, section 426
Capacity Interconnection Rights

A. Purpose

Capacity Interconnection Rights shall entitle the holder to deliver the output of a Generation Capacity Resource at the bus where the Generation Capacity Resource interconnects to the Transmission System. The Transmission Provider shall plan the enhancement and expansion of the Transmission System in accordance with Operating Agreement, Schedule 6 such that the holder of Capacity Interconnection Rights can integrate its Capacity Resources in a manner comparable to that in which each Transmission Owner integrates its Capacity Resources to serve its Native Load Customers.

B. Receipt of Capacity Interconnection Rights

Generation accredited under the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region ("RAA") as a Generation Capacity Resource prior to the original effective date of Tariff, Part IV shall have Capacity Interconnection Rights commensurate with the size in megawatts of the accredited generation. When a Generation Project Developer's generation is accredited as deliverable through the applicable procedures of the Tariff, the Generation Project Developer also shall receive Capacity Interconnection Rights commensurate with the size in megawatts of the generation as identified in the Generation Interconnection Agreement. Pursuant to the applicable terms of RAA, Schedule 10, a Transmission Project Developer may combine Incremental Deliverability Rights associated with Merchant Transmission Facilities with generation capacity that is not otherwise accredited as a Generation Capacity Resource for the purposes of obtaining accreditation of such generation as a Generation Capacity Resource and associated Capacity Interconnection Rights.

C. Loss of Capacity Interconnection Rights

1. Operational Standards

To retain Capacity Interconnection Rights, the Generation Capacity Resource associated with the rights must operate or be capable of operating at the capacity level associated with the rights. Operational capability shall be established consistent with RAA, Schedule 9 and the PJM Manuals. Generation Capacity Resources that meet these operational standards shall retain their Capacity Interconnection Rights regardless of whether they are available as a Generation Capacity Resource or are making sales outside the PJM Region.

2. Failure to Meet Operational Standards

This Tariff, Part VIII, Subpart E, section 426(C)(2) shall apply only in circumstances other than Deactivation of a Generation Capacity Resource. In the event a Generation Capacity Resource fails to meet the operational standards set forth in Tariff, Part VIII, Subpart E, section 426(C)(1) for any consecutive three-

year period (with the first such period commencing on the date Generation Project Developer must demonstrate commercial operation of the generating unit(s) as specified in the Generation Interconnection Agreement), the holder of the Capacity Interconnection Rights associated with such Generation Capacity Resource will lose its Capacity Interconnection Rights in an amount commensurate with the loss of generating capability. Any period during which the Generation Capacity Resource fails to meet the standards set forth in Tariff, Part VIII, Subpart E, section 426(C)(1) as a result of an event that meets the standards of a Force Majeure event as defined in Tariff, Part I, section 1 shall be excluded from such consecutive three-year period, provided that the holder of the Capacity Interconnection Rights exercises due diligence to remedy the event. A Generation Capacity Resource that loses Capacity Interconnection Rights pursuant to this section may continue Interconnection Service, to the extent of such lost rights, as an Energy Resource in accordance with (and for the remaining term of) its Generation Interconnection Agreement and/or applicable terms of the Tariff.

3. Replacement of Generation

In the event of the Deactivation of a Generation Capacity Resource (in accordance with Tariff, Part V and any Applicable Standards), or removal of Capacity Resource status (in accordance with Tariff, Attachment DD, section 6.6 or Tariff, Attachment DD, section 6.6A), any Capacity Interconnection Rights associated with such Generating Facility shall terminate one year from the Deactivation Date, or one year from the date the Capacity Resource status change takes effect, unless the holder of such rights (including any holder that acquired the rights after Deactivation or removal of Capacity Resource status) has submitted a completed Generation Interconnection Request up to one year after the Deactivation Date, or up to one year from the date the Capacity Resource status changes take effect, which claims the same Capacity Interconnection Rights in accordance with Tariff, Part VIII, Subpart B, section 403(D) or a Replacement Generation Project Developer has submitted a completed Replacement Generation Interconnection Service Request up to one year after the Deactivation Date which claims the same Capacity Interconnection Rights in accordance with Tariff, Part VIII, Subpart J, section 437. A Generation Project Developer or Replacement Generation Project Developer must submit any claim for Capacity Interconnection Rights from deactivating units concurrently with its Application for Interconnection Service~~, and the claim~~ or Application for Replacement Generation Interconnection Service. A Generation Project Developer claim for Capacity Interconnection Rights from deactivating units must be received by Transmission Provider prior to the Application Deadline to be reviewed to determine acceptance in any given Cycle~~, or Transmission Provider will not process the claim~~. Such new Generation Interconnection Request may include a request to increase Capacity Interconnection Rights in addition to the replacement of the previously deactivated amount, or amount removed from Capacity Resource status, as a single Generation Interconnection Request. A Replacement Generation

Interconnection Request may not increase or request to increase Capacity Interconnection Rights in addition to the replacement of the amount of the Capacity Interconnection Rights of the deactivating unit. Transmission Provider may perform thermal, short circuit, and/or stability studies, as necessary and in accordance with the PJM Manuals, due to any changes in the electrical characteristics of any newly proposed equipment, or where there is a change in Point of Interconnection, which may result in the loss of a portion or all of the Capacity Interconnection Rights as determined by such studies.

Upon execution of a Generation Interconnection Agreement reflecting its new Generation Interconnection Request or Replacement Generation Interconnection Service Request, the holder of the Capacity Interconnection Rights will retain only such rights that are commensurate with the size in megawatts of the replacement generation, not to exceed the amount of the holder's Capacity Interconnection Rights associated with the facility upon Deactivation or removal of Capacity Resource status. Any desired increase in Capacity Interconnection Rights must be reflected in ~~the new~~ a Generation Interconnection Request and be accredited through the applicable procedures in Tariff, Part ~~IV and Tariff, Part VI~~VIII. In the event the new Generation Interconnection Request to which this section refers is, or is deemed to be, terminated and/or withdrawn for any reason at any time, the pertinent Capacity Interconnection Rights shall not terminate until the end of the one-year period from the Deactivation Date, or the end of the one year period from the date the Capacity Resource status change takes effect. In the event the Replacement Generation Interconnection Service Request to which this section refers does not meet the requirements for Replacement Generation Interconnection Service specified in Tariff, Part VIII, Subpart J, section 437(A), Transmission Provider shall notify the Replacement Generation Project Developer to that effect. If Transmission Provider provides such notice more than one year after the Deactivation Date, the Replacement Generation Project Developer shall retain the pertinent Capacity Interconnection Rights provided it submits a new Generation Interconnection Request for the Generating Facility in a Cycle currently open for Applications to be submitted under Tariff, Part VIII, Subpart B, section 403(A) and complies with the applicable provisions of Tariff, Part VIII, Subpart B, section 403, including section 403(D)(1), within sixty (60) days of receiving such notice. In the event the Replacement Generation Project Developer's Replacement Generation Interconnection studies are not completed within the study timeframes provided in Tariff, Part VIII, Subpart J, section 437(C)(1) or the Replacement Generation Interconnection Service Request to which this section refers is, or is deemed to be, withdrawn from the Replacement Generation Interconnection process and an Application is submitted for that project in the Cycle Process, the Replacement Generation Project Developer or former Replacement Generation Project Developer, as applicable, shall retain the pertinent Capacity Interconnection Rights after the end of the one-year period from the Deactivation Date, for so long as it has a valid Replacement Generation Interconnection Service Request or New Service Request that is still being considered by Transmission Provider, and until a Generation Interconnection

Agreement setting forth such Capacity Interconnection Rights is effective. When the project is withdrawn from the Replacement Generation Interconnection process, its Replacement Generation Request Number shall be terminated.

4. Transfer of Capacity Interconnection Rights

Capacity Interconnection Rights may be sold or otherwise transferred subject to compliance with such procedures as may be established by Transmission Provider regarding such transfer and notice to Transmission Provider of any Generating Facilities that will use the Capacity Interconnection Rights after the transfer. The transfer of Capacity Interconnection Rights shall not itself extend the periods set forth in Tariff, Part VIII, Subpart E, section 426(C)(2) regarding loss of Capacity Interconnection Rights.

Tariff, Part VIII, Subpart E, section 432
Transmission Provider Website Postings

A. Transmission Provider shall maintain, on Transmission Provider's website, with regard to Project Developers, Eligible Customers and Upgrade Customers, the following:

1~~A~~. the Project Identifier;

2~~B~~. the proposed or incremental Maximum Facility Output and Capacity Interconnection Rights;

3~~C~~. the location of the project by state;

4~~D~~. the station or transmission line or lines where the interconnection will be made;

5~~E~~. the project's projected in-service date;

6~~F~~. the project's status;

7~~G~~. the type of service requested;

8~~H~~. the availability of any related studies; and

9~~I~~. the type of project to be constructed.

B. Transmission Provider shall maintain, on Transmission Provider's website, with regard to Replacement Generation Project Developers the following:

1. the Replacement Generation Request Number;

2. the Application date of the Replacement Generation Interconnection Service Request;

3. the proposed Replacement Generation Resource's Maximum Facility Output and Capacity Interconnection Rights;

4. the location of the proposed Replacement Generation Resource by state and by Transmission Owner Zone;

5. the substation where the proposed Replacement Generation Resource will be interconnected;

6. The deactivating Generating Facility from which Capacity Interconnection Rights are being claimed;

7. The anticipated Deactivation Date of the deactivating Generating Facility;

8. the proposed Replacement Generation Resource's projected in-service date;

9. the proposed Replacement Generation Resource's status;

10. the fuel type of proposed Replacement Generation Resource to be constructed; and

11. the availability of any related studies.

Tariff, Part VIII, Subpart J

REPLACEMENT GENERATION INTERCONNECTION SERVICE

Tariff, Part VIII, Subpart J, section 437
Replacement Generation Interconnection Service

A. Replacement Generation Interconnection Service Request

Replacement Generation Interconnection Service Requests may be made by an existing Project Developer whose Generating Facility is already interconnected and is being or has been deactivated, or one of its affiliates, or by an unaffiliated Replacement Generation Project Developer, provided that:

1. The deactivating Generating Facility (a) has Capacity Interconnection Rights, (b) has provided written notice to Transmission Provider of the proposed Deactivation under Part V, section 113.1 or a Notice of Intent to Deactivate under this section in the form found on Transmission Provider's website, and (c) has submitted a Notice of Intent to Transfer Capacity Interconnection Rights in the form found on Transmission Provider's website. To claim the Capacity Interconnection Rights under Tariff, Subpart E, section 426, the Replacement Generation Project Developer must include with its Replacement Generation Interconnection Service Request the notices under subsections (b) and (c) above to the extent those notices have not already been submitted to Transmission Provider as required.

2. The Replacement Generation Resource may be of any fuel type, including stand alone battery storage devices, so long as the Replacement Generation Project Developer claims Capacity Interconnection Rights from a deactivating Generating Facility and requests for the Replacement Generation Resource to be a Generation Capacity Resource.

3. The Replacement Generation Interconnection Service Request must be submitted prior to the expiration of the pertinent Capacity Interconnection Rights one year after the Deactivation Date.

4. The Replacement Generation Resource must interconnect to the PJM Transmission System at the same substation (the electrical bus to which the Replacement Generation Resource is connecting must be the same bus or an electrically equivalent bus) and at the same voltage as the deactivating Generating Facility.

5. The Replacement Generation Interconnection Service Request must be for Capacity Interconnection Rights and Maximum Facility Output that are less than or equal to the deactivating Generating Facility's Capacity Interconnection Rights and Maximum Facility Output.

6. The Commercial Operation Date of a Replacement Generation Resource may be no more than three (3) years from the later of the Deactivation Date of the deactivating Generating Facility, or the date on which the Generation

Interconnection Agreement for the Replacement Generation Resource is executed or the Replacement Generation Project Developer requests that Transmission Provider file the Generation Interconnection Agreement with FERC unexecuted.

a. If the period between the Deactivation Date of the deactivating Generating Facility and the expected Commercial Operation Date of a Replacement Generation Resource is determined to be more than three (3) years, the Replacement Generation Project Developer may:

i. exercise a one-time option to extend the expected Commercial Operation Date of its Replacement Generation Resource beyond three (3) years from the Deactivation Date of the deactivating Generating Facility regardless of cause; or

ii. submit the Replacement Generation Interconnection Service Request as a new Generation Interconnection Request under Tariff, Part VIII, Subpart B, section 403.

b. Notwithstanding the Commercial Operation Date requirement of this subsection 437(A)(6):

i. proposed Replacement Generation Resources with industry-recognized significant construction timeframes, such as nuclear and combined-cycle generating facilities, may have Commercial Operation Dates later than three (3) years from the later of the Deactivation Date of the deactivating Generating Facility, or the date on which the Generation Interconnection Agreement for the Replacement Generation Resource is executed or the Replacement Generation Project Developer requests that Transmission Provider file the Generation Interconnection Agreement with FERC unexecuted.

ii. the Replacement Generation Resource may not begin commercial operations prior to the actual Deactivation Date of the deactivating Generating Facility.

iii. Transmission Provider may reasonably extend milestone dates in the Replacement Generation Resource's Generation Interconnection Agreement, including the milestone date for commercial operation, in the event of delays not caused by the Replacement Generation Project Developer, such as unforeseen regulatory or construction delays that could not be remedied by the Replacement Generation Project Developer through the exercise of due diligence.

B. Applications for Replacement Generation Interconnection Service

1. Applications for Replacement Generation Interconnection Service must include a complete and executed Replacement Generation Interconnection Study Agreement, in the form located at Tariff, Part IX, Subpart N.

2. Applications for Replacement Generation Interconnection Service must include the evidence of Site Control that is required of New Service Requests at Decision Point III under Tariff, Subpart C, section 410(A)(1)(c), except that the ability to change the required Site Control evidence to a condition precedent in the final interconnection-related agreement in Tariff, Part VIII, Subpart D, section 410(A)(1)(c)(iv) shall not apply.

3. Applications for Replacement Generation Interconnection Service must include the evidence that the Replacement Generation Project Developer has: (a) any necessary fuel delivery agreement(s) and water agreement(s), and (b) any necessary rights-of-way for fuel and water interconnections, that is required of New Service Requests at Decision Point III under Tariff, Subpart C, section 410(A)(1)(e).

4. To be considered complete at the time of submission, the Replacement Generation Project Developer's Replacement Generation Interconnection Study Agreement must include, at a minimum, each of the following:

a. Information concerning the Replacement Generation Project Developer, including the name, address, telephone number, and e-mail address of Replacement Generation Project Developer; an Internal Revenue Service Form W-9 or comparable state-issued document for Replacement Generation Project Developer; documentation proving the existence of a legally binding relationship between Replacement Generation Project Developer and any entity with a vested interest in this Agreement and associated project (e.g., a parent company, a subsidiary, or financing company acting as agent for Replacement Generation Project Developer); and Replacement Generation Project Developer's banking information, or the banking information of any entity with a legally binding relationship to Replacement Generation Project Developer that wishes to make payments and receive refunds on behalf of Replacement Generation Project Developer, in association with this Agreement and corresponding project:

b. Specification of the location of the proposed Replacement Generation Resource's Site or the existing deactivating Generating Facility's Site (include both a written description, e.g., street address, global positioning coordinates, and attach a map in PDF format depicting the property boundaries and the location of the generating unit Site);

c. The megawatt size of the proposed Replacement Generation Resource;

d. Identification of the fuel type of the proposed Replacement Generation Resource;

e. A description of the equipment configuration, and a set of preliminary electrical design specifications, and, if the proposed Replacement Generation Resource is a wind generation facility, then the set of preliminary electrical design specifications must depict the wind plant as a single equivalent generator;

f. The planned date the proposed Replacement Generation Resource will be in service;

g. Identification of the specific deactivating Generating Facility already interconnected to the PJM Transmission System, including whether the Replacement Generation Project Developer requesting Replacement Generation Interconnection Service is the owner or affiliate of the owner of the deactivating Generating Facility;

h. Any additional information as may be prescribed by the Transmission Provider in the PJM Manuals;

i. A deposit in the amount of $60,000. Replacement Generation Project Developer is responsible for actual study costs, which may exceed the deposit amount. If Transmission Provider sends Replacement Generation Project Developer notification of additional study costs, then Replacement Generation Project Developer must either: (i) pay all additional study costs within 20 days of Transmission Provider sending the notification of such additional study costs or (ii) withdraw its Replacement Generation Interconnection Service Request. If Replacement Generation Project Developer fails to complete either (i) or (ii), then Transmission Provider shall deem the Replacement Generation Interconnection Service Request to be terminated and withdrawn. If any deposit monies remain after the Replacement Generation Interconnection Study is complete and any outstanding monies owed by the Replacement Generation Project Developer in connection with outstanding invoices related to prior New Service Requests, Surplus Interconnection Requests, and/or Replacement Generation Interconnection Service Requests by the Replacement Generation Project Developer have been paid, such remaining deposit monies shall be returned to the Replacement Generation Project Developer; and

j. If the proposed Replacement Generation Resource is an Energy Storage Resource, the Replacement Generation Project Developer must submit the primary frequency response operating range for the Replacement Generation Resource.

5. Transmission Provider shall commence review of Applications for Replacement Generation Interconnection Service as soon as practicable upon receipt and in the order received. Transmission Provider will evaluate and process Applications for Replacement Generation Interconnection Service through a separate Replacement Generation Interconnection Service process that proceeds in parallel with the Cycle Process.

6. Deficiency Review. Upon receipt of the Application for Replacement Generation Interconnection Service, the Replacement Generation Interconnection Study Agreement, and the requisite information and deposit monies listed in subsection 437(B)(1) through (4), Transmission Provider first shall determine whether the materials, information, and monies submitted are valid or deficient. If deemed deficient by Transmission Provider, the Replacement Generation Project Developer must submit the requisite materials, information, and/or monies acceptable to the Transmission Provider within 10 Business Days of receipt of the Transmission Provider's notice of deficiency. Failure of the Replacement Generation Project Developer to timely provide materials, information, and/or monies identified in the deficiency notice shall result in the Replacement Generation Interconnection Service Request being terminated and withdrawn. The Replacement Generation Interconnection Service Request shall be considered valid as of the date and time within the single 10 Business Day deficiency cure period the Transmission Provider receives from the Replacement Generation Project Developer the last piece of required materials, information, and/or monies deemed acceptable by the Transmission Provider to clear such deficiency notice. Once the Transmission Provider determines the Replacement Generation Interconnection Service Request is a valid request, Transmission Provider shall confirm the assigned Replacement Generation Request Number for such request in accordance with Tariff, Part VIII, Subpart E, section 412(D).

C. Processing of Valid Replacement Generation Interconnection Service Requests

1. This Tariff, Part VIII, Subpart J, section 437(C) sets forth the procedures and other terms governing the Transmission Provider's administration of the Replacement Generation Interconnection process.

a. After reviewing an Application for Replacement Generation Interconnection Service, including Application receipt, deficiency review of the Application, determination that the Application represents a valid Replacement Generation Interconnection Service Request, and a kickoff/scoping meeting, if necessary, all of which is anticipated to take approximately sixty (60) days, Transmission Provider shall conduct a Replacement Generation Interconnection Study.

b. Once an Application for Replacement Generation Interconnection Service has been determined to be a valid Replacement Generation

Interconnection Service Request and Transmission Provider has commenced the Replacement Generation Interconnection Study, a Replacement Generation Project Developer: (i) may not reduce the megawatt values of the proposed Replacement Generation Resource's Capacity Interconnection Rights or Maximum Facility Output except as provided in Tariff, Part VIII, Subpart J, section 437(C)(1)(d),; (ii) may not change the proposed Replacement Generation Resource's fuel type; (iii) may not change the Site of the proposed Replacement Generation Resource or the Site Control evidence for that Site; (iv) may make Permissible Technological Advancement changes only to the proposed Replacement Generation Resource's equipment after it has an effective Generation Interconnection Agreement and proceeds via a Necessary Study Agreement; (v) may make changes to the proposed Replacement Generation Resource's Point of Interconnection, provided that the Point of Interconnection must continue to be at the same substation (the electrical bus to which the Replacement Generation Resource is connecting must be the same bus or an electrically equivalent bus) and same voltage level as the deactivating Generating Facility's Point of Interconnection, the change is considered Good Utility Practice as agreed by the Interconnecting Transmission Owner, and Transmission Provider determines the change to the Point of Interconnection does not materially and adversely affect the cost or timing of other interconnection requests; and (vi) may amend the proposed Replacement Generation Resource to remove a Material Adverse Impact determined pursuant to Tariff, Part VIII, Subpart J, section 437(C)(1)(d).

c. The Replacement Generation Interconnection Study, which is anticipated to take approximately one hundred eighty (180) days, shall consist of an impact study to determine if interconnection of the proposed Replacement Generation Resource would cause any thermal/voltage, stability, or short circuit planning criteria violations and a facilities study performed by the relevant Transmission Owner. A voltage increase or decrease, as identified in any applicable voltage analyses, will not automatically trigger a screen failure under the impact study unless a voltage threshold defined in Transmission Provider's documented planning criteria (its FERC Form No. 715 -- Annual Transmission Planning and Evaluation Report) is exceeded. All types of Generating Facilities will be studied as Replacement Generation Resources using the most recent Cycle Phase II System Impact Study model available or, if available, the most recent Cycle Phase III System Impact Study model. The scope of the impact study shall be the same as the Cycle Phase I, Phase II, and Phase III System Impact Studies and will include a contingency analysis consistent with NERC's, PJM's, and each Applicable Regional Entity's reliability criteria and the transmission planning criteria, methods and procedures described in the FERC Form No. 715 for each Applicable Regional Entity, an assessment of regional transmission upgrades that most effectively

meet identified needs, and an analysis to determine cost allocation responsibility for required facilities and upgrades. The facilities study conducted by the relevant Transmission Owner will develop the costs and construction time estimates for any of the following determined in impact study to be needed in connection with the Replacement Generation Interconnection Service Request: new interconnection facilities, metering/relaying equipment, and new Network Upgrades. The Replacement Generation Interconnection Process rules under this Tariff, Part VIII, Subpart J, section 437, including whether new interconnection facilities may be required or new Network Upgrades are required, will dictate the permitted scope of the facilities study.

d. A "Material Adverse Impact" for purposes of the Replacement Generation Interconnection process shall mean thermal/voltage, stability or short circuit reliability criteria violations. If Transmission Provider determines that interconnection of a Replacement Generation Resource will cause a Material Adverse Impact to the Transmission System, the Replacement Generation Project Developer will be given an opportunity to amend the proposed Replacement Generation Resource to eliminate the Material Adverse Impact.

e. Replacement Generation Resource projects will not share with other Replacement Generation Resources or with New Service Requests in the Cycle Process the cost of Network Upgrades necessitated by their interconnection with the Transmission System if they are deemed to use the same system headroom. Instead, cost responsibility for Network Upgrades will be based on the "first to cause" rule, under which a Replacement Generation Interconnection Service Request first to cause a constraint will be responsible for addressing the constraint and responsible for 100% of any associated Network Upgrade costs.

f. At the conclusion of the Replacement Generation Interconnection Study, Transmission Provider will provide to the Replacement Generation Project Developer a Replacement Generation Interconnection Study report, providing the results of the impact study and the facilities study. Transmission Provider will tender with the study report a draft Generation Interconnection Agreement in the form of agreement found at Tariff, Part IX, Subpart B.

g. Generation Interconnection Agreement Negotiation.

i. The rules for Generation Interconnection Agreement negotiation shall, unless otherwise specified in this Tariff, Part VIII, Subpart J, section 437, follow the Generation Interconnection Agreement negotiation rules provided in Tariff, Part VIII, Subpart D, section 411, and the Execution Deadlines provided in Tariff, Part IX,

section 500. The Milestones requirements of Tariff, Part VIII, Subpart E, section 429, also shall apply.

ii. Within thirty (30) days after the Replacement Generation Interconnection Developer receives the Replacement Generation Interconnection Study report and a draft Generation Interconnection Agreement, the Replacement Generation Project Developer shall be required to post 100% of the Security required in its Generation Interconnection Agreement and to provide evidence that it has obtained any necessary local, county, and state site permits and signed a memorandum of understanding for the acquisition of major equipment. If the Replacement Generation Project Developer fails to post 100% of the Security required for its Generation Interconnection Agreement by that date, its Replacement Generation Interconnection Service Request shall be deemed terminated and/or withdrawn.

iii. The Replacement Generation Project Developer and Transmission Owner shall have no more than 20 Business Days after receipt of the draft Generation Interconnection Agreement to return written comments on that draft. Transmission Provider shall have no more than 10 Business Days to respond to such comments and, if appropriate, provide a revised draft Generation Interconnection Agreement in electronic form. Transmission Provider, in its sole discretion, may allow more than 60 days for this final Generation Interconnection Agreement negotiation.

iv. Not later than five Business Days following the end of negotiations under subsection iii, Transmission Provider shall provide the final Generation Interconnection Agreement, along with any applicable schedules, to the parties in electronic form. Not later than 15 Business Days after receipt of the final Generation Interconnection Agreement, the Replacement Generation Project Developer shall either execute the revised Generation Interconnection Agreement, request dispute resolution, or request that the Generation Interconnection Agreement be filed unexecuted.

v. If the Replacement Generation Project Developer executes the final Generation Interconnection Agreement, then, not later than 15 Business Days after PJM sends notification to the relevant Transmission Owner, the relevant Transmission Owner shall either execute the final Generation Interconnection Agreement in electronic form; request dispute resolution; or request that the Generation Interconnection Agreement be filed unexecuted.

h. Subject to the provisions of Tariff, Part VIII, Subpart E, section 414(B)(4), additional studies may not be needed to provide Replacement Generation Interconnection Service to a Replacement Generation Project Developer that has a Generating Facility that is currently operating utilizing Surplus Interconnection Service associated with a deactivating Generating Facility, as the studies performed to secure Surplus Interconnection Service may serve as the Replacement Generation Interconnection Study required for Replacement Generation Interconnection Service Requests. Regardless of whether additional studies are needed, a Replacement Generation Project Developer that has a Generating Facility that is currently operating utilizing Surplus Interconnection Service associated with a deactivating Generating Facility must submit an Application for Replacement Generation Interconnection Service pursuant to Tariff, Part VIII, Subpart J, section 437(B) to transfer the deactivating Generating Facility's Capacity Interconnection Rights to the Generating Facility currently utilizing Surplus Interconnection Service and make that Generating Facility a Replacement Generation Resource.

i. Projects in Transition Cycle #1, Transition Cycle #2, or Cycle #1 that do not yet have a Generation Interconnection Agreement may submit Applications under this Tariff, Part VIII, Subpart J, section 437 for Replacement Generation Interconnection Service. Transmission Provider shall study all valid Replacement Generation Interconnection Service Requests submitted from Transition Cycle #1, Transition Cycle #2, or Cycle #1 as soon as practicable upon receipt of such requests and, if the Transmission Provider determines that such a Replacement Generation Interconnection Service Request does not cause the need for Network Upgrades, the project will be eligible to receive a Generation Interconnection Agreement through the Replacement Generation Interconnection Process under Tariff, Part VIII, Subpart J, section 437 and its Cycle Process project shall be terminated. To the extent such movement of projects out of the Transition Cycle(s) or Cycle #1 changes the models used for the Transition Cycles' or Cycle #1's System Impact Studies, the effects on the models can be addressed during the next applicable Decision Point for those Cycle(s).

2. Contingent Facilities, if any, would be identified during the impact study phase of the Replacement Generation Interconnection Study in the same manner they are identified in the Cycle Phase I, Phase II, and Phase III System Impact Studies (see Tariff, Part VIII, Subpart C, section 404(A)(3)) and shall be listed in the Generation Interconnection Agreement.

3. Interim Studies of the Deliverability of Replacement Generation Resources, if necessary, would be addressed in the Generation Interconnection Agreement and in accordance with PJM Manual 14H.

Tariff, Part VIII, sections ~~437~~ 438 – 499
[Reserved]

APPENDICES:

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

SCHEDULES:

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

SCHEDULE M

SCHEDULE OF TERMS AND CONDITIONS FOR REPLACEMENT GENERATION INTERCONNECTION SERVICE

Tariff, Part IX, Subpart N

FORM OF
REPLACEMENT GENERATION INTERCONNECTION STUDY AGREEMENT

RECITALS

1. This Replacement Generation Interconnection Study Agreement (the "Agreement"), dated as of _____, is entered into by and between _____ ("Replacement Generation Project Developer") and PJM Interconnection, L.L.C. ("Transmission Provider") (individually referred to as a "Party," or collectively referred to as the "Parties") pursuant to the Generation Interconnection Procedures ("GIP") set forth in PJM Interconnection, L.L.C. Open Access Transmission Tariff ("Tariff"), Part VIII. Capitalized terms used in this Agreement, unless otherwise indicated, shall have the meanings ascribed to them in the Tariff.

2. By submitting this Agreement and complying with the GIP, the Replacement Generation Project Developer has submitted a Replacement Generation Interconnection Service Request. In accordance with Tariff, Part VIII, Subpart J, section 437, the Replacement Generation Project Developer has also submitted with this Agreement the applicable required deposit to the Transmission Provider. The Replacement Generation Project Developer must electronically provide to Transmission Provider through the PJM website or OASIS, as applicable, all applicable information identified below, which is then subject to validation.

3. Replacement Generation Project Developer information:

   a. Name, address, telephone number, and e-mail address of Replacement Generation Project Developer.

   b. An Internal Revenue Service Form W-9 or comparable state-issued document for Replacement Generation Project Developer.

   c. Documentation proving the existence of a legally binding relationship between Replacement Generation Project Developer and any entity with a vested interest in this Agreement and associated project (e.g., a parent company, a subsidiary, or financing company acting as agent for Replacement Generation Project Developer). Such documentation may include, but is not limited to, Replacement Generation Project Developer's Articles of Organization and Operating Agreement describing the nature of the legally binding relationship.

   d. Replacement Generation Project Developer's banking information, or the banking information of any entity with a legally binding relationship to Replacement Generation Project Developer that wishes to make payments and receive refunds on behalf of Replacement Generation Project Developer, in association with this Agreement and corresponding project.

4. By submitting this Agreement to the Transmission Provider, the Replacement Generation Project Developer requests Replacement Generation Interconnection Service to claim the Capacity Interconnection Rights on the Transmission System of a deactivating Generation Capacity Resource for a new Generating Facility with the following specifications:

a. Identification of the existing deactivating Generating Facility already interconnected to the PJM Transmission System, including whether the Replacement Generation Project Developer requesting Replacement Generation Interconnection Service is the owner or affiliate of owner of the existing deactivating Generating Facility, and details regarding the existing Generating Facility's current Generator Interconnection Agreement or Interconnection Service Agreement ("Service Agreement").

b. Evidence of Site Control of the proposed Replacement Generation Resource Site, such as a deed, option agreement, lease or other similar document acceptable to the Transmission Provider, as required of New Service Requests at Decision Point III under Tariff, Subpart C, section 410(A)(1)(c). Include both a written description of the evidence to be relied upon and attach a Word or PDF version copy thereof.

c. Location of the proposed Replacement Generation Resource's Site or the existing deactivating Generating Facility's Site (include both a written description, e.g., street address, global positioning coordinates, and attach a map in PDF format depicting the property boundaries and the location of the generating unit Site).

d. The megawatt size of the proposed Replacement Generation Resource.

e. Identification of the fuel type of the proposed Replacement Generation Resource.

f. A PDF format attachment of the site plan/single line diagram together with a description of the equipment configuration, including a set of preliminary electrical design specifications, and, if the Replacement Generation Resource is a wind generation facility, then also submit a set of preliminary electrical design specifications depicting the wind generation facility as a single equivalent generator.

g. Planned date the proposed Replacement Generation Resource will be in service.

h. Other related information, including for example, but not limited to, identifying: all of Replacement Generation Project Developer's prior New Service Requests, Surplus Interconnection Requests, and Replacement Generation Interconnection Service Requests; and stating whether the Replacement Generation Project Developer has submitted a previous Surplus Interconnection Request or Replacement Generation Interconnection Service Request for this particular project.

i. If the proposed Replacement Generation Resource is an Energy Storage Resource, state the primary frequency response operating range for the proposed Replacement Generation Resource:

Minimum State of Charge: ; and

Maximum State of Charge: .

PURPOSE OF THE REPLACEMENT GENERATION INTERCONNECTION STUDY

5. Consistent with the GIP, the Transmission Provider shall conduct a Replacement Generation Interconnection Study determine whether interconnection of the proposed Replacement Generation Resource would cause any thermal/voltage, stability, or short circuit planning criteria violations and, if so, what Network Upgrades may be required for such interconnection.

6. The Replacement Generation Interconnection Study conducted hereunder will provide only a sensitivity analysis based on the data specified by the Replacement Generation Project Developer in its Replacement Generation Interconnection Service Request. The Replacement Generation Interconnection Study necessarily will employ various assumptions regarding the Replacement Generation Interconnection Service Request, other pending New Service Requests and PJM's Regional Transmission Expansion Plan at the time of the study. The Replacement Generation Interconnection Study will not obligate the Transmission Provider or the Transmission Owner(s) to interconnect with the Replacement Generation Project Developer or construct any facilities or upgrades.

CONFIDENTIALITY

7. The Replacement Generation Project Developer agrees to provide all information requested by the Transmission Provider necessary to complete the Replacement Generation Interconnection Study. Subject to Paragraph 7 of this Agreement and to the extent required by the GIP, information provided pursuant to this Paragraph 6 shall be and remain confidential.

8. Until completion of the Replacement Generation Interconnection Study, the Transmission Provider shall keep confidential all information provided to it by the Replacement Generation Project Developer. Upon completion of the Replacement Generation Interconnection Study and, to the extent required by Commission regulations, the study results will be made publicly available upon request, except that the identity of the Replacement Generation Project Developer shall remain confidential.

9. Replacement Generation Project Developer acknowledges that, consistent with the Tariff, the Transmission Provider may contract with consultants, including the Transmission Owners, to provide services or expertise in the Replacement Generation Interconnection Study process and that the Transmission Provider may disseminate information to the Transmission Owners.

COST RESPONSIBILITY

10. The Replacement Generation Project Developer shall reimburse the Transmission Provider for the actual cost of the Replacement Generation Interconnection Study. The deposit paid by the Replacement Generation Project Developer described in Paragraph 2 of this Agreement shall be applied toward the Replacement Generation Project Developer's Replacement Generation Interconnection Study cost responsibility. The Replacement Generation Project Developer shall be responsible for and must pay all actual study costs. If at any time the Transmission Provider notifies the Replacement Generation Project Developer of estimated additional study costs, the Replacement Generation Project Developer must pay such estimated additional study costs within 20 Business Days of Transmission Provider sending the Replacement Generation Project Developer notification of such estimated additional study costs. If the Replacement Generation Project Developer fails to pay such estimated additional study costs within 20 Business Days of Transmission Provider sending the Replacement Generation Project

Developer notification of such estimated additional study costs, then the Replacement Generation Interconnection Service Request shall be deemed to be terminated and withdrawn.

DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY

11. In analyzing and preparing the Replacement Generation Interconnection Study, the Transmission Provider, the Transmission Owner(s), and any other subcontractors employed by the Transmission Provider shall have to rely on information provided by the Replacement Generation Project Developer and possibly by third parties, including the owner of the deactivating Generating Facility, and may not have control over the accuracy of such information. Accordingly, NEITHER THE TRANSMISSION PROVIDER, THE TRANSMISSION OWNER(S), NOR ANY OTHER SUBCONTRACTORS EMPLOYED BY THE TRANSMISSION PROVIDER MAKES ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW, COURSE OF PERFORMANCE OR DEALING, CUSTOM, USAGE IN THE TRADE OR PROFESSION, OR OTHERWISE, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WITH REGARD TO THE ACCURACY, CONTENT, OR CONCLUSIONS OF THE REPLACEMENT GENERATION INTERCONNECTION STUDY. The Replacement Generation Project Developer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder. Neither this Agreement nor the Replacement Generation Interconnection Study prepared hereunder is intended, nor shall either be interpreted, to constitute agreement by the Transmission Provider or the Transmission Owner(s) to provide any transmission or interconnection service to or on behalf of the Replacement Generation Project Developer either at this point in time or in the future.

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

    Without limitation of the foregoing, the Replacement Generation Project Developer further agrees that Transmission Owner(s) and other subcontractors employed by the Transmission Provider to prepare or assist in the preparation of any Replacement Generation Interconnection Study shall be deemed third party beneficiaries of this provision entitled “Disclaimer of Warranty, Limitation of Liability.”

MISCELLANEOUS

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

Transmission Provider
PJM Interconnection, L.L.C.
2750 Monroe Blvd.
Audubon, PA 19403
[email address for receipt of notices]

Replacement Generation Project Developer

_____

_____

_____

14. No waiver by either Party of one or more defaults by the other in performance of any of the provisions of this Agreement shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or different character.

15. This Agreement or any part thereof, may not be amended, modified, or waived other than by a writing signed by all Parties hereto. Parties acknowledge that, after execution of this agreement, errors may be corrected by replacing the page of the agreement containing the error with a corrected page, as agreed to and signed by the parties without modifying or altering the original date of execution or obligations contained therein.

16. This Agreement shall be binding upon the Parties hereto, their heirs, executors, administrators, successors, and assigns.

17. Neither this Agreement nor the Replacement Generation Interconnection Study performed hereunder shall be construed as an application for service under Tariff, Part II or Tariff, Part III.

18. The provisions of the GIP that relate to Replacement Generation Interconnection Service are incorporated herein and made a part hereof.

19. **Governing Law, Regulatory Authority, and Rules**

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

jurisdiction. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

20. No Third-Party Beneficiaries

Except as stated in Paragraph 12 of this Agreement, this Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

21. Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all of which constitute one and the same instrument.

22. No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

23. Severability

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

24. Reservation of Rights

The Transmission Provider shall have the right to make a unilateral filing with the Federal Energy Regulatory Commission ("FERC") to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and the Replacement Generation Project Developer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by

the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered.

CERTIFICATION

By initialing the line next to each of the following required elements, Replacement Generation Project Developer hereby certifies that it has submitted with this executed Agreement each of the required elements (if this Replacement Generation Interconnection Request is being submitted electronically, each of the required elements must be submitted electronically as individual PDF files, together with an electronic PDF copy of this signed Agreement):

_____ **Replacement Generation Project Developer's name, address, telephone number, and e-mail address; documentation proving the existence of a legally binding relationship between Replacement Generation Project Developer and any entity with a vested interest in this Agreement and associated project; and Replacement Generation Project Developer's banking information, or the banking information of any entity with a legally binding relationship to Replacement Generation Project Developer that wishes to make payments and receive refunds on behalf of Replacement Generation Project Developer, in association with this Agreement and corresponding project:**

_____ **Specification of the location of the proposed Replacement Generation Resource or deactivating Generating Facility (including both a written description (e.g., street address, global positioning coordinates) and attach a map in PDF format depicting the property boundaries and the location of the proposed Replacement Generation Resource site)**

_____ **Evidence of Site Control of the proposed Replacement Generation Resource site**

_____ **The megawatt size of the proposed Replacement Generation Resource**

_____ **Identification of the fuel type of the proposed Replacement Generation Resource**

_____ **Description of the equipment configuration and a set of preliminary electrical design specifications, and, if the proposed Replacement Generation Resource is a wind generation facility, then the set of preliminary electrical design specifications must depict the wind plant as a single equivalent generator**

The planned date that the proposed Replacement Generation Resource will be in service

All additional information prescribed by the Transmission Provider in the PJM Manuals

The full amount of the required deposit

IN WITNESS WHEREOF, the Transmission Provider and the Replacement Generation Project Developer have caused this Agreement to be executed by their respective authorized officials.

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

By: _____

Name Title Date

_____

Printed Name

Replacement Generation Project Developer: [Name of Party]

By: _____

Name Title Date

_____

Printed Name

Attachment B

Revisions to the
PJM Open Access Transmission Tariff

(Clean Format)

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

Readiness Deposit:

"Readiness Deposit" shall mean the deposit or deposits required by Tariff, Part VIII, Subpart A, section 401(D).

Reasonable Efforts:

"Reasonable Efforts" shall mean, with respect to any action required to be made, attempted, or taken by an Interconnection Party under the Tariff, Part VIII, a Generation Interconnection Agreement, or a Construction Service Agreement, such efforts as are timely and consistent with Good Utility Practice and with efforts that such party would undertake for the protection of its own interests.

Regional Entity:

"Regional Entity" shall have the same meaning specified in the Operating Agreement.

Regional Transmission Expansion Plan:

"Regional Transmission Expansion Plan" shall mean the plan prepared by the Office of the Interconnection pursuant to Operating Agreement, Schedule 6 for the enhancement and expansion of the Transmission System in order to meet the demands for firm transmission service in the PJM Region.

Reliability Assurance Agreement or PJM Reliability Assurance Agreement:

"Reliability Assurance Agreement" or "PJM Reliability Assurance Agreement" shall mean that certain Reliability Assurance Agreement Among Load Serving Entities in the PJM Region, on file with FERC as PJM Interconnection L.L.C. Rate Schedule FERC No. 44, and as amended from time to time thereafter.

Replacement Generation Project Developer:

"Replacement Generation Project Developer" shall mean either a Project Developer whose Generating Facility is already interconnected to the PJM Transmission System and is being deactivated or one of its affiliates, or an unaffiliated entity that submits a Replacement Generation Interconnection Service Request to replace a deactivating Generating Facility interconnected with the Transmission System in the PJM Region.

Replacement Generation Interconnection Service Request:

"Replacement Generation Interconnection Service Request" shall mean a request submitted by a Replacement Generation Project Developer, pursuant to Tariff, Part VIII, Subpart J, section 437,

to replace a deactivating Generating Facility interconnected with the Transmission System in the PJM Region and claim its Capacity Interconnection Rights. A Replacement Generation Interconnection Service Request is not a New Service Request.

Replacement Generation Interconnection Service:

"Replacement Generation Interconnection Service" shall mean the claiming by a Replacement Generation Project Developer of the Capacity Interconnection Rights of a deactivating Generation Capacity Resource for a new Generating Facility.

Replacement Generation Interconnection Study Agreement:

"Replacement Generation Interconnection Study Agreement" shall mean the form of the Replacement Generation Interconnection Study Agreement set forth in Tariff, Part IX, Subpart N.

Replacement Generation Request Number:

"Replacement Generation Request Number" shall mean, when an Application from a Replacement Generation Project Developer results in a valid Replacement Generation Interconnection Service Request, in accordance with Tariff, Part VIII, Subpart J, section 437, the number assigned to such request as confirmed by Transmission Provider, indicating the serial position and priority of the Replacement Generation Interconnection Service Request with respect to other Replacement Generation Interconnection Service Requests.

Replacement Generation Resource:

"Replacement Generation Resource" shall mean the new Generating Facility that takes Replacement Generation Interconnection Service.

Request Number:

"Request Number" shall mean, when an Application from an Upgrade Customer results in a valid Upgrade Request, in accordance with Tariff, Part VII, section 306 [or Part VIII, Subpart H, section 435], the assigned Request Number to such request as confirmed by Transmission Owner. The Request Number will indicate the serial position and priority.

Tariff, Part VIII, Subpart E, section 412
Assignment of Project Identifier

A. When an Application from a Project Developer or an Eligible Customer results in a valid New Service Request, in accordance with Tariff, Part VIII, Subpart B, section 403, Transmission Provider shall confirm the assigned Project Identifier to such request. For Project Developers and Eligible Customers, the Project Identifier will indicate the applicable Cycle, and will denote a number that represents the project within the Cycle. The Project Identifier is strictly for identification purposes, and does not indicate priority within a Cycle.

B. When an Application from an Upgrade Customer results in a valid Upgrade Request, in accordance with Tariff, Part VIII, Subpart H, section 435, Transmission Provider shall confirm the assigned Request Number to such request. The Request Number will indicate the serial position and priority.

C. When an Application from a Surplus Interconnection Service Customer results in a valid Surplus Interconnection Service Request, in accordance with Tariff, Part VIII, Subpart E, section 414, Transmission Provider shall confirm the assigned Surplus Service Request Number to such request. The Request Number will indicate the serial position and priority.

D. When an Application from a Replacement Generation Project Developer results in a valid Replacement Generation Interconnection Service Request, in accordance with Tariff, Part VIII, Subpart J, section 437, Transmission Provider shall confirm the assigned Replacement Generation Request Number for such request. The Request Number will indicate the serial position and priority with respect to other Replacement Generation Interconnection Service Requests. A Replacement Generation Project Developer or Project Developer may have both an active Replacement Generation Interconnection Service Request and Request Number and an active New Service Request and Project Identifier for the same project at the same time, but in no event shall these requests result in more than one Generation Interconnection Agreement.

Tariff, Part VIII, Subpart E, section 426
Capacity Interconnection Rights

A. Purpose

Capacity Interconnection Rights shall entitle the holder to deliver the output of a Generation Capacity Resource at the bus where the Generation Capacity Resource interconnects to the Transmission System. The Transmission Provider shall plan the enhancement and expansion of the Transmission System in accordance with Operating Agreement, Schedule 6 such that the holder of Capacity Interconnection Rights can integrate its Capacity Resources in a manner comparable to that in which each Transmission Owner integrates its Capacity Resources to serve its Native Load Customers.

B. Receipt of Capacity Interconnection Rights

Generation accredited under the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region ("RAA") as a Generation Capacity Resource prior to the original effective date of Tariff, Part IV shall have Capacity Interconnection Rights commensurate with the size in megawatts of the accredited generation. When a Generation Project Developer's generation is accredited as deliverable through the applicable procedures of the Tariff, the Generation Project Developer also shall receive Capacity Interconnection Rights commensurate with the size in megawatts of the generation as identified in the Generation Interconnection Agreement. Pursuant to the applicable terms of RAA, Schedule 10, a Transmission Project Developer may combine Incremental Deliverability Rights associated with Merchant Transmission Facilities with generation capacity that is not otherwise accredited as a Generation Capacity Resource for the purposes of obtaining accreditation of such generation as a Generation Capacity Resource and associated Capacity Interconnection Rights.

C. Loss of Capacity Interconnection Rights

1. Operational Standards

To retain Capacity Interconnection Rights, the Generation Capacity Resource associated with the rights must operate or be capable of operating at the capacity level associated with the rights. Operational capability shall be established consistent with RAA, Schedule 9 and the PJM Manuals. Generation Capacity Resources that meet these operational standards shall retain their Capacity Interconnection Rights regardless of whether they are available as a Generation Capacity Resource or are making sales outside the PJM Region.

2. Failure to Meet Operational Standards

This Tariff, Part VIII, Subpart E, section 426(C)(2) shall apply only in circumstances other than Deactivation of a Generation Capacity Resource. In the event a Generation Capacity Resource fails to meet the operational standards set forth in Tariff, Part VIII, Subpart E, section 426(C)(1) for any consecutive three-

year period (with the first such period commencing on the date Generation Project Developer must demonstrate commercial operation of the generating unit(s) as specified in the Generation Interconnection Agreement), the holder of the Capacity Interconnection Rights associated with such Generation Capacity Resource will lose its Capacity Interconnection Rights in an amount commensurate with the loss of generating capability. Any period during which the Generation Capacity Resource fails to meet the standards set forth in Tariff, Part VIII, Subpart E, section 426(C)(1) as a result of an event that meets the standards of a Force Majeure event as defined in Tariff, Part I, section 1 shall be excluded from such consecutive three-year period, provided that the holder of the Capacity Interconnection Rights exercises due diligence to remedy the event. A Generation Capacity Resource that loses Capacity Interconnection Rights pursuant to this section may continue Interconnection Service, to the extent of such lost rights, as an Energy Resource in accordance with (and for the remaining term of) its Generation Interconnection Agreement and/or applicable terms of the Tariff.

3. Replacement of Generation

In the event of the Deactivation of a Generation Capacity Resource (in accordance with Tariff, Part V and any Applicable Standards), or removal of Capacity Resource status (in accordance with Tariff, Attachment DD, section 6.6 or Tariff, Attachment DD, section 6.6A), any Capacity Interconnection Rights associated with such Generating Facility shall terminate one year from the Deactivation Date, or one year from the date the Capacity Resource status change takes effect, unless the holder of such rights (including any holder that acquired the rights after Deactivation or removal of Capacity Resource status) has submitted a completed Generation Interconnection Request up to one year after the Deactivation Date, or up to one year from the date the Capacity Resource status changes take effect, which claims the same Capacity Interconnection Rights in accordance with Tariff, Part VIII, Subpart B, section 403(D) or a Replacement Generation Project Developer has submitted a completed Replacement Generation Interconnection Service Request up to one year after the Deactivation Date which claims the same Capacity Interconnection Rights in accordance with Tariff, Part VIII, Subpart J, section 437. A Generation Project Developer or Replacement Generation Project Developer must submit any claim for Capacity Interconnection Rights from deactivating units concurrently with its Application for Interconnection Service or Application for Replacement Generation Interconnection Service. A Generation Project Developer claim for Capacity Interconnection Rights from deactivating units must be received by Transmission Provider prior to the Application Deadline to be reviewed to determine acceptance in any given Cycle. Such new Generation Interconnection Request may include a request to increase Capacity Interconnection Rights in addition to the replacement of the previously deactivated amount, or amount removed from Capacity Resource status, as a single Generation Interconnection Request. A Replacement Generation Interconnection Request may not increase or request to increase Capacity

Interconnection Rights in addition to the replacement of the amount of the Capacity Interconnection Rights of the deactivating unit. Transmission Provider may perform thermal, short circuit, and/or stability studies, as necessary and in accordance with the PJM Manuals, due to any changes in the electrical characteristics of any newly proposed equipment, or where there is a change in Point of Interconnection, which may result in the loss of a portion or all of the Capacity Interconnection Rights as determined by such studies.

Upon execution of a Generation Interconnection Agreement reflecting its new Generation Interconnection Request or Replacement Generation Interconnection Service Request, the holder of the Capacity Interconnection Rights will retain only such rights that are commensurate with the size in megawatts of the replacement generation, not to exceed the amount of the holder's Capacity Interconnection Rights associated with the facility upon Deactivation or removal of Capacity Resource status. Any desired increase in Capacity Interconnection Rights must be reflected in a Generation Interconnection Request and be accredited through the applicable procedures in Tariff, Part VIII. In the event the new Generation Interconnection Request to which this section refers is, or is deemed to be, terminated and/or withdrawn for any reason at any time, the pertinent Capacity Interconnection Rights shall not terminate until the end of the one-year period from the Deactivation Date, or the end of the one year period from the date the Capacity Resource status change takes effect. In the event the Replacement Generation Interconnection Service Request to which this section refers does not meet the requirements for Replacement Generation Interconnection Service specified in Tariff, Part VIII, Subpart J, section 437(A), Transmission Provider shall notify the Replacement Generation Project Developer to that effect. If Transmission Provider provides such notice more than one year after the Deactivation Date, the Replacement Generation Project Developer shall retain the pertinent Capacity Interconnection Rights provided it submits a new Generation Interconnection Request for the Generating Facility in a Cycle currently open for Applications to be submitted under Tariff, Part VIII, Subpart B, section 403(A) and complies with the applicable provisions of Tariff, Part VIII, Subpart B, section 403, including section 403(D)(1), within sixty (60) days of receiving such notice. In the event the Replacement Generation Project Developer's Replacement Generation Interconnection studies are not completed within the study timeframes provided in Tariff, Part VIII, Subpart J, section 437(C)(1) or the Replacement Generation Interconnection Service Request to which this section refers is, or is deemed to be, withdrawn from the Replacement Generation Interconnection process and an Application is submitted for that project in the Cycle Process, the Replacement Generation Project Developer or former Replacement Generation Project Developer, as applicable, shall retain the pertinent Capacity Interconnection Rights after the end of the one-year period from the Deactivation Date, for so long as it has a valid Replacement Generation Interconnection Service Request or New Service Request that is still being considered by Transmission Provider, and until a Generation Interconnection Agreement setting forth such Capacity Interconnection Rights is effective. When

the project is withdrawn from the Replacement Generation Interconnection process, its Replacement Generation Request Number shall be terminated.

4. Transfer of Capacity Interconnection Rights

Capacity Interconnection Rights may be sold or otherwise transferred subject to compliance with such procedures as may be established by Transmission Provider regarding such transfer and notice to Transmission Provider of any Generating Facilities that will use the Capacity Interconnection Rights after the transfer. The transfer of Capacity Interconnection Rights shall not itself extend the periods set forth in Tariff, Part VIII, Subpart E, section 426(C)(2) regarding loss of Capacity Interconnection Rights.

Tariff, Part VIII, Subpart E, section 432
Transmission Provider Website Postings

A. Transmission Provider shall maintain, on Transmission Provider's website, with regard to Project Developers, Eligible Customers and Upgrade Customers, the following:

1. the Project Identifier;

2. the proposed or incremental Maximum Facility Output and Capacity Interconnection Rights;

3. the location of the project by state;

4. the station or transmission line or lines where the interconnection will be made;

5. the project's projected in-service date;

6. the project's status;

7. the type of service requested;

8. the availability of any related studies; and

9. the type of project to be constructed.

B. Transmission Provider shall maintain, on Transmission Provider's website, with regard to Replacement Generation Project Developers the following:

1. the Replacement Generation Request Number;

2. the Application date of the Replacement Generation Interconnection Service Request;

3. the proposed Replacement Generation Resource's Maximum Facility Output and Capacity Interconnection Rights;

4. the location of the proposed Replacement Generation Resource by state and by Transmission Owner Zone;

5. the substation where the proposed Replacement Generation Resource will be interconnected;

6. The deactivating Generating Facility from which Capacity Interconnection Rights are being claimed;

7. The anticipated Deactivation Date of the deactivating Generating Facility;

8. the proposed Replacement Generation Resource's projected in-service date;

9. the proposed Replacement Generation Resource's status;

10. the fuel type of proposed Replacement Generation Resource to be constructed; and

11. the availability of any related studies.

Tariff, Part VIII, Subpart J

REPLACEMENT GENERATION INTERCONNECTION SERVICE

Tariff, Part VIII, Subpart J, section 437
Replacement Generation Interconnection Service

A. Replacement Generation Interconnection Service Request

Replacement Generation Interconnection Service Requests may be made by an existing Project Developer whose Generating Facility is already interconnected and is being or has been deactivated, or one of its affiliates, or by an unaffiliated Replacement Generation Project Developer, provided that:

1. The deactivating Generating Facility (a) has Capacity Interconnection Rights, (b) has provided written notice to Transmission Provider of the proposed Deactivation under Part V, section 113.1 or a Notice of Intent to Deactivate under this section in the form found on Transmission Provider's website, and (c) has submitted a Notice of Intent to Transfer Capacity Interconnection Rights in the form found on Transmission Provider's website. To claim the Capacity Interconnection Rights under Tariff, Subpart E, section 426, the Replacement Generation Project Developer must include with its Replacement Generation Interconnection Service Request the notices under subsections (b) and (c) above to the extent those notices have not already been submitted to Transmission Provider as required.

2. The Replacement Generation Resource may be of any fuel type, including stand alone battery storage devices, so long as the Replacement Generation Project Developer claims Capacity Interconnection Rights from a deactivating Generating Facility and requests for the Replacement Generation Resource to be a Generation Capacity Resource.

3. The Replacement Generation Interconnection Service Request must be submitted prior to the expiration of the pertinent Capacity Interconnection Rights one year after the Deactivation Date.

4. The Replacement Generation Resource must interconnect to the PJM Transmission System at the same substation (the electrical bus to which the Replacement Generation Resource is connecting must be the same bus or an electrically equivalent bus) and at the same voltage as the deactivating Generating Facility.

5. The Replacement Generation Interconnection Service Request must be for Capacity Interconnection Rights and Maximum Facility Output that are less than or equal to the deactivating Generating Facility's Capacity Interconnection Rights and Maximum Facility Output.

6. The Commercial Operation Date of a Replacement Generation Resource may be no more than three (3) years from the later of the Deactivation Date of the deactivating Generating Facility, or the date on which the Generation

Interconnection Agreement for the Replacement Generation Resource is executed or the Replacement Generation Project Developer requests that Transmission Provider file the Generation Interconnection Agreement with FERC unexecuted.

a. If the period between the Deactivation Date of the deactivating Generating Facility and the expected Commercial Operation Date of a Replacement Generation Resource is determined to be more than three (3) years, the Replacement Generation Project Developer may:

    i. exercise a one-time option to extend the expected Commercial Operation Date of its Replacement Generation Resource beyond three (3) years from the Deactivation Date of the deactivating Generating Facility regardless of cause; or

    ii. submit the Replacement Generation Interconnection Service Request as a new Generation Interconnection Request under Tariff, Part VIII, Subpart B, section 403.

b. Notwithstanding the Commercial Operation Date requirement of this subsection 437(A)(6):

    i. proposed Replacement Generation Resources with industry-recognized significant construction timeframes, such as nuclear and combined-cycle generating facilities, may have Commercial Operation Dates later than three (3) years from the later of the Deactivation Date of the deactivating Generating Facility, or the date on which the Generation Interconnection Agreement for the Replacement Generation Resource is executed or the Replacement Generation Project Developer requests that Transmission Provider file the Generation Interconnection Agreement with FERC unexecuted.

    ii. the Replacement Generation Resource may not begin commercial operations prior to the actual Deactivation Date of the deactivating Generating Facility.

    iii. Transmission Provider may reasonably extend milestone dates in the Replacement Generation Resource's Generation Interconnection Agreement, including the milestone date for commercial operation, in the event of delays not caused by the Replacement Generation Project Developer, such as unforeseen regulatory or construction delays that could not be remedied by the Replacement Generation Project Developer through the exercise of due diligence.

B. Applications for Replacement Generation Interconnection Service

1. Applications for Replacement Generation Interconnection Service must include a complete and executed Replacement Generation Interconnection Study Agreement, in the form located at Tariff, Part IX, Subpart N.

2. Applications for Replacement Generation Interconnection Service must include the evidence of Site Control that is required of New Service Requests at Decision Point III under Tariff, Subpart C, section 410(A)(1)(c), except that the ability to change the required Site Control evidence to a condition precedent in the final interconnection-related agreement in Tariff, Part VIII, Subpart D, section 410(A)(1)(c)(iv) shall not apply.

3. Applications for Replacement Generation Interconnection Service must include the evidence that the Replacement Generation Project Developer has: (a) any necessary fuel delivery agreement(s) and water agreement(s), and (b) any necessary rights-of-way for fuel and water interconnections, that is required of New Service Requests at Decision Point III under Tariff, Subpart C, section 410(A)(1)(e).

4. To be considered complete at the time of submission, the Replacement Generation Project Developer's Replacement Generation Interconnection Study Agreement must include, at a minimum, each of the following:

   a. Information concerning the Replacement Generation Project Developer, including the name, address, telephone number, and e-mail address of Replacement Generation Project Developer; an Internal Revenue Service Form W-9 or comparable state-issued document for Replacement Generation Project Developer; documentation proving the existence of a legally binding relationship between Replacement Generation Project Developer and any entity with a vested interest in this Agreement and associated project (e.g., a parent company, a subsidiary, or financing company acting as agent for Replacement Generation Project Developer); and Replacement Generation Project Developer's banking information, or the banking information of any entity with a legally binding relationship to Replacement Generation Project Developer that wishes to make payments and receive refunds on behalf of Replacement Generation Project Developer, in association with this Agreement and corresponding project:

   b. Specification of the location of the proposed Replacement Generation Resource's Site or the existing deactivating Generating Facility's Site (include both a written description, e.g., street address, global positioning coordinates, and attach a map in PDF format depicting the property boundaries and the location of the generating unit Site);

   c. The megawatt size of the proposed Replacement Generation Resource;

d. Identification of the fuel type of the proposed Replacement Generation Resource;

e. A description of the equipment configuration, and a set of preliminary electrical design specifications, and, if the proposed Replacement Generation Resource is a wind generation facility, then the set of preliminary electrical design specifications must depict the wind plant as a single equivalent generator;

f. The planned date the proposed Replacement Generation Resource will be in service;

g. Identification of the specific deactivating Generating Facility already interconnected to the PJM Transmission System, including whether the Replacement Generation Project Developer requesting Replacement Generation Interconnection Service is the owner or affiliate of the owner of the deactivating Generating Facility;

h. Any additional information as may be prescribed by the Transmission Provider in the PJM Manuals;

i. A deposit in the amount of $60,000. Replacement Generation Project Developer is responsible for actual study costs, which may exceed the deposit amount. If Transmission Provider sends Replacement Generation Project Developer notification of additional study costs, then Replacement Generation Project Developer must either: (i) pay all additional study costs within 20 days of Transmission Provider sending the notification of such additional study costs or (ii) withdraw its Replacement Generation Interconnection Service Request. If Replacement Generation Project Developer fails to complete either (i) or (ii), then Transmission Provider shall deem the Replacement Generation Interconnection Service Request to be terminated and withdrawn. If any deposit monies remain after the Replacement Generation Interconnection Study is complete and any outstanding monies owed by the Replacement Generation Project Developer in connection with outstanding invoices related to prior New Service Requests, Surplus Interconnection Requests, and/or Replacement Generation Interconnection Service Requests by the Replacement Generation Project Developer have been paid, such remaining deposit monies shall be returned to the Replacement Generation Project Developer; and

j. If the proposed Replacement Generation Resource is an Energy Storage Resource, the Replacement Generation Project Developer must submit the primary frequency response operating range for the Replacement Generation Resource.

5. Transmission Provider shall commence review of Applications for Replacement Generation Interconnection Service as soon as practicable upon receipt and in the order received. Transmission Provider will evaluate and process Applications for Replacement Generation Interconnection Service through a separate Replacement Generation Interconnection Service process that proceeds in parallel with the Cycle Process.

6. Deficiency Review. Upon receipt of the Application for Replacement Generation Interconnection Service, the Replacement Generation Interconnection Study Agreement, and the requisite information and deposit monies listed in subsection 437(B)(1) through (4), Transmission Provider first shall determine whether the materials, information, and monies submitted are valid or deficient. If deemed deficient by Transmission Provider, the Replacement Generation Project Developer must submit the requisite materials, information, and/or monies acceptable to the Transmission Provider within 10 Business Days of receipt of the Transmission Provider's notice of deficiency. Failure of the Replacement Generation Project Developer to timely provide materials, information, and/or monies identified in the deficiency notice shall result in the Replacement Generation Interconnection Service Request being terminated and withdrawn. The Replacement Generation Interconnection Service Request shall be considered valid as of the date and time within the single 10 Business Day deficiency cure period the Transmission Provider receives from the Replacement Generation Project Developer the last piece of required materials, information, and/or monies deemed acceptable by the Transmission Provider to clear such deficiency notice. Once the Transmission Provider determines the Replacement Generation Interconnection Service Request is a valid request, Transmission Provider shall confirm the assigned Replacement Generation Request Number for such request in accordance with Tariff, Part VIII, Subpart E, section 412(D).

C. Processing of Valid Replacement Generation Interconnection Service Requests

1. This Tariff, Part VIII, Subpart J, section 437(C) sets forth the procedures and other terms governing the Transmission Provider's administration of the Replacement Generation Interconnection process.

   a. After reviewing an Application for Replacement Generation Interconnection Service, including Application receipt, deficiency review of the Application, determination that the Application represents a valid Replacement Generation Interconnection Service Request, and a kickoff/scoping meeting, if necessary, all of which is anticipated to take approximately sixty (60) days, Transmission Provider shall conduct a Replacement Generation Interconnection Study.

   b. Once an Application for Replacement Generation Interconnection Service has been determined to be a valid Replacement Generation

Interconnection Service Request and Transmission Provider has commenced the Replacement Generation Interconnection Study, a Replacement Generation Project Developer: (i) may not reduce the megawatt values of the proposed Replacement Generation Resource's Capacity Interconnection Rights or Maximum Facility Output except as provided in Tariff, Part VIII, Subpart J, section 437(C)(1)(d),; (ii) may not change the proposed Replacement Generation Resource's fuel type; (iii) may not change the Site of the proposed Replacement Generation Resource or the Site Control evidence for that Site; (iv) may make Permissible Technological Advancement changes only to the proposed Replacement Generation Resource's equipment after it has an effective Generation Interconnection Agreement and proceeds via a Necessary Study Agreement; (v) may make changes to the proposed Replacement Generation Resource's Point of Interconnection, provided that the Point of Interconnection must continue to be at the same substation (the electrical bus to which the Replacement Generation Resource is connecting must be the same bus or an electrically equivalent bus) and same voltage level as the deactivating Generating Facility's Point of Interconnection, the change is considered Good Utility Practice as agreed by the Interconnecting Transmission Owner, and Transmission Provider determines the change to the Point of Interconnection does not materially and adversely affect the cost or timing of other interconnection requests; and (vi) may amend the proposed Replacement Generation Resource to remove a Material Adverse Impact determined pursuant to Tariff, Part VIII, Subpart J, section 437(C)(1)(d).

c. The Replacement Generation Interconnection Study, which is anticipated to take approximately one hundred eighty (180) days, shall consist of an impact study to determine if interconnection of the proposed Replacement Generation Resource would cause any thermal/voltage, stability, or short circuit planning criteria violations and a facilities study performed by the relevant Transmission Owner. A voltage increase or decrease, as identified in any applicable voltage analyses, will not automatically trigger a screen failure under the impact study unless a voltage threshold defined in Transmission Provider's documented planning criteria (its FERC Form No. 715 -- Annual Transmission Planning and Evaluation Report) is exceeded. All types of Generating Facilities will be studied as Replacement Generation Resources using the most recent Cycle Phase II System Impact Study model available or, if available, the most recent Cycle Phase III System Impact Study model. The scope of the impact study shall be the same as the Cycle Phase I, Phase II, and Phase III System Impact Studies and will include a contingency analysis consistent with NERC's, PJM's, and each Applicable Regional Entity's reliability criteria and the transmission planning criteria, methods and procedures described in the FERC Form No. 715 for each Applicable Regional Entity, an assessment of regional transmission upgrades that most effectively

meet identified needs, and an analysis to determine cost allocation responsibility for required facilities and upgrades. The facilities study conducted by the relevant Transmission Owner will develop the costs and construction time estimates for any of the following determined in impact study to be needed in connection with the Replacement Generation Interconnection Service Request: new interconnection facilities, metering/relaying equipment, and new Network Upgrades. The Replacement Generation Interconnection Process rules under this Tariff, Part VIII, Subpart J, section 437, including whether new interconnection facilities may be required or new Network Upgrades are required, will dictate the permitted scope of the facilities study.

d. A "Material Adverse Impact" for purposes of the Replacement Generation Interconnection process shall mean thermal/voltage, stability or short circuit reliability criteria violations. If Transmission Provider determines that interconnection of a Replacement Generation Resource will cause a Material Adverse Impact to the Transmission System, the Replacement Generation Project Developer will be given an opportunity to amend the proposed Replacement Generation Resource to eliminate the Material Adverse Impact.

e. Replacement Generation Resource projects will not share with other Replacement Generation Resources or with New Service Requests in the Cycle Process the cost of Network Upgrades necessitated by their interconnection with the Transmission System if they are deemed to use the same system headroom. Instead, cost responsibility for Network Upgrades will be based on the "first to cause" rule, under which a Replacement Generation Interconnection Service Request first to cause a constraint will be responsible for addressing the constraint and responsible for 100% of any associated Network Upgrade costs.

f. At the conclusion of the Replacement Generation Interconnection Study, Transmission Provider will provide to the Replacement Generation Project Developer a Replacement Generation Interconnection Study report, providing the results of the impact study and the facilities study. Transmission Provider will tender with the study report a draft Generation Interconnection Agreement in the form of agreement found at Tariff, Part IX, Subpart B.

g. Generation Interconnection Agreement Negotiation.

    i. The rules for Generation Interconnection Agreement negotiation shall, unless otherwise specified in this Tariff, Part VIII, Subpart J, section 437, follow the Generation Interconnection Agreement negotiation rules provided in Tariff, Part VIII, Subpart D, section 411, and the Execution Deadlines provided in Tariff, Part IX,

section 500. The Milestones requirements of Tariff, Part VIII, Subpart E, section 429, also shall apply.

ii. Within thirty (30) days after the Replacement Generation Interconnection Developer receives the Replacement Generation Interconnection Study report and a draft Generation Interconnection Agreement, the Replacement Generation Project Developer shall be required to post 100% of the Security required in its Generation Interconnection Agreement and to provide evidence that it has obtained any necessary local, county, and state site permits and signed a memorandum of understanding for the acquisition of major equipment. If the Replacement Generation Project Developer fails to post 100% of the Security required for its Generation Interconnection Agreement by that date, its Replacement Generation Interconnection Service Request shall be deemed terminated and/or withdrawn.

iii. The Replacement Generation Project Developer and Transmission Owner shall have no more than 20 Business Days after receipt of the draft Generation Interconnection Agreement to return written comments on that draft. Transmission Provider shall have no more than 10 Business Days to respond to such comments and, if appropriate, provide a revised draft Generation Interconnection Agreement in electronic form. Transmission Provider, in its sole discretion, may allow more than 60 days for this final Generation Interconnection Agreement negotiation.

iv. Not later than five Business Days following the end of negotiations under subsection iii, Transmission Provider shall provide the final Generation Interconnection Agreement, along with any applicable schedules, to the parties in electronic form. Not later than 15 Business Days after receipt of the final Generation Interconnection Agreement, the Replacement Generation Project Developer shall either execute the revised Generation Interconnection Agreement, request dispute resolution, or request that the Generation Interconnection Agreement be filed unexecuted.

v. If the Replacement Generation Project Developer executes the final Generation Interconnection Agreement, then, not later than 15 Business Days after PJM sends notification to the relevant Transmission Owner, the relevant Transmission Owner shall either execute the final Generation Interconnection Agreement in electronic form; request dispute resolution; or request that the Generation Interconnection Agreement be filed unexecuted.

h. Subject to the provisions of Tariff, Part VIII, Subpart E, section 414(B)(4), additional studies may not be needed to provide Replacement Generation Interconnection Service to a Replacement Generation Project Developer that has a Generating Facility that is currently operating utilizing Surplus Interconnection Service associated with a deactivating Generating Facility, as the studies performed to secure Surplus Interconnection Service may serve as the Replacement Generation Interconnection Study required for Replacement Generation Interconnection Service Requests. Regardless of whether additional studies are needed, a Replacement Generation Project Developer that has a Generating Facility that is currently operating utilizing Surplus Interconnection Service associated with a deactivating Generating Facility must submit an Application for Replacement Generation Interconnection Service pursuant to Tariff, Part VIII, Subpart J, section 437(B) to transfer the deactivating Generating Facility's Capacity Interconnection Rights to the Generating Facility currently utilizing Surplus Interconnection Service and make that Generating Facility a Replacement Generation Resource.

i. Projects in Transition Cycle #1, Transition Cycle #2, or Cycle #1 that do not yet have a Generation Interconnection Agreement may submit Applications under this Tariff, Part VIII, Subpart J, section 437 for Replacement Generation Interconnection Service. Transmission Provider shall study all valid Replacement Generation Interconnection Service Requests submitted from Transition Cycle #1, Transition Cycle #2, or Cycle #1 as soon as practicable upon receipt of such requests and, if the Transmission Provider determines that such a Replacement Generation Interconnection Service Request does not cause the need for Network Upgrades, the project will be eligible to receive a Generation Interconnection Agreement through the Replacement Generation Interconnection Process under Tariff, Part VIII, Subpart J, section 437 and its Cycle Process project shall be terminated. To the extent such movement of projects out of the Transition Cycle(s) or Cycle #1 changes the models used for the Transition Cycles' or Cycle #1's System Impact Studies, the effects on the models can be addressed during the next applicable Decision Point for those Cycle(s).

2. Contingent Facilities, if any, would be identified during the impact study phase of the Replacement Generation Interconnection Study in the same manner they are identified in the Cycle Phase I, Phase II, and Phase III System Impact Studies (see Tariff, Part VIII, Subpart C, section 404(A)(3)) and shall be listed in the Generation Interconnection Agreement.

3. Interim Studies of the Deliverability of Replacement Generation Resources, if necessary, would be addressed in the Generation Interconnection Agreement and in accordance with PJM Manual 14H.

Tariff, Part VIII, sections 438 – 499
[Reserved]

APPENDICES:

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

SCHEDULES:

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

SCHEDULE M

SCHEDULE OF TERMS AND CONDITIONS FOR REPLACEMENT GENERATION INTERCONNECTION SERVICE

Tariff, Part IX, Subpart N

FORM OF
REPLACEMENT GENERATION INTERCONNECTION STUDY AGREEMENT

RECITALS

1. This Replacement Generation Interconnection Study Agreement (the "Agreement"), dated as of _____, is entered into by and between _____ ("Replacement Generation Project Developer") and PJM Interconnection, L.L.C. ("Transmission Provider") (individually referred to as a "Party," or collectively referred to as the "Parties") pursuant to the Generation Interconnection Procedures ("GIP") set forth in PJM Interconnection, L.L.C. Open Access Transmission Tariff ("Tariff"), Part VIII. Capitalized terms used in this Agreement, unless otherwise indicated, shall have the meanings ascribed to them in the Tariff.

2. By submitting this Agreement and complying with the GIP, the Replacement Generation Project Developer has submitted a Replacement Generation Interconnection Service Request. In accordance with Tariff, Part VIII, Subpart J, section 437, the Replacement Generation Project Developer has also submitted with this Agreement the applicable required deposit to the Transmission Provider. The Replacement Generation Project Developer must electronically provide to Transmission Provider through the PJM website or OASIS, as applicable, all applicable information identified below, which is then subject to validation.

3. Replacement Generation Project Developer information:

    a. Name, address, telephone number, and e-mail address of Replacement Generation Project Developer.

    b. An Internal Revenue Service Form W-9 or comparable state-issued document for Replacement Generation Project Developer.

    c. Documentation proving the existence of a legally binding relationship between Replacement Generation Project Developer and any entity with a vested interest in this Agreement and associated project (e.g., a parent company, a subsidiary, or financing company acting as agent for Replacement Generation Project Developer). Such documentation may include, but is not limited to, Replacement Generation Project Developer's Articles of Organization and Operating Agreement describing the nature of the legally binding relationship.

    d. Replacement Generation Project Developer's banking information, or the banking information of any entity with a legally binding relationship to Replacement Generation Project Developer that wishes to make payments and receive refunds on behalf of Replacement Generation Project Developer, in association with this Agreement and corresponding project.

4. By submitting this Agreement to the Transmission Provider, the Replacement Generation Project Developer requests Replacement Generation Interconnection Service to claim the Capacity Interconnection Rights on the Transmission System of a deactivating Generation Capacity Resource for a new Generating Facility with the following specifications:

   a. Identification of the existing deactivating Generating Facility already interconnected to the PJM Transmission System, including whether the Replacement Generation Project Developer requesting Replacement Generation Interconnection Service is the owner or affiliate of owner of the existing deactivating Generating Facility, and details regarding the existing Generating Facility's current Generator Interconnection Agreement or Interconnection Service Agreement ("Service Agreement").

   _____

   _____

   b. Evidence of Site Control of the proposed Replacement Generation Resource Site, such as a deed, option agreement, lease or other similar document acceptable to the Transmission Provider, as required of New Service Requests at Decision Point III under Tariff, Subpart C, section 410(A)(1)(c). Include both a written description of the evidence to be relied upon and attach a Word or PDF version copy thereof.

   _____

   _____

   c. Location of the proposed Replacement Generation Resource's Site or the existing deactivating Generating Facility's Site (include both a written description, e.g., street address, global positioning coordinates, and attach a map in PDF format depicting the property boundaries and the location of the generating unit Site).

   _____

   _____

   d. The megawatt size of the proposed Replacement Generation Resource.

   _____

   _____

   e. Identification of the fuel type of the proposed Replacement Generation Resource.

_____

f. A PDF format attachment of the site plan/single line diagram together with a description of the equipment configuration, including a set of preliminary electrical design specifications, and, if the Replacement Generation Resource is a wind generation facility, then also submit a set of preliminary electrical design specifications depicting the wind generation facility as a single equivalent generator.

_____

_____

g. Planned date the proposed Replacement Generation Resource will be in service.

_____

_____

h. Other related information, including for example, but not limited to, identifying: all of Replacement Generation Project Developer's prior New Service Requests, Surplus Interconnection Requests, and Replacement Generation Interconnection Service Requests; and stating whether the Replacement Generation Project Developer has submitted a previous Surplus Interconnection Request or Replacement Generation Interconnection Service Request for this particular project.

_____

_____

i. If the proposed Replacement Generation Resource is an Energy Storage Resource, state the primary frequency response operating range for the proposed Replacement Generation Resource:

Minimum State of Charge: _____; and

Maximum State of Charge: _____.

PURPOSE OF THE REPLACEMENT GENERATION INTERCONNECTION STUDY

5. Consistent with the GIP, the Transmission Provider shall conduct a Replacement Generation Interconnection Study determine whether interconnection of the proposed Replacement Generation Resource would cause any thermal/voltage, stability, or short circuit planning criteria violations and, if so, what Network Upgrades may be required for such interconnection.

6. The Replacement Generation Interconnection Study conducted hereunder will provide only a sensitivity analysis based on the data specified by the Replacement Generation Project Developer in its Replacement Generation Interconnection Service Request. The Replacement Generation Interconnection Study necessarily will employ various assumptions regarding the Replacement Generation Interconnection Service Request, other pending New Service Requests and PJM's Regional Transmission Expansion Plan at the time of the study. The Replacement Generation Interconnection Study will not obligate the Transmission Provider or the Transmission Owner(s) to interconnect with the Replacement Generation Project Developer or construct any facilities or upgrades.

CONFIDENTIALITY

7. The Replacement Generation Project Developer agrees to provide all information requested by the Transmission Provider necessary to complete the Replacement Generation Interconnection Study. Subject to Paragraph 7 of this Agreement and to the extent required by the GIP, information provided pursuant to this Paragraph 6 shall be and remain confidential.

8. Until completion of the Replacement Generation Interconnection Study, the Transmission Provider shall keep confidential all information provided to it by the Replacement Generation Project Developer. Upon completion of the Replacement Generation Interconnection Study and, to the extent required by Commission regulations, the study results will be made publicly available upon request, except that the identity of the Replacement Generation Project Developer shall remain confidential.

9. Replacement Generation Project Developer acknowledges that, consistent with the Tariff, the Transmission Provider may contract with consultants, including the Transmission Owners, to provide services or expertise in the Replacement Generation Interconnection Study process and that the Transmission Provider may disseminate information to the Transmission Owners.

COST RESPONSIBILITY

10. The Replacement Generation Project Developer shall reimburse the Transmission Provider for the actual cost of the Replacement Generation Interconnection Study. The deposit paid by the Replacement Generation Project Developer described in Paragraph 2 of this Agreement shall be applied toward the Replacement Generation Project Developer's Replacement Generation Interconnection Study cost responsibility. The Replacement Generation Project Developer shall be responsible for and must pay all actual study costs. If at any time the Transmission Provider notifies the Replacement Generation Project Developer of estimated additional study costs, the Replacement Generation Project Developer must pay such estimated additional study costs within 20 Business Days of Transmission Provider sending the Replacement Generation Project Developer notification of such estimated additional study costs. If the Replacement Generation Project Developer fails to pay such estimated additional study costs within 20 Business Days of Transmission Provider sending the Replacement Generation Project

Developer notification of such estimated additional study costs, then the Replacement Generation Interconnection Service Request shall be deemed to be terminated and withdrawn.

DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY

11. In analyzing and preparing the Replacement Generation Interconnection Study, the Transmission Provider, the Transmission Owner(s), and any other subcontractors employed by the Transmission Provider shall have to rely on information provided by the Replacement Generation Project Developer and possibly by third parties, including the owner of the deactivating Generating Facility, and may not have control over the accuracy of such information. Accordingly, NEITHER THE TRANSMISSION PROVIDER, THE TRANSMISSION OWNER(S), NOR ANY OTHER SUBCONTRACTORS EMPLOYED BY THE TRANSMISSION PROVIDER MAKES ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING BY OPERATION OF LAW, COURSE OF PERFORMANCE OR DEALING, CUSTOM, USAGE IN THE TRADE OR PROFESSION, OR OTHERWISE, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WITH REGARD TO THE ACCURACY, CONTENT, OR CONCLUSIONS OF THE REPLACEMENT GENERATION INTERCONNECTION STUDY. The Replacement Generation Project Developer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder. Neither this Agreement nor the Replacement Generation Interconnection Study prepared hereunder is intended, nor shall either be interpreted, to constitute agreement by the Transmission Provider or the Transmission Owner(s) to provide any transmission or interconnection service to or on behalf of the Replacement Generation Project Developer either at this point in time or in the future.

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

    Without limitation of the foregoing, the Replacement Generation Project Developer further agrees that Transmission Owner(s) and other subcontractors employed by the Transmission Provider to prepare or assist in the preparation of any Replacement Generation Interconnection Study shall be deemed third party beneficiaries of this provision entitled “Disclaimer of Warranty, Limitation of Liability.”

MISCELLANEOUS

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

Transmission Provider
PJM Interconnection, L.L.C.
2750 Monroe Blvd.
Audubon, PA 19403
[email address for receipt of notices]

Replacement Generation Project Developer
_____
_____
_____

14. No waiver by either Party of one or more defaults by the other in performance of any of the provisions of this Agreement shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or different character.

15. This Agreement or any part thereof, may not be amended, modified, or waived other than by a writing signed by all Parties hereto. Parties acknowledge that, after execution of this agreement, errors may be corrected by replacing the page of the agreement containing the error with a corrected page, as agreed to and signed by the parties without modifying or altering the original date of execution or obligations contained therein.

16. This Agreement shall be binding upon the Parties hereto, their heirs, executors, administrators, successors, and assigns.

17. Neither this Agreement nor the Replacement Generation Interconnection Study performed hereunder shall be construed as an application for service under Tariff, Part II or Tariff, Part III.

18. The provisions of the GIP that relate to Replacement Generation Interconnection Service are incorporated herein and made a part hereof.

19. **Governing Law, Regulatory Authority, and Rules**

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

jurisdiction. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

20. **No Third-Party Beneficiaries**

Except as stated in Paragraph 12 of this Agreement, this Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

21. **Multiple Counterparts**

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all of which constitute one and the same instrument.

22. **No Partnership**

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

23. **Severability**

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

24. **Reservation of Rights**

The Transmission Provider shall have the right to make a unilateral filing with the Federal Energy Regulatory Commission ("FERC") to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and the Replacement Generation Project Developer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by

the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered.

CERTIFICATION

By initialing the line next to each of the following required elements, Replacement Generation Project Developer hereby certifies that it has submitted with this executed Agreement each of the required elements (if this Replacement Generation Interconnection Request is being submitted electronically, each of the required elements must be submitted electronically as individual PDF files, together with an electronic PDF copy of this signed Agreement):

_____ **Replacement Generation Project Developer's name, address, telephone number, and e-mail address; documentation proving the existence of a legally binding relationship between Replacement Generation Project Developer and any entity with a vested interest in this Agreement and associated project; and Replacement Generation Project Developer's banking information, or the banking information of any entity with a legally binding relationship to Replacement Generation Project Developer that wishes to make payments and receive refunds on behalf of Replacement Generation Project Developer, in association with this Agreement and corresponding project:**

_____ **Specification of the location of the proposed Replacement Generation Resource or deactivating Generating Facility (including both a written description (e.g., street address, global positioning coordinates) and attach a map in PDF format depicting the property boundaries and the location of the proposed Replacement Generation Resource site)**

_____ **Evidence of Site Control of the proposed Replacement Generation Resource site**

_____ **The megawatt size of the proposed Replacement Generation Resource**

_____ **Identification of the fuel type of the proposed Replacement Generation Resource**

_____ **Description of the equipment configuration and a set of preliminary electrical design specifications, and, if the proposed Replacement Generation Resource is a wind generation facility, then the set of preliminary electrical design specifications must depict the wind plant as a single equivalent generator**

_____ **The planned date that the proposed Replacement Generation Resource will be in service**

_____ **All additional information prescribed by the Transmission Provider in the PJM Manuals**

_____ **The full amount of the required deposit**

IN WITNESS WHEREOF, the Transmission Provider and the Replacement Generation Project Developer have caused this Agreement to be executed by their respective authorized officials.

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

By: _____ _____ _____

Name Title Date

_____

Printed Name

Replacement Generation Project Developer: [Name of Party]

By: _____ _____ _____

Name Title Date

_____

Printed Name

Attachment C

Affidavit of Mr. Edmund Franks 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. ER25-___-000

AFFIDAVIT OF EDMUND FRANKS
ON BEHALF OF PJM INTERCONNECTION, L.L.C.

1. My name is Edmund Franks, and my business address is 2750 Monroe Blvd., Audubon, Pennsylvania, 19403. I am employed by PJM Interconnection, L.L.C. ("PJM") and my current title is Principal Engineer, Interconnection Analysis.

I. QUALIFICATIONS

2. I joined PJM in August 2000 and have been continuously employed there on a full-time basis since December 2004. Prior to holding my current position, I served as a Senior Engineer in the PJM Transmission Planning department. I am submitting this affidavit on behalf of PJM in support of PJM's filing of revisions to its Open Access Transmission Tariff ("Tariff")[1] to implement Replacement Generation Interconnection Service, also sometimes referenced as Capacity Interconnection Rights ("CIR") Transfer.

3. As Principal Engineer, Interconnection Analysis, I am responsible for performing and supporting reliability studies that PJM performs to evaluate all New Service Requests, which include all interconnection requests. The Interconnection Analysis Department is responsible for performing all the engineering and reliability studies necessary to assess the impacts to the PJM transmission system of these planned interconnections and to determine the network upgrades needed to maintain system

[1] Capitalized terms used, but not otherwise defined, in this Affidavit have the meaning provided in, as applicable, the PJM Tariff or the Reliability Assurance Agreement Among Load-Serving Entities in the PJM Region.

reliability as a result of such interconnections. These engineering and reliability studies include steady state power flow analyses, short circuit analyses, and stability analyses. As a senior engineer in the Transmission Planning Department, I was responsible for performing steady state power flow analyses and short circuit analyses and developing the system upgrades needed to maintain reliability for planned system changes, such as load growth and generation deactivations.

4. I am a licensed Professional Engineer and hold a Bachelor of Science degree in Electrical Engineering from Widener University and a Master of Science degree in Electrical Engineering from Drexel University.

II. PURPOSE AND OVERVIEW OF AFFIDAVIT

5. The purpose of my affidavit is to support PJM's filing of proposed Tariff revisions to implement Replacement Generation Interconnection Service, a service that will enable the efficient transfer of CIRs from deactivating generating facilities to new generation resources through use of a separate serial interconnection process that runs in parallel with PJM's main interconnection process.

6. The Replacement Generation Interconnection Service Tariff revisions are intended, along with the Reliability Pricing Model Tariff revisions PJM filed in Docket No. ER25-682-000 on December 9, 2024, the Reliability Resource Initiative Tariff revisions PJM filed in Docket No. ER25-712-000 on December 13, 2024 ("RRI Filing"), the Surplus Interconnection Service Tariff revisions PJM filed in Docket No. ER25-778-000 on December 20, 2024 ("Surplus Interconnection Filing"), and the Capacity Must-Offer Requirement Tariff revisions PJM filed in Docket No. ER25-785-000 on December 20, 2024 (collectively, the "December 2024 Filings") to address serious

resource adequacy concerns in PJM. The concerns underlying the December 2024 Filings are driven by: (i) significant growth in load, actual and anticipated, particularly from large data centers; (ii) accelerated generator retirements due to age of the units and environmental concerns; (iii) new resource additions being placed in service more slowly than anticipated due to supply chain, permitting, financing, and other issues; and (iv) intermittent and limited duration resources in the interconnection queue having lower reliability values based on their operating characteristics.

III. CAPACITY RESOURCES ARE NEEDED IN THE VERY NEAR TERM TO MAINTAIN SYSTEM RELIABILITY IN THE PJM REGION

7. Donald Bielak, Director, Interconnection Planning, for PJM, adopts for this filing his December 13, 2024 affidavit in the RRI Filing ("RRI Bielak Affidavit") further detailing the resource adequacy challenges PJM expects to be facing in the very near term. Mr. Bielak explains that PJM has been analyzing for several years the Capacity outlook as the energy industry transitions from predominantly fossil fuel to increasing penetration of intermittent resources. Recent events and developments, including the 2025/26 Delivery Year Base Residual Auction and the 2025 preliminary load growth projections, have heightened PJM's resource adequacy concerns and caused PJM to make the December 2024 Filings. This filing, though it stems from a stakeholder-initiated process prompted by a problem/opportunity statement and issue charge presented in May 2023, aligns with the objectives of the December 2024 Filings, and therefore PJM has advanced the timing of this filing.

A. Among Multiple Benefits, Replacement Generation Interconnection Service Provides PJM an Additional Tool to Quickly Add Capacity Resources to the PJM Transmission System at a Time When the Need for Capacity Resources Is Particularly Acute

8. The Replacement Generation Interconnection Service Tariff revisions will enable the efficient transfer of CIRs associated with deactivating generating facilities to new generating facilities, providing additional Capacity Resources on the PJM Transmission System in a shorter time period and with lower study costs for resources replacing deactivating generating facilities. In this regard, the Replacement Generation Interconnection Service Tariff revisions constitute another element of PJM's concerted efforts to address growing resource adequacy concerns in the very near term.

9. In addition to expediting the replacement of Capacity from deactivating resources, the proposed Replacement Generation Interconnection Service Tariff revisions will:

- clarify that all types of resources are eligible to receive CIRs transferred from deactivating facilities, e.g., a deactivating thermal generation resource can be replaced by a battery storage facility, which expands the universe of potential Capacity Resources that can utilize this faster process;
- allow for an efficient and timely process to minimize diverting resources away from clustered Cycle studies;
- apply "First Ready, First Served" principles to Replacement Generation Interconnection Requests in a transparent and nondiscriminatory manner;
- ensure that system capability is utilized to a greater extent and on a non-discriminatory basis; and
- clarify the reliability analyses to be applied to Replacement Generation Interconnection Requests, while ensuring that PJM system reliability and the scope of the necessary reliability studies are not degraded.

IV. BACKGROUND

10. CIRs represent the rights to input generation as a Capacity Resource, as defined in the Reliability Assurance Agreement, into the Transmission System at the point where the facility connects to the PJM Transmission System (the Point of Interconnection). Once a Project Developer's generation is accredited as deliverable through the applicable procedures in Tariff, Part VIII, Subpart E, section 426, the Project Developer receives CIRs commensurate with the megawatts identified in its Generation Interconnection Agreement ("GIA").

11. The CIRs associated with a generating facility continue to exist for one year following the actual deactivation date of that resource and can be transferred to another generating facility owned by an affiliate or nonaffiliate of the owner of the deactivating facility. Once transferred, the CIRs will continue so long as the new resource continues to meet deliverability testing requirements.

12. PJM commenced a stakeholder process in the Interconnection Process Subcommittee of the Planning Committee in July 2023, initiated by a problem/opportunity statement and issue charge submitted by East Kentucky Power Cooperative and Elevate Renewable Energy to the Planning Committee in May 2023, which was endorsed at the June 2023 Planning Committee meeting. The goal of this process was to establish an enhanced, more efficient process for CIR transfers and to clarify that CIRs may be transferred to all types of Capacity Resources. The proponents of the new process looked to the replacement generation processes the Commission had already approved for the Midcontinent Independent System Operator, Inc. and the Southwest Power Pool, Inc.

13. Following the introduction of the issue charge and problem/opportunity statement to the Interconnection Process Subcommittee, PJM and stakeholders developed an options and packages matrix and, over time, multiple solutions packages. The Planning Committee endorsed the solutions package put forward by the Stakeholder Coalition at its October 8, 2024, meeting. The Stakeholder Coalition's solution package, with minor revisions following its endorsement by the Planning Committee, was endorsed by the Markets and Reliability Committee and the Members Committee in their November 21, 2024 meetings.

14. PJM has been actively working for the last several years on reforming its generation interconnection process. PJM in 2021 commenced an extensive stakeholder process to revise its interconnection procedures and, on June 14, 2022, PJM filed a comprehensive overhaul of its interconnection process to address the major shifts in the industry and tremendous increase in interconnection requests, and to shift from a serial "first-come, first-served" queue approach to a "first-ready, first-served" Cycle approach. The Commission accepted PJM's interconnection reform filing, finding the proposed reforms to be just and reasonable.

15. This filing, along with the RRI Filing and the Surplus Interconnection Filing, represents additional refinements and enhancements to PJM's interconnection process while it is still in the Transition Period between the prior interconnection rules and procedures and the reformed interconnection rules and procedures. All three filings seek to expedite resource interconnection because, as explained in the RRI Bielak Affidavit, projects in Cycle #1 under the reformed interconnection rules will not have effective interconnection-related service agreements until approximately mid-2028 at the earliest

and therefore likely will not be constructed and in commercial operation until 2031, which will not address the identified resource adequacy need in the 2030/31 Delivery Year, when load growth and generator retirements are expected to outstrip installed Capacity in the PJM Region, including new entry of Capacity.

V. DESCRIPTION OF THE REPLACEMENT GENERATION INTERCONNECTION PROCESS

A. Eligibility and Applications

16. Replacement Generation Interconnection Requests cannot proceed without the owner of the deactivating generating facility providing PJM with either official or unofficial (a notice of intent in the form to be found on the PJM web site) notice of deactivation and notice of intent to transfer the deactivating unit's CIRs. The deactivation notices must be submitted prior to the deactivation date and the notice of intent to transfer CIRs must be submitted prior to the expiration of the CIRs, one year after the actual deactivation of the generating facility. Eligible transfer recipients may propose a Replacement Generation Project of any fuel type, including battery storage, so long as the Project Developer claims CIRs and requests that the Replacement Generation Project be a Capacity Resource.

17. The Replacement Generation Project must connect to the Transmission System at the same Point of Interconnection as the deactivating resource, meaning at the same substation (the same bus or an electrically equivalent bus) and at the same voltage level. The Replacement Generation Interconnection Request must be for a Maximum Facility Output and CIRs of the same or lesser amount as the deactivating resource.

18. The Replacement Generation Project must have a Commercial Operation Date that is no later than the latter of three years after the actual deactivation date or the

date the GIA is executed or the Project Developer requests that the GIA be filed unexecuted (however, the Replacement Generation Project may not commence operation until the actual deactivation of the resource it is replacing). To help assure this timing requirement is met, the Project Developer must provide with its Application the Site Control evidence and evidence of fuel and water supply arrangements, if necessary, that is required to be provided at Decision Point III of the Cycle process. The three-year Commercial Operation Date requirement is subject to the Project Developer's one-time option to extend the expected Commercial Operation Date beyond the three-year period regardless of cause, as well as to an exemption for proposed Replacement Generation Projects with industry-recognized significant construction timelines, such as nuclear or combined-cycle generating facilities.

19. The Replacement Generation Interconnection Tariff provisions include protections from CIRs "timing out" while the request to transfer them is being studied. Specifically, the Tariff provides that if a Replacement Generation Interconnection Service Request does not meet the requirements for Replacement Generation Interconnection Service, PJM will notify the Replacement Generation Project Developer to that effect. If PJM provides such notice more than one year after the Deactivation Date, the Replacement Generation Project Developer shall retain the CIRs provided it submits a new Generation Interconnection Request for the Generating Facility in a Cycle currently open for Applications to be submitted and complies with the applicable provisions of Tariff, Part VIII, Subpart B, section 403, including section 403(D)(1), within 60 days of receiving such notice. In the event the Replacement Generation Project Developer's Replacement Generation Interconnection studies are not completed within the study timeframes

provided in Tariff, Part VIII, Subpart J, section 437(C)(1) or the Replacement Generation Interconnection Service Request is, or is deemed to be, withdrawn from the Replacement Generation Interconnection process and an Application is submitted for that project in the Cycle Process, the Replacement Generation Project Developer or former Replacement Generation Project Developer, as applicable, shall retain the pertinent CIRs after the end of the one-year period from the Deactivation Date, for so long as it has a valid Replacement Generation Interconnection Service Request or New Service Request that is still being considered by PJM, and until a GIA setting forth those CIRs is effective.

B. Study Process and Restrictions

20. The Replacement Generation Interconnection Study, which is anticipated to take approximately 180 days, will consist of an impact study to determine if interconnection of the proposed Replacement Generation Resource would cause any thermal/voltage, stability, or short circuit planning criteria violations and a facilities study performed by the relevant Transmission Owner. A voltage increase or decrease, as identified in any applicable voltage analyses, will not automatically trigger a screen failure under the impact study unless a voltage threshold defined in PJM's documented planning criteria is exceeded. All types of Generating Facilities will be studied as Replacement Generation Resources using the most recent Cycle Phase II System Impact Study model available or, if available, the most recent Cycle Phase III System Impact Study model. The scope of the impact study shall be the same as the Cycle Phase I, Phase II, and Phase III System Impact Studies and will include a contingency analysis consistent with NERC's, PJM's, and each Applicable Regional Entity's reliability criteria and the transmission planning criteria, methods and procedures described in the FERC Form No. 715 for each

Applicable Regional Entity, an assessment of regional transmission upgrades that most effectively meet identified needs, and an analysis to determine cost allocation responsibility for required facilities and upgrades. The facilities study conducted by the relevant Transmission Owner will develop the costs and construction time estimates for any of the following determined in the impact study to be needed in connection with the Replacement Generation Interconnection Service Request: new interconnection facilities, metering/relaying equipment, and new Network Upgrades.

21. A "Material Adverse Impact" for purposes of the Replacement Generation Interconnection process shall mean thermal/voltage, stability, or short circuit reliability criteria violations. If PJM determines that interconnection of a Replacement Generation Resource will cause a Material Adverse Impact to the Transmission System, the Replacement Generation Project Developer will be given an opportunity to amend the proposed Replacement Generation Resource to eliminate the Material Adverse Impact.

22. Once PJM has commenced the Replacement Generation Interconnection Study, a Replacement Generation Project Developer: (i) may not reduce the megawatt values of the proposed Replacement Generation Resource's Capacity Interconnection Rights or Maximum Facility Output except as provided in Tariff, Part VIII, Subpart J, section 437(C)(1)(d); (ii) may not change the proposed Replacement Generation Resource's fuel type; (iii) may not change the Site of the proposed Replacement Generation Resource or the Site Control evidence for that Site; (iv) may make Permissible Technological Advancement changes only to the proposed Replacement Generation Resource's equipment after it has an effective Generation Interconnection Agreement and proceeds via a Necessary Study Agreement; (v) may make changes to the proposed

Replacement Generation Resource's Point of Interconnection, provided that the Point of Interconnection must continue to be at the same substation (the electrical bus to which the Replacement Generation Resource is connecting must be the same bus or an electrically equivalent bus) and same voltage level as the deactivating Generating Facility's Point of Interconnection, the change is considered Good Utility Practice as agreed by the Interconnecting Transmission Owner, and PJM determines the change to the Point of Interconnection does not materially and adversely affect the cost or timing of other Interconnection Requests; and (vi) may amend the proposed Replacement Generation Resource to remove a Material Adverse Impact determined pursuant to Tariff, Part VIII, Subpart J, section 437(C)(1)(d).

C. Relation Between the Replacement Generation Interconnection Process and the Three-Phase Cycle Process

23. The Replacement Generation Interconnection Process will run in parallel with the Cycle process, meaning that Replacement Generation Interconnection Requests will not impede or delay the processing of the projects in the clustered Cycle process. PJM will commence review of Applications for Replacement Generation Interconnection Service as soon as practicable upon receipt and in the order received, i.e., Replacement Generation Interconnection Requests will be processed sequentially and have sequential priority vis-à-vis each other. They will not have study priority, i.e., PJM staff will not prioritize Replacement Generation Interconnection Requests over New Service Requests in the Cycle process.

24. Replacement Generation Resource projects will not share with other Replacement Generation Resources or with New Service Requests in the Cycle Process the cost of Network Upgrades necessitated by their interconnection with the Transmission

System if they are deemed to use the same system headroom. Instead, cost responsibility for Network Upgrades will be based on the "first to cause" rule, under which a Replacement Generation Interconnection Service Request first to cause a constraint will be responsible for addressing the constraint and responsible for 100% of any associated Network Upgrade costs. This cost allocation rule protects projects in the Cycle Process from any cost impact from Replacement Generation Interconnection Projects.

D. Other Provisions of the Replacement Generation Interconnection Process

25. The rules for GIA negotiation for Replacement Generation Projects will generally follow the GIA negotiation rules provided in Tariff, Part VIII, Subpart D, section 411, and the Execution Deadlines provided in Tariff, Part IX, section 500. The Milestones requirements of Tariff, Part VIII, Subpart E, section 429, also shall apply.

26. PJM will maintain on its website certain information concerning Replacement Generation Project Developers, including the Application date of the Replacement Generation Interconnection Service Request; the proposed Replacement Generation Resource's Maximum Facility Output and Capacity Interconnection Rights; the location of the proposed Replacement Generation Resource by state and by Transmission Owner Zone; the substation where the proposed Replacement Generation Resource will be interconnected; the deactivating Generating Facility from which Capacity Interconnection Rights are being claimed; the anticipated Deactivation Date of the deactivating Generating Facility; the proposed Replacement Generation Resource's projected in-service date; the proposed Replacement Generation Resource's status; the fuel type of the proposed Replacement Generation Resource to be constructed; and the availability of any related studies.

VI. THE REPLACEMENT GENERATION INTERCONNECTION PROCESS WILL NOT DETRACT FROM OR IMPEDE THE CYCLE PROCESS

27. PJM expects the number of Replacement Generation Interconnection Requests it will receive will be smaller as compared to the total number of Interconnection Requests PJM receives. Further, the Replacement Generation Interconnection process will not actually increase the total number of Interconnection Requests PJM handles because an Interconnection Request associated with a CIR transfer would, if there were no Replacement Generation Interconnection process, be submitted in the Cycle process. In addition, because Replacement Generation Interconnection Requests are for interconnection rights that originally were obtained by a generator proceeding through the standard interconnection process, the bulk of the studies already have been performed and interconnection of a generating facility at that Point of Interconnection is built into the study models. While it is true that Replacement Generation Interconnection Requests require a set of studies, mainly of stability, in addition to the studies performed for the deactivating resource, the number of such studies likely will be small, based on PJM's past experience.

VII. THE REPLACEMENT GENERATION INTERCONNECTION PROCESS IS FUEL AND TECHNOLOGY NEUTRAL

28. There may be arguments that the Replacement Generation Interconnection process favors some types of resources, such as thermal generating facilities, over other types of resources, such as inverter-based resources. This is not true. The proposed Tariff revisions are clear that all resource types are eligible to transfer and receive CIRs from deactivating resources. A comparison of any deactivating unit to a replacement unit of a different type, regardless of the fuel types of the facilities, will involve different parameters

in terms of thermal ramping and deliverability requirements, short circuit impacts, and stability impacts. This will be the case even if both the deactivating unit and the replacement unit are thermal units but one is coal-fired and the other is natural gas-fired because the units will have different generator parameters, generator step-up transformer specifications, and other differences. With respect to short circuit impacts, inverter-based resources have lower short circuit current contributions than do thermal, synchronous units. One could argue, therefore, that the Replacement Generation Interconnection process favors, at least as to short circuit impacts, renewable resources as the replacement renewable resource will reduce fault levels on the system if it is replacing a thermal unit.

VIII. CONCLUSION

29. This concludes my affidavit.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.) Docket No. ER25-___-000

VERIFICATION

I, Edmund Franks, pursuant to 28 U.S.C. § 1746, state, under penalty of perjury, that I am the Edmund Franks referred to in the foregoing "Affidavit of Edmund Franks 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.

Signed by:
Edmund Franks
03815747F7D6480...
Edmund Franks

Executed on: 1/31/2025

Attachment D

Affidavit of Mr. Donald Bielak 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. ER25-___-000

AFFIDAVIT OF DONALD BIELAK, P.E.
ON BEHALF OF PJM INTERCONNECTION, L.L.C.

1. My name is Donald Bielak, and my business address is 2750 Monroe Blvd., Audubon, Pennsylvania, 19403. I am employed by PJM Interconnection, L.L.C. ("PJM") and my current title is Director, Interconnection Planning.

2. I am submitting this affidavit on behalf of PJM in support of PJM's filing of proposed Tariff revisions to implement Replacement Generation Interconnection Service ("Replacement Generation Interconnection Service Filing"). This service will enable the efficient transfer of Capacity Interconnection Rights from deactivating generating facilities to new generation resources through use of a separate serial interconnection process that runs in parallel with PJM's Cycle interconnection process. I have reviewed this filing and aver that the statements, analyses, and conclusions I present in my December 13, 2024 affidavit submitted on behalf of PJM in support of PJM's Docket No. ER25-712-000 Reliability Resource Initiative filing, which I include as Exhibit No. 1 to this affidavit, apply equally to the issues addressed in the Replacement Generation Interconnection Service Filing.

3. This concludes my affidavit.

Exhibit No. 1

Affidavit of Donald Bielak
on Behalf of PJM Interconnection, L.L.C.

Docket No. ER25-712-000
Filed December 13, 2024

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.) Docket No. ER25-___-000

AFFIDAVIT OF DONALD BIELAK, P.E.
ON BEHALF OF PJM INTERCONNECTION, L.L.C.

1. My name is Donald Bielak, and my business address is 2750 Monroe Blvd., Audubon, Pennsylvania, 19403. I am employed by PJM Interconnection, L.L.C. ("PJM") and my current title is Director, Interconnection Planning.

I. QUALIFICATIONS

2. I joined PJM in September 2004 and have been continuously employed there on a full-time basis since January 2007. Prior to holding my current position, I served as an Engineer in the Engineering Support department, as a Senior Engineer in the Markets Coordination department, as a Reliability Engineer, as Manager – Reliability Engineering, and most recently as Senior Manager/Director – Dispatch. I am submitting this affidavit on behalf of PJM in support of PJM's filing of revisions to its Open Access Transmission Tariff[1] ("Tariff") to implement the Reliability Resource Initiative ("RRI").

3. As Director, Interconnection Planning, I am responsible for managing the Interconnection Projects and Interconnection Analysis departments. Collectively, these departments oversee the project management and engineering studies associated with all New Service Requests, which include Generation Interconnection Requests. As Senior Manager/Director – Dispatch, I was responsible for the oversight and operation of PJM's

[1] Capitalized terms used, but not otherwise defined, in this Affidavit have the meaning provided in, as applicable, the PJM Tariff, the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C., or the Reliability Assurance Agreement Among Load-Serving Entities in the PJM Region.

Valley Forge and Milford Control Centers. As the Manager for the Reliability Engineering group, I managed the team responsible for coordinating day-ahead and real-time operating plans among PJM, PJM Transmission Owners, and Generation Owners, and neighboring Balancing Area Authorities. As a Reliability Engineer prior to that, I performed these functions directly. In my previous engineering positions, I supported the Energy Management System and the security constrained economic dispatch application.

4. I am a licensed Professional Engineer and hold a Bachelor of Science degree in Electrical Engineering, a Master of Science degree in Electrical Engineering, and a Master of Science degree in Engineering Management, all from Drexel University.

II. PURPOSE AND OVERVIEW OF AFFIDAVIT

5. The purpose of my affidavit is to support PJM's filing of proposed Tariff revisions to implement RRI, a proposal that seeks to construct a reliability on-ramp into Transition Cycle #2. As discussed in more detail below, RRI proposes a one-time reform of PJM's Transition Period rules that would expand the eligibility criteria for Transition Cycle #2 so that additional resources may submit Generation Interconnection Requests into Transition Cycle #2.

6. The RRI Tariff revisions are intended, along with Tariff revisions to certain Capacity market, Surplus Interconnection Service, and Capacity Interconnection Rights transfer provisions PJM recently has filed or will be filing soon, to address serious resource adequacy concerns in PJM. The concerns are driven by: (a) significant growth in load, actual and anticipated, particularly from large data centers; (b) accelerated generator retirements due to age of the units and environmental concerns; (c) new resource additions being placed in service more slowly than anticipated due to supply chain, permitting,

financing, and other issues; and (d) intermittent and limited duration resources in the interconnection queue having lower reliability values based on their operating characteristics.

III. CAPACITY RESOURCES ARE NEEDED IN THE VERY NEAR TERM TO MAINTAIN SYSTEM RELIABILITY IN THE PJM REGION

7. PJM administers a Capacity market, the Reliability Pricing Model ("RPM"), to ensure that enough power is procured in future auctions, at a reasonable cost, to maintain reliable grid operations. RPM Base Residual Auctions ("BRAs") are run to procure enough Capacity to meet the reserve requirement (i.e., the amount of power that PJM forecasts will be needed for reliable operations) for the Delivery Year three years ahead. This concept of sufficient Capacity on the transmission system to maintain reliable operations is termed "resource adequacy." PJM assesses resource adequacy using Loss of Load Expectation, which is a statistical measure of reliability that measures how often, on average, the available Capacity is expected to fall short of the demand for Capacity. PJM also uses an Effective Load-Carrying Capability ("ELCC") measure for assessing the reliability value of resources, also referred to as the "capacity value" of resources. The product in the RPM Capacity market is Unforced Capacity, or UCAP, where the Unforced Capacity value is determined using the resource's forced outage rate (the percentage of time a power generation unit is unable to achieve its full operating capacity because it is either is unavailable or de-rated, typically due to an unexpected breakdown or failure).

8. PJM began a multi-year, multi-phase effort in 2021 to study the potential effects of the mix of generating resources changing from predominantly thermal (fossil fuel and nuclear) generation resources to an increasing amount of renewable resources. PJM's February 2023 paper titled *Energy Transition in PJM: Resource Retirements,*

Replacements & Risks[2] was the third in the series of white papers PJM has prepared in connection with this effort. The Four Rs Report cautioned that four trends—generator retirements, load growth, the pace of new entry, and the operating characteristics of the intermittent and limited duration resources that make up a large part of PJM's interconnection queue—pose increasing reliability risks through 2030.[3]

A. 2025/26 Delivery BRA Results

9. The results of the 2025/26 Delivery Year BRA conducted in summer 2024 bore out PJM's warnings, as supply and demand fundamentals in the BRA resulted in almost all the available Capacity clearing in the BRA (the market's supply and demand converged to the point where only 514 megawatts ("MW") of annual Unforced Capacity was offered above the PJM Region Reliability Requirement).[4] The 2025/26 Delivery Year BRA also resulted in much higher prices than had resulted from the last several BRAs.

B. 2025 Preliminary PJM Load Forecast

10. The preliminary figures for PJM's 2025 Large Load Additions report, to be released in January 2025, were posted on December 5, 2024.[5] The preliminary numbers show a remarkable increase in the forecast annualized growth rate in load by the end of this decade and into the next decade, as shown in Figures 1 and 2 below:

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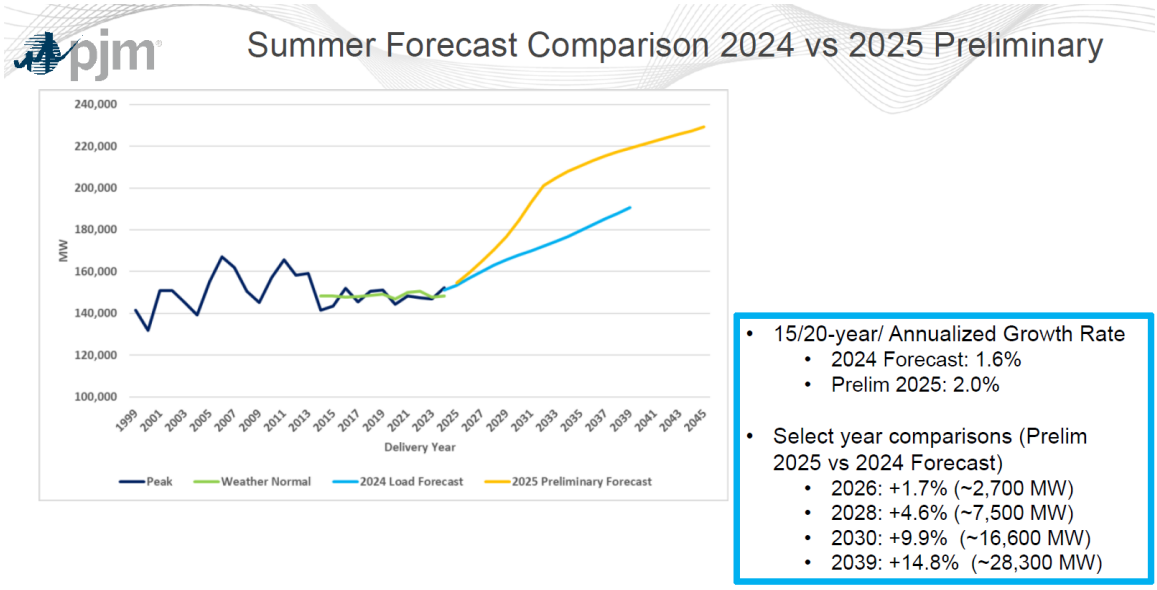
[2] *Energy Transition in PJM: Resource Retirements, Replacements & Risks*, PJM Interconnection, L.L.C. (Feb. 24, 2023), https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx ("Four Rs Report").

[3] Four Rs Report at 1.

[4] Tim Horger & Adam Keech, *2025/2026 Base Residual Auction Results*, Markets & Reliability Committee, PJM Interconnection, L.L.C., 11-12 (Aug. 21, 2024), https://www.pjm.com/-/media/DotCom/committees-groups/committees/mrc/2024/20240821/20240821-item-08---2025-2026-base-residual-auction---presentation.pdf.

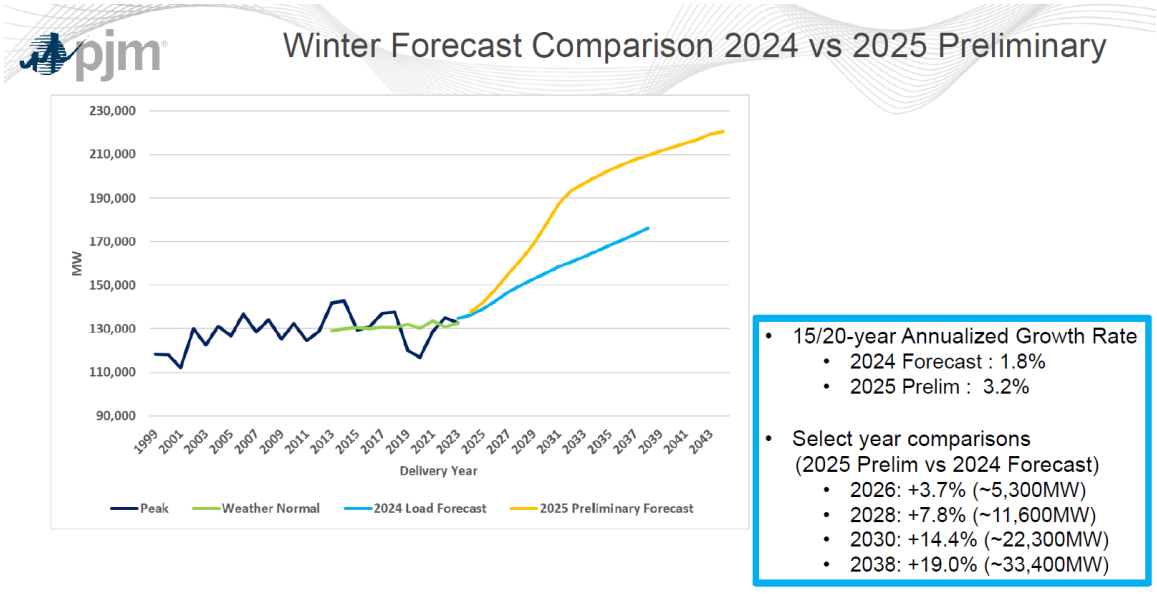
[5] Molly Mooney, *2025 Preliminary PJM Load Forecast*, PJM Interconnection, L.L.C. (Dec. 9, 2024), https://www.pjm.com/-/media/committees-groups/subcommittees/las/2024/20241209/20241209-item-03---2025-preliminary-pjm-load-forecast.ashx ("2025 Preliminary PJM Load Forecast").

FIGURE 1



Source: 2025 Preliminary PJM Load Forecast at 40.

FIGURE 2



Source: 2025 Preliminary PJM Load Forecast at 48.

The preliminary 2025 load forecast for the summer peaks over the next twenty years reflects a 9.9 percent increase in summer 2030 load over what was reflected in the 2024

Large Load Additions report, which represents approximately 16,600 MW more load. The preliminary 2025 load forecast for the winter peaks over the next twenty years reflects a 14.4 percent increase in winter 2030 load over what was reflected in the 2024 Large Load Additions report, which represents approximately 22,300 MW more load. This extraordinary increase in forecasted load growth is unprecedented and could not have been foreseen as recently as a year ago; PJM certainly could not have anticipated it in the 2020-2022 time frame in which PJM was working on its comprehensive interconnection queue reform. Based on these expectations, PJM has identified resource adequacy concerns for the 2030/31 Delivery Year in particular, projecting that the 2030/31 Delivery Year could be the point in time at which demand outstrips supply in the PJM Capacity markets.[6] My summary description of the serious issue PJM faces is, "we need UCAP and we need it fast."

C. 2024 Generator Additions

11. As of the beginning of December 2024, only 2.773 gigawatts ("GW") of new generation resources had achieved commercial operations in the PJM Region, putting PJM on track to add roughly 3 GW of new generation resources in 2024. These resources, comprising 2.6 GW of solar resources, 22 MW of battery storage resources, and 100 MW of wind resources, make up only 1.5 GW of Capacity Interconnection Rights and approximately 230 MW of Unforced Capacity.[7] While PJM expects some additional facilities to come online yet this year, the low amount of new generation capacity entering

[6] *See Energy Transition in PJM: Flexibility for the Future*, PJM Interconnection, L.L.C., 4 (June 24, 2024), https://www.pjm.com/-/media/library/reports-notices/special-reports/2024/20240624-energy-transition-in-pjm-flexibility-for-the-future.ashx.

[7] This determination of the amount of Unforced Capacity was calculated using the 2028/2029 Preliminary ELCC Class Ratings.

commercial operation this year, among the lowest annual amounts in PJM's experience, continues to underscore the resource adequacy issues PJM faces.

D. RRI Is Needed to Preserve Resource Adequacy in Light of These Developments

12. To mitigate the rapid pace of thermal generation resource retirements, the extreme load growth forecasted, and delays in new generation resources achieving commercial operation, all of which will have an adverse impact on resource adequacy, PJM requires a near-term solution. Ideally, that solution would be integrated into the last stage of the Transition Period between PJM's prior serial interconnection queue and its new reformed, clustered interconnection process, which is Transition Cycle #2.

13. PJM began the RRI process to develop such a solution—one that would accelerate the interconnection of "shovel ready" reliability resources, i.e., resources that are ready to commence and complete construction quickly and achieve commercial operation within one to three years of executing a Generation Interconnection Agreement ("GIA"), and would offer sizeable amounts of Unforced Capacity with higher ELCC ratings into future RPM auctions.

IV. PJM'S NEAR-TERM SOLUTION TO ADDRESS RESOURCE ADEQUACY CONCERNS AND TIMING CHALLENGES WOULD ADD SHOVEL READY PROJECTS TO THE LAST CYCLE IN THE TRANSITION PERIOD

14. Facing an exponential increase in the number of projects submitting interconnection requests, PJM in 2021 commenced an extensive stakeholder process in order to revise its interconnection procedures and, on June 14, 2022, PJM filed a comprehensive overhaul of its interconnection process to address the major shifts in the industry and tremendous increase in interconnection requests, and to shift from a serial

"first-come, first-served" queue approach to a "first-ready, first-served" Cycle approach. The Commission accepted PJM's interconnection reform filing, finding the proposed reforms to be just and reasonable.

15. The IPRTF Filing established a number of paths forward, depending on when the Interconnection Customer (now referred to as a Project Developer under the Part VII and Part VIII rules) submitted its Interconnection Request.[8] While the pre-IPRTF Tariff used two six-month queue windows each year, the post-IPRTF Tariff uses a cluster Cycle process whereby a group of projects are studied together in a single study, rather than on an individual basis in serial fashion based on the order in which the projects entered the queue. Projects that submitted Interconnection Requests in the AD2 or earlier queue windows remained subject to PJM's existing interconnection procedures. The date all Interconnection Requests submitted in the AD2 or earlier queue windows under the pre-IPRTF Tariff rules had either executed an interconnection-related service agreement or directed that such agreement be filed on an unexecuted basis established the Transition Date, marking the beginning of the Transition Period from the old interconnection process rules to the new rules.

16. The Transition Date occurred July 10, 2023. Following the Transition Date, projects that submitted valid Interconnection Requests in the AE1 through AG1 queue windows that had not been tendered an interconnection-related service agreement for execution needed to satisfy certain requirements to move forward in PJM's new interconnection process. Projects that complied with these requirements were sorted and

[8] *See PJM Interconnection, L.L.C.*, Tariff Revisions for Interconnection Process Reform, Docket No. ER22-2110-000 (June 14, 2022) ("IPRTF Filing").

assigned to either the Expedited Process or Transition Cycle #1. Projects that submitted Interconnection Requests during the AG2 and AH1 queue windows and which had not been tendered for execution an interconnection-related service agreement were assigned to Transition Cycle #2. Projects that had submitted Interconnection Requests in the AH2 or later queue windows, or that submitted Interconnection Requests under PJM's Cycle process, will be subject to PJM's Part VIII "New" rules as Cycle #1.

17. Projects in Cycle #1 under the New Rules will not have effective interconnection-related service agreements until approximately mid-2028 at the earliest and therefore likely will not be constructed and in commercial operation until 2031, which will be too late to help with the identified resource adequacy need in the 2030/31 Delivery Year, when load growth and generator retirements are expected to outstrip installed Capacity in the PJM Region, including new entry of Capacity. PJM currently projects a 10-GW gap in Capacity in the 2030/31 Delivery Year.[9] This projection assumes that 40 percent of eligible generation projects that submit an Interconnection Request will achieve commercial operation; an optimistic assumption that outpaces historical averages.[10] This projected gap in Capacity may further swell to 26 GW once the most recent load forecast is finalized and the analysis updated.

18. In contrast to Cycle #1, projects in Transition Cycle #2, the last cycle during the Transition Period, can be expected to have effective interconnection-related service agreements by approximately mid-2027 and could be constructed and in commercial

[9] Donnie Bielak, *Reliability Resource Initiative MRC Update*, Markets and Reliability Committee, PJM Interconnection, L.L.C., 7 (Nov. 7, 2024), https://www.pjm.com/-/media/committees-groups/committees/mrc/2024/20241107-special/item-04---reliability-resource-initiative---presentation.ashx.

[10] *Id.*

operation by the 2029/30 Delivery Year or sooner. PJM estimates that adding RRI Projects to Transition Cycle #2 could advance these shovel ready projects' commercial operation dates by at least 18 months, which is valuable time considering the accelerating resource adequacy challenges facing the PJM Region.

19. PJM proposes to incorporate RRI Projects in Transition Cycle #2, which would advance their interconnection by the necessary 18 months, by opening a second Transition Cycle #2 Application window for RRI Projects after the legacy Transition Cycle #2 Application window closes. After the legacy Transition Cycle #2 Application window closes, there will be a period during which PJM will review the legacy Transition Cycle #2 Applications. PJM expects to complete its review of the legacy Transition Cycle #2 Applications by mid-March 2025, although the actual completion date will depend on how many applications are received and therefore may be earlier or later than this. PJM's review of RRI Project Applications will take place within this legacy Transition Cycle #2 review period.

20. PJM chose to cap the number of RRI Projects that may enter Transition Cycle #2 to limit the RRI Projects' potential impact on legacy Transition Cycle #2 projects, but to allow nearly unrestricted applications to be considered for a spot in the RRI process. There are, however, certain minimum requirements for applicants for the RRI process. First, projects applying for the RRI process must represent a minimum of 10 megawatts of Unforced Capacity to be considered. Second, in order to have a valid Application for the RRI process, a project must provide a critical path construction schedule showing how it will achieve its commercial operation date, which must be set forth in the schedule, and a signed attestation verifying the accuracy of the information, including all dates, and

certifying that the Generation Project Developer will exercise commercially reasonable best efforts to achieve these dates. Third, a Generation Project Developer applying for the RRI process must provide an RRI Deposit in the amount of $4,000 per MW of energy or Capacity, whichever is greater; this RRI Deposit will become 50% at risk at the beginning of Phase II of Transition Cycle #2, 100% at risk when the RRI Project has a Commission-accepted and effective Generator Interconnection Agreement or Wholesale Market Participation Agreement, and will be forfeited if, at any point, the RRI Project is withdrawn or the Generator Interconnection Agreement or Wholesale Market Participation Agreement is terminated. These minimum requirements, and certain post-construction commitments I will address later in this affidavit, ensure that all RRI Projects meet the essential goals of the RRI process: to bring a significant amount of Unforced Capacity online quickly.

V. VIABILITY OF THE RRI PROCESS

21. PJM has reason to believe the RRI process will succeed in accelerating the interconnection of projects representing a substantial amount of reliable Capacity, based on expressions of interest I and others at PJM have been hearing from multiple entities. I have been tracking, unofficially, such indications of interest and have consulted with my PJM colleagues about similar conversations they have had. Although I do not have specific information on every potential project, I have received indications of projects of various sizes, locations, fuel types, and technologies, all of which could meet the RRI criteria and provide value to PJM as we attempt to thwart growing resource adequacy concerns. Thus, I have reasonable confidence that the RRI process will attract applications from multiple projects, representing at least as much as 10 GW of reliable resources for the PJM Region.

VI. IMPACT OF THE RRI PROCESS ON TRANSITION CYCLE #2

22. There currently are approximately 1,059 projects that may apply to be studied in Transition Cycle #2 under the existing Tariff, Part VII rules. PJM does not know yet how many of the projects eligible to be studied in Transition Cycle #2 will apply and, of those projects that apply and are determined to have a valid Application, how many will remain in the interconnection process. Because of this uncertainty as to the number of legacy Transition Cycle #2 projects that will enter and ultimately remain in the process and the uncertainty as to how many RRI Projects will result from this proposal, PJM has not been able to perform a study of the legacy Transition Cycle #2 projects to determine if the addition of RRI Projects to Transition Cycle #2 would materially increase congestion and reliability violations for this Cycle.

23. In any event, the proposal advanced by some stakeholders for PJM to "hold harmless" legacy Transition Cycle #2 projects from increased Network Upgrade costs that could be caused by RRI Projects is simply not practicable. Stakeholders suggest PJM could study Transition Cycle #2 with and without the RRI Projects and allocate any increase in Network Upgrade costs found in the studies of Transition Cycle #2 with the RRI Projects included. But stakeholders fail to recognize that the comparison of Transition Cycle #2 with and without the RRI Projects is not a study that is performed only one time. Rather, stakeholders' proposed hold harmless requirement and its associated study would require PJM *and* the PJM Transmission Owners to study Transition Cycle #2 twice at each of the three Phases, identifying overloaded facilities, mitigating those overloads, developing cost estimates, and performing cost allocation at each phase, which would likely add nine months to the Transition Cycle #2 studies. This would delay GIA issuance for all included

in Transition Cycle #2 by nine months, and delay the start of Cycle #1 by nine months as well. Such delays are in no one's interest at a time when new resources are sorely needed.

VII. SCORING AND WEIGHTING TO DETERMINE THE TOP 50 RRI PROJECTS

24. PJM has developed seven RRI scoring categories, broken into two groups of criteria for Market Impact and Commercial Operation Date Viability. The Market Impact criteria are weighted more heavily, at almost two-thirds of the available points, 65 out of 100, because the RRI is driven by the need for more Unforced Capacity in the PJM Capacity market to ensure resource adequacy. Because that Unforced Capacity is needed soon, the other 35 points are allocated to indicators that the projects can be tendered GIAs, be constructed, and then placed into service quickly. PJM developed the scoring criteria and weighting by running them against a large sample set multiple times, fine tuning them with each run to ensure they were not biasing results toward one type of resource or another. PJM recognizes that there are several types of projects that would provide resource adequacy value and, in part based on stakeholder feedback, crafted the scoring criteria and weighting to capture a diverse group of projects.

25. The first category under the Market Impact criteria is Unforced Capacity. This category measures a prospective RRI Project's overall contribution to resource adequacy by looking at the amount of Unforced Capacity a project will provide and by factoring in the ELCC rating because more megawatts at a higher ELCC rating means more impact per megawatt and per project. PJM assigned this category considerable weight (over one-third of the available points at 35 out of 100 points, the highest weight for a single scoring category) because having more Unforced Capacity present in the PJM Region to provide resource adequacy is the impetus for RRI.

26. The second category under the Market Impact criteria is the "RRI ELCC Class Rating" on its own. Although it may seem duplicative to have ELCC represented twice in the scoring and weighting, ELCC ratings on their own (as opposed to as a factor in the Unforced Capacity measure) are indicative of a project's reliability profile, i.e., the higher the ELCC rating, the more likely the resource will be available to operate when it is needed for system reliability. Given the importance of reliable Capacity resources, PJM assigned the ELCC category 20 points, the second highest weight for a single scoring category.

27. The third category under the Market Impact criteria is Location, which provides 10 points to prospective RRI Projects that would locate in the Baltimore Gas & Electric Company Locational Deliverability Area ("LDA") or the Dominion LDA. PJM is providing what is essentially a 10-point adder for projects that would locate in one of these two LDAs because they experienced much higher prices than other LDAs in the BRA for the 2025/26 Delivery Year due to a scarcity of Capacity in those LDAs. This 10-point adder (in addition, of course, to the higher Capacity prices) should encourage reliable resources to locate in those LDAs. The connection between location and market prices explains why location is the third category of Market Impact criteria.

28. The Commercial Operation Date is the first category under the Commercial Operation Date Viability criteria and is weighted at 10 points. RRI Projects are required to provide a schedule supporting their planned commercial operation date, with that date serving as the basis for this category's scoring value. The schedule is required to be supported by an attestation of an officer. PJM chose to handle the constructability and commercial operation date aspect of RRI Projects through this weighted scoring construct,

rather than having a cut off in-service date after which a project would not be eligible for the RRI process, because PJM sees value in projects which may not be able to come online before 2031 and so receive zero points in this category, but otherwise score highly, i.e., the project provides a significant amount of Unforced Capacity and has a high ELCC rating. PJM would like to see such projects get underway using the RRI process, even if they may not be in service until 2031 or later.

29. The second category under the Commercial Operation Date Viability criteria is Project Support, which is weighted at 10 points. Prospective RRI Projects will receive a base score of zero to one based on receiving 0.25 points in base score for having demonstrated they have the following: (1) permits; (2) an engineering, procurement and construction agreement; (3) major equipment; and (4) financing, if necessary. A Project Developer can demonstrate that it will finance a project on its own or can show that it has obtained third-party financing. PJM will accept and include in its analysis of the Project Support category input from state agencies as to particular state permitting and siting issues and timing associated with specific projects.

30. The third category under the Commercial Operation Date Viability criteria is the RRI Uprate category. The RRI Uprate category provides up to 10 points based on whether a prospective RRI Project is an uprate to a Base Project already in commercial operation or that has an effective interconnection-related service agreement or is being studied already. These projects generally can be brought online quickly because they already have the necessary physical interconnection facilities. This also means they are not likely to take as long or cost as much to be interconnected so they can achieve

commercial operation quickly after they have an interconnection-related service agreement.

31. The fourth category under the Commercial Operation Date Viability criteria is Headroom, which is weighted at five points. Under this category, PJM will perform flowgate analyses, using the project's Point of Interconnection, to determine what reliability violations a prospective RRI Project may cause and determine a project's violation points based on how many violations it triggers and at what voltage levels. The fewer Network Upgrades a project is anticipated to have based on this analysis, the faster a project will likely get through the interconnection process, at a lower cost, and with a lower risk of dropping out of the interconnection process. Fewer Network Upgrades also indicates the project likely will have a lower impact on legacy Transition Cycle #2 projects.

32. PJM crafted the scoring criteria and categories, and the weightings they were given, to ensure that its evaluation of RRI Project applications would be as transparent as possible, objective, and resource neutral. The base scores for categories are assigned based on objective, numerical attributes, such as commercial operation dates or Unforced Capacity amounts, and the weightings were assigned consistent with the RRI objectives of interconnecting more reliable Unforced Capacity more quickly.

33. The objectivity of the scoring ensures that projects will be scored consistently, with similarly situated projects achieving the same or similar scores. The RRI scoring and weighting also will allow smaller projects to compete against larger projects and intermittent or limited-duration projects to compete against thermal projects.

VIII. RPM AUCTION COMMITMENT

34. The RRI process includes a pair of requirements that extend for 10 consecutive Delivery Years from an RRI Project's commercial operation date. The first 10-year requirement precludes an RRI Project from changing its fuel type(s), Maximum Facility Output, and Capacity Interconnection Rights any earlier than the conclusion of the tenth consecutive Delivery Year after the project's in-service date. This restriction is intended to prevent gaming, as would occur if a Project Developer submitted one type of project to gain entry into Transition Cycle #2 and later altered the scope of its project to lower the Unforced Capacity or ELCC rating of the project. The second requirement is that an RRI Project Developer must offer its Capacity into the RPM auctions for 10 consecutive BRAs for Delivery Years after its in-service date; this requirement is intended to ensure that an RRI Project that gains access to Transition Cycle #2 through the RRI process meets the goals of the RRI process by offering its Capacity in the PJM Capacity market. Ten years seems to be a commitment period with which stakeholders are comfortable, and this period will get PJM past the impending problem in the near term of the 2028/29 to 2031/32 Delivery Years. After the Transition Period ends and the RRI process sunsets, PJM will have a fully open Cycle process that should allow generation projects to interconnect quickly to meet PJM's resource adequacy needs.

IX. OTHER PROVISIONS OF RRI

35. RRI Projects would agree to waive the one-year extension of milestones a Project Developer may invoke under a GIA for any milestone but a Site Control milestone.[11] This restriction on easily delaying the commercial operation date of a project

[11] This provision appears in section 6.5 of PJM's pro forma GIA set forth in Tariff, Part IX, Subpart B.

is consistent with the goals of the RRI process and means the Project Developer has "skin in the game," i.e., bears some additional risk in bringing its project to market.

X. CONCLUSION

36. This concludes my affidavit.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.) Docket No. ER25-___-000

VERIFICATION

I, Donald Bielak, pursuant to 28 U.S.C. § 1746, state, under penalty of perjury, that I am the Donald Bielak referred to in the foregoing "Affidavit of Donald Bielak, P.E. 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.

Signed by:
1EDA85882B4B46F...
Donald Bielak

Executed on: 12/12/2024

UNITED STATES OF AMERICA
BEFORE THE
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PJM Interconnection, L.L.C.) Docket No. ER25-___-000

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Signed by:
1EDA85882B4B46F...
Donald Bielak

Executed on: 1/30/2025