UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Improvements to Generator Interconnection Procedures and Agreements	)))	Docket No. RM22-14-000

INITIAL COMMENTS OF PJM INTERCONNECTION, L.L.C.

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PJM Interconnection, L.L.C. ("PJM")[1] submits the following initial comments ("Comments") in response to the Notice of Proposed Rulemaking ("NOPR") issued by the Federal Energy Regulatory Commission ("Commission") on June 16, 2022.[2] PJM appreciates the opportunity to comment on the myriad issues and questions raised in the NOPR.

PJM agrees that reforms to the Commission's standard generator interconnection processes and agreements[3] are necessary to ensure reliable, efficient, and timely interconnection of resources at a time when the volume of resources seeking to interconnect to the transmission grid is increasing exponentially. PJM supports many of the Commission's general conclusions and proposed reforms set forth in the NOPR and, as will be explained below, PJM has already acted to implement many of the reforms proposed in the NOPR, initiating a stakeholder process in October 2020 to arrive at a

[1] PJM is an independent regional transmission organization ("RTO") that coordinates the movement of wholesale electricity for systems that serve approximately 65 million customers in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. PJM's more than 1,040 members/customers include power generators, transmission owners, electricity distributors, power marketers, and large consumers. PJM operates one of the world's largest centrally dispatched grids. PJM dispatches approximately 185,000 megawatts ("MW") of generating capacity over more than 85,000 miles of transmission lines.

[2] *Improvements to Generator Interconnection Procedures and Agreements*, Notice of Proposed Rulemaking, 179 FERC ¶ 61,194 (2022) ("NOPR").

[3] These include the *pro forma* Large Generator Interconnection Procedures ("LGIP"), *pro forma* Small Generator Interconnection Procedures ("SGIP"), *pro forma* Large Generator Interconnection Agreement ("LGIA"), and *pro forma* Small Generator Interconnection Agreement.

comprehensive set of interconnection reforms, which PJM filed with the Commission on June 14, 2022.[4] Those reforms received significant support from all sectors, including interconnection customers, and received a sector weighted vote in their favor of 4.368 out of a total of 5.00 at PJM's Markets and Reliability Committee and a sector weighted vote in their favor of 4.518 out of a total of 5.00 at PJM's Members Committee.

The Commission made clear in the NOPR that this rulemaking proceeding is not intended to "divert or slow down the potential progress" of ongoing queue reform efforts.[5] Therefore, the Commission should ensure its efforts to reform its existing interconnection policies do not work to delay or complicate implementation of the reforms set forth in the June 14 Filing. To ensure that this goal is met, the Commission needs to be mindful that the current reform efforts underway in a number of regions (including PJM's pending June 14 Filing) all allow for a transition process that would address the existing backlog, and it is critical to allow those transition mechanisms to proceed as intended, to effectively clear the backlog. Disturbing those Commission authorized transition processes (or transition processes for which approval has been requested) by imposing a compliance obligation that will affect those transition processes while they are ongoing will only further aggravate the existing backlog that each RTO is addressing. For this reason, PJM proposes in these comments a process that would allow those Commission-approved queue reform processes and associated transition processes to continue and reforms to be timely implemented,

[4] *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, Docket No. ER22-2110-000 (June 14, 2022) ("June 14 Filing"). The June 14 Filing, which represents an extraordinary effort of PJM and its stakeholders and which received tremendous stakeholder support, includes many of the reforms proposed in the NOPR and should be accepted as just and reasonable, not unduly discriminatory, and compliant with a final rule in this rulemaking proceeding.

[5] NOPR at P 6. The Commission added, "[w]e will review any filings that result from those efforts based on the record before us in those proceedings and not based on whether they comply with the proposed reforms in this NOPR." *Id.*

while also allowing PJM and other RTOs to come into compliance with any final rule. This staged compliance process is in line with past Commission decisions.[6] It also will avoid casting doubt on the transition processes while any independent entity variation filing is awaiting a decision. For these reasons, PJM believes its proposed compliance process not only complements the independent entity variation process but is a necessary addition to the independent entity variation process, since PJM and other RTOs will need to provide certainty to interconnection customers who are awaiting the results of the complex transition process embodied in their own pending or Commission-approved FPA section 205 filings.

In addition, while PJM supports many of the underlying concepts and proposed reforms in the NOPR, PJM opposes certain specific aspects of the NOPR, such as the proposed elimination of the Reasonable Efforts standard, the imposition of penalties, the addition of multiple optional or resource planning studies, and the latitude the NOPR would allow project developers to change their projects after entering the interconnection process. As detailed below, certain of the enumerated reforms are at odds with the focus on facilitating the timely processing of interconnection requests and therefore by definition are at odds with requirements for meeting strict tariff deadlines (and the imposition of penalties for any such missed deadlines). Certain of the NOPR's proposals, although

[6] *See, e.g., Preventing Undue Discrimination and Preference*, Order No. 890, 118 FERC ¶ 61,119, at P 135 (adopting a two-tiered implementation process of the final rule, with requirements for RTOs/independent system operators ("ISOs") and owners of facilities in RTOs/ISOs that differ from the requirements for transmission providers that have not been approved as RTOs/ISOs and owners of facilities that are not in RTOs/ISOs), *order on reh'g*, Order No. 890-A, 121 FERC ¶ 61,297 (2007), *order on reh'g & clarification*, Order No. 890-B, 123 FERC ¶ 61,229 (2008), *order on reh'g and clarification*, Order No. 890-C, 126 FERC ¶ 61,228, *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009). PJM refers to this as "staged" compliance since, for regions of the country that would not be in the midst of Commission-approved transitions at the time when a compliance filing would be due, the Commission could employ a more aggressive compliance schedule. Such an approach would recognize the different stages of development of interconnection reforms around the country and help effectuate the Commission's stated desire not to disrupt ongoing reforms.

potentially acceptable in a world with no strict deadlines and unlimited RTO and transmission owner resources, are antithetical to and work directly against the Commission's desire for a timely and efficient interconnection process.

I. EXECUTIVE SUMMARY

A. PJM's Proposed Reforms and Their Relationship to the NOPR

PJM agrees there is a critical need to reform generator interconnection processes. For that reason, PJM submitted its June 14 Filing to the Commission, proposing a comprehensive overhaul of its interconnection process that was the result of an 18-month stakeholder process. PJM proposed to move to a first-ready, first-served, clustered process that includes many of the features proposed in the NOPR, but with region-specific differences and improvements. The June 14 Filing, if approved, will assist PJM in clearing its backlog of interconnection studies and accomplish the NOPR's goals of interconnecting new renewable resources to the transmission system in an efficient and timely fashion. PJM therefore proposes that the Commission hold in abeyance the compliance filing obligations of any final rule in this proceeding for RTOs such as PJM that are transitioning under an approved transition mechanism until the RTOs have completed that transition. This staged approach to the final rule's compliance obligations will allow PJM and other RTOs that are similarly situated (i.e., organizations and their stakeholders that have made the effort to reform their interconnection procedures and are in the process of implementing those reforms) to complete their implementation of interconnection reforms and then establish their compliance with the final rule in this proceeding.

PJM and its stakeholders debated numerous permutations of a reformed interconnection process, including many of the elements proposed in the NOPR, such as allowing interconnection customers to choose whether to proceed in the transition from the

existing interconnection process to the reformed interconnection process on a serial basis or a clustered basis. After a stakeholder process that encompassed over 18 months, PJM and its stakeholders ultimately prioritized rules and requirements that would provide certainty and more efficient and expeditious interconnection request processing over rules allowing flexibility in the interconnection process, such as the choice to make the transition on a serial or clustered basis.

B. Need for a Compliance Process That Does Not Complicate Timely Completion of Proposed Transition Processes that Address Existing Backlogs

PJM has concerns that some of the NOPR's proposed elements will not facilitate faster and more efficient queue processing but will instead inject more uncertainty and/or slow down processing of interconnection requests. Moreover, requiring PJM to implement the NOPR's reforms while PJM works to resolve its backlog of interconnection requests under PJM's proposed transition rules would complicate and bring into doubt interconnection related agreements finalized as part of the transition. In short, moving through and finalizing the transition is integral to addressing the backlog that currently exists. Thus, any compliance obligations coming out of the Final Rule should be staged so as not to affect the timely completion of the transition[7].

C. Impact of Project Modification and Optional Studies Proposals

Further, the NOPR's proposals to allow project modifications at any time and to require transmission providers to conduct various optional studies will impose a cost, in the form of delays and uncertainty, on generator interconnection processes. PJM submits

[7] Moreover, as noted above, this issue cannot simply be put off to the process for seeking an independent entity variation. All parties in the transition need certainty as to the transition rules and results. Should the application of the final rule to projects in the transition process be in doubt while a petition for an independent entity variation works through a prolonged regulatory process, a cloud will be placed over the transition at the very time it is supposed to provide timely and final results and agreements to interconnection customers.

that encouraging flexibility and optionality for project developers at the expense of certainty and an efficient and timely interconnection process would be harmful to the electric industry and contrary to public policy.[8] Increased study obligations and opportunities for project modification, which will slow down the study process, are particularly ill-advised when the Commission also proposes to eliminate the Reasonable Efforts standard and impose automatic penalties for study delays.

The NOPR's proposals intended to provide operating flexibility or more information for resource procurement purposes[9] would, at a minimum, tie up scarce resources by requiring PJM and transmission owners in the PJM Region to perform multiple additional studies. Worse, such studies would provide little benefit to interconnection customers or resource planning entities because the additional studies the NOPR proposes would be outside the interconnection process and thus not binding in the interconnection process, and would be unrealistic or incomplete because they would focus on single projects or small groups of projects instead of the current Cycle or cluster of projects being studied in the interconnection process. PJM urges the Commission to focus

[8] Timeliness and efficiency of the interconnection process are bedrock principles articulated by the Commission since its adoption of pro forma procedures. *See Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 104 FERC ¶ 61,103, at PP 10-11 (2003) ("[I]t has become apparent that the case-by-case approach is an inadequate and inefficient means to address interconnection issues. . . . [R]elatively unencumbered entry into the market is necessary for competitive markets."), *order on reh'g*, Order No. 2003-A, 106 FERC ¶ 61,220, *order on reh'g*, Order No. 2003-B, 109 FERC ¶ 61,287 (2004), *order on reh'g*, Order No. 2003-C, 111 FERC ¶ 61,401 (2005), *aff'd sub nom. Nat'l Ass'n of Regul. Util. Comm'rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007), *cert. denied*, 552 U.S. 1230 (2008); *see also Southwest Power Pool, Inc.*, 126 FERC ¶ 61,012, at P 37 (2009) ("We find that clearing the current interconnection queue backlog will promote a more efficient and timely interconnection study process in the future . . . ."); *Pub. Serv. Co. of N.M.*, 136 FERC ¶ 61,231 at P 72 (2011) ("[A]ccepting Public Service Company of New Mexico's revised LGIP as a long-term methodology will benefit customers because it will promote a more efficient and timely process . . . ."). The NOPR itself describes the purpose of the proposed reforms as being: "to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner." NOPR at P 3.

[9] *See* NOPR at PP 42-48 (optional informational interconnection study) & 223-37 (optional resource solicitation study).

on streamlining and expediting interconnection processes without adding additional studies and leeway for interconnection customers, which will only add delays to the interconnection process in return for little to no benefit. To be blunt, transmission providers' role is to study and interconnect viable, real generation projects in an efficient and timely fashion for a reliable transmission system. Transmission providers should not be required to serve as consultants for project developers, assisting them to study multiple project permutations and options to ascertain whether a project, or any variation on such project, is economically viable. PJM submits that the better way to accomplish the Commission's goals for providing project developers with additional information is to require transmission providers to make screening tools and study models and results publicly available, as PJM proposes to do in the manner outlined in these Comments.

D. The NOPR's Proposal for Imposing Penalties on a Strict Liability Basis and PJM's Proposed Alternative

PJM joins in the comments being filed by the ISO/RTO Council ("IRC" and "IRC Comments") outlining the jurisdictional RTOs' and ISOs' concerns with, and detailing the unintended consequences of, the Commission's proposal to both eliminate the Reasonable Efforts standard and at the same time to impose penalties on a strict liability basis. While certain of the NOPR's proposals, such as automatic penalties for delays in completing studies and elimination of the Reasonable Efforts standard, may seem to be useful tools to reduce study delays because they incentivize timely completion of studies, they are more likely to have adverse effects. Proposals such as automatic penalties for study delays and blanket elimination of the Reasonable Efforts standard will not help transmission providers manage the present overwhelming queue volume because they do not get to the root of the delays. These measures also may result in either the relevant transmission owners or load

being forced to absorb or pay costs on a strict liability basis, regardless of the cause for the delays. Further, the Commission's proposed penalties may compromise reliability by forcing transmission providers to prioritize speed over accuracy and are likely to be counterproductive as they introduce additional administrative burdens to track compliance and calculate and assess penalties, which simply will cause more delay.

Worse, it is not apparent that the proposed penalties are measuring the right metric or doing so at the correct point in time. The transmission provider and the transmission owners do not know the amount of engineering that will be required to complete the studies for a phase of a cluster until the population and composition of projects for that phase is known, including not just how many projects will be in the cluster or phase of the cluster, but where those projects will be located, their fuel types, and the strength of the grid in the projects' locations.

If the Commission nevertheless chooses to impose penalties on transmission providers for study delays, PJM submits in these Comments a more balanced alternative that would first focus on a transmission provider's assessment of the size and corresponding difficulties of processing a particular queue (rather than adhering to deadlines irrespective of the size and complexity of the queue). The PJM proposal would establish tolerance bands for delays and focus on process improvement reporting to the Commission, with penalties potentially established after due process, based on misfeasance or malfeasance by the transmission provider in carrying out the specific process improvements.

As noted in the IRC Comments, various RTOs may propose different alternatives to the Commission's proposal. Although PJM believes its proposal is balanced and reasonable, PJM recognizes that this entire issue merits further vetting and review and

should not be decided based solely on written comments. PJM therefore urges the Commission to reserve this issue for further discussion and workshops before it is embodied in any final rule in this proceeding.

II. BACKGROUND

As an RTO, PJM is responsible for planning the expansion and enhancement of the PJM Transmission System on a regional basis, which includes administering the interconnection of new generation and transmission facilities through its New Service Request process. In its June 14 Filing, PJM proposed reforms to its interconnection process, including:

- Moving from a serial queue process to a first-ready, first-served clustered Cycle process for both studies and cost allocation;
- Implementation of multiple Decision Points at which Project Developers and other parties seeking interconnection-related services will need to provide Readiness Deposits and meet other threshold requirements to move forward, thus permitting projects that are ready to progress, while incentivizing projects that are not ready to exit the interconnection process; and
- A transition mechanism to ensure a timely transition to the new "first-ready, first-served" Cycle approach while providing an expedited process for projects in the existing interconnection queue that meet certain threshold requirements (the "Expedited Process").[10]

The reforms proposed in the June 14 Filing were vetted and negotiated in an extensive stakeholder process that commenced in October 2020.[11] This stakeholder process involved 20 Interconnection Process Reform Task Force meetings, which occupied almost 100 hours, and represented significant stakeholder engagement, with 290 PJM Member Companies and 545 total companies participating in the December 2021 polling

[10] June 14 Filing at 1-2 (presenting overview of filing).

[11] *Id.*, Attachment C ¶ 17 (Affidavit of Jason P. Connell on Behalf of PJM Interconnection, L.L.C. ("Connell Aff.")).

on the New Rules solution package.[12] After this extended process of thoroughly vetting reform proposals and amendments, with compromise and consensus resulting in a single solutions package, the reforms developed through this stakeholder process received tremendous support in a sector weighted vote in their favor of 4.368 out of a total of 5.00 at PJM's Markets and Reliability Committee and a sector weighted vote in their favor of 4.518 out of a total of 5.00 at PJM's Members Committee.[13] Both vote totals exceed the two-third weighted sector threshold of 3.33 needed for approval and represent one of the highest levels of stakeholder support across all the PJM stakeholder sectors to be achieved in a PJM stakeholder process.[14]

In addition to the significant support the proposed interconnection process reforms received in the stakeholder process, the comments on the June 14 Filing have been generally positive and in favor of the proposed PJM Open Access Transmission Tariff ("Tariff") revisions and additions. Most, if not all, parties agree that reform is needed, and quickly. There has been little or no objection to most of the New Rules, including the shift from a serial process to a cluster process with three phases, Decision Points, and Readiness Deposits. Indeed, most commenters, including the Organization of PJM States, Inc. ("OPSI") and the Public Utilities Commission of Ohio's Office of the Federal Energy Advocate, support the June 14 Filing in whole or in part, with OPSI stating, "[i]mmediate implementation of PJM's proposed process reforms is the best option, at this point, for

[12] Connell Aff. ¶¶ 18, 20.

[13] *Id*. ¶ 23.

[14] June 14 Filing at 2.

ensuring the constructability of generation resources that provide economic and environmental benefits."[15]

III. COMMENTS

A. The Commission Should Allow Transmission Providers Moving to Reformed Interconnection Processes to Complete Their Transition Periods Before Being Required to Comply with a Final Rule in this Proceeding

Considering the substantial efforts PJM and its stakeholders have made to develop a consensus proposal that reflects debate over various approaches to, and elements of, interconnection process reform and received overwhelming support, PJM respectfully requests that any Final Rule issued in this proceeding hold in abeyance the compliance obligations for RTOs such as PJM that are in the midst of a Commission-approved transition, so as to ensure that there is not a cloud on the processing of interconnection requests or agreements being negotiated in the transition. The PJM transition mechanism, defined in great detail in the June 14 Filing, specifies which units and requests would be considered, with the New Cycle application review expected to begin in the first quarter of 2026.[16] Allowing the transition to move forward undisturbed by any compliance obligations during that period will allow the transition to proceed as intended and

[15] *PJM Interconnection, L.L.C.*, Comments of the Organization of PJM States, Inc., Docket No. ER22-2110-000, at 1, 4-5 (July 14, 2022); *see also PJM Interconnection, L.L.C.*, Comments of the Public Utilities Commission of Ohio's Office of the Federal Energy Advocate, Docket No. ER22-2110-000, at 3-9 (July 14, 2022) (indicating that it "supports PJM's measures to improve its interconnection process and address the significant queue backlog" and urging the Commission to act quickly to accept the June 14 Filing); *PJM Interconnection, L.L.C.*, Comments of the American Clean Power Association, Docket No. ER22-2110-000, at 1 (July 14 2022) (stating the "reforms are thus well-proven, and would substantially improve upon PJM's current GIP"); *PJM Interconnection, L.L.C.*, Comments of the Indicated PJM Transmission Owners in Support of PJM's Proposal, Docket No. ER22-2110-000, at 5 (July 14, 2022) (stating the Commission should accept the June 14 Filing "as just, reasonable, and not unduly discriminatory in order to allow PJM to efficiently clear the existing interconnection study backlog and process New Service Requests"); *PJM Interconnection, L.L.C.*, Comments in Support of Pine Gate Renewables, LLC and Cypress Creek Renewables, LLC, Docket No. ER22-2110-000, at 1 (July 14, 2022) (stating they support the June 14 Filing and urging the Commission to accept the "comprehensive and necessary reform" set forth therein).

[16] *See* June 14 Filing at 30, figure 9.

significantly aid efforts to clear the current interconnection backlog. PJM's staged compliance proposal will allow the RTOs to address their existing backlog of interconnection requests under the procedures they have developed and the Commission has approved, without introducing undue complexities by overlaying modifications resulting from a final rule in this proceeding. When they have completed their transition to their reformed interconnection processes, the RTOs can evaluate whether to adopt the final rule's reforms or demonstrate that their reforms are superior.[17]

B. The Commission Should Focus on Modifications to the LGIP and LGIA That Will Allow Transmission Providers to Manage the Volume of Projects in the Interconnection Process and Cut Down on Delays and Study Backlogs

The most significant challenges to interconnection processes right now are unmanageable volumes of projects in the interconnection process and delays in processing of interconnection requests, caused not only by the extraordinarily high volume of interconnection requests but also by interconnection customers withdrawing speculative or non-viable projects or making permitted changes to their projects at late stages of the interconnection process, necessitating restudies of the remaining projects in the queue, which are followed by further withdrawals, which trigger more restudies, in a cascade of impacts.[18] Thus, PJM and its stakeholders focused on interconnection reforms that would reduce the volume of speculative or non-viable projects in the interconnection process and put "guard rails" around changes to projects, in order to reduce study delays.

[17] Moreover, as noted above, this issue cannot simply be put off to the process for seeking an independent entity variation. All parties in the transition need certainty as to the transition rules and results. Should the application of the Final Rule to the transition projects be in doubt while the independent entity variation petition works through a potentially elongated regulatory process, a cloud will be placed over the transition at the very time it is supposed to provide timely and final results and agreements to interconnection customers.

[18] June 14 Filing at 5-6, 23-24 & Connell Aff. ¶¶ 10-13,

Similar to the NOPR's proposals, PJM proposes to manage the volume of interconnection requests in its process by tightening the requirements to enter and remain in the interconnection process.[19] PJM also proposes to reduce study delays by clustering projects for purposes of both studies and cost allocation and moving the cluster through a three-phase process with established Decision Points, which provide a controlled time at which developers may make project modifications, as well as providing defined "off ramps" for projects that meet the requirements to proceed immediately to the service agreement stage.[20] The June 14 Filing's proposals are generally consistent with the NOPR's proposal, including a first-ready, first-served clustered approach and heightened requirements to enter into and remain in the interconnection process.

PJM and its stakeholders developed a package that exchanges some elements of flexibility (e.g., the ability to change certain project attributes after the initial application phase) for quick and efficient processing of interconnection requests. This tradeoff is critical to managing the high volume of interconnection requests and avoiding cascading retool study delays, in order to bring renewable resources online in accordance with federal and state policies implemented through renewable portfolio standards, tax incentives, and net metering programs.[21]

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[19] *Id.* at 7, 28-29 & Connell Aff. ¶¶ 26-27.

[20] June 14 Filing at 8, 34-35, 60-61 & Connell Aff. ¶¶ 25, 27.

[21] *See, e.g.*, *Energy Transition in PJM: Frameworks for Analysis*, PJM Interconnection, L.L.C. 21 (Dec. 15, 2021), https://www.pjm.com/-/media/library/reports-notices/special-reports/2021/20211215-energy-transition-in-pjm-frameworks-for-analysis.ashx ("PJM serves a region made up of diverse states with complex policies impacting the bulk electric power grid. These policies take many shapes, such as RPS, zero-emission credits, carbon cap-and-invest programs, energy efficiency incentives, electrification goals and offshore wind auctions. Cumulatively, these policies are driving the next energy transition in PJM, marked by an increase in renewable generation and energy storage, along with retirements of traditional thermal generation."); Marlene Motyka, et al., *2022 Renewable Energy Industry Outlook*, Deloitte 2 (Nov. 17, 2021), https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-eri-renewable-energy-outlook-2022.pdf ("Cities, states, and utilities continued to take action to power the transition to renewable energy, with several setting ambitious clean energy goals, increasing renewable portfolio standards, and

PJM submits that its focus on certainty and efficiency will reduce overwhelming volumes of interconnection requests and study delays more effectively than certain measures proposed in the NOPR, such as the proposed additional studies and opportunities for modification of interconnection requests, which will only complicate and delay the interconnection process. Realistically, all of the features proposed in the NOPR cannot be achieved simultaneously because many are inherently contradictory. The opportunities for interconnection customers to modify their projects and other elements of flexibility the NOPR proposes would require multiple restudies and interruptions to the orderly processing of interconnection requests and, as a consequence, would slow down the processing of interconnection requests dramatically by diverting resources away from the cluster study process. Based on PJM's extensive experience with processing a high volume of interconnection requests, unrestricted opportunities for modifications would rob the process of certainty, as modifications by one project would require restudies of other projects, which could trigger cascading withdrawals by the proponents of those other projects as the modifications of the first project produce unexpected delays or costs for the other projects.

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enacting energy storage procurement mandates. As of mid-November 2021, 48 out of 55 US large investor-owned utilities had committed to reduce carbon emissions, many by 2050 . . . . Additionally, states enacted more than 70 renewable energy and climate related policies through mid-October 2021. Renewable energy growth is poised to accelerate in 2022, as concern for climate change and support for environmental, social, and governance (ESG) considerations grow and demand for cleaner energy sources from most market segments (residential, commercial, and industrial consumers) accelerates." (citations omitted)); *id.* at 4 ("A second trend is the expansion of community solar projects to new markets in the United States. Twenty-two states, plus Washington, DC, have enabling policies for community solar."); *The Energy Credit or Energy Investment Tax Credit (ITC)*, Congressional Research Service 1 (Apr. 23, 2021), https://crsreports.congress.gov/product/pdf/IF/IF10479 ("Solar energy has a permanent 10% [investment tax credit ("ITC")]. Temporarily, the credit rate for solar was increased to 30% through 2019, before being reduced to 26% through 2022 and 22% in 2023. Investments in small wind property (a wind turbine with 100 kilowatts of capacity or less) qualified for the 30% ITC through 2019, with the credit rate reduced to 26% through 2022 and 22% in 2023.").

The better approach is to allow some flexibility, but within a structure that includes limits to reduce the delaying impact of changes. Thus, the June 14 Filing proposes Decision Points, specified times during the interconnection process, at which interconnection customers can make certain types of project modifications and decide whether or not to proceed in the process; critically, all the interconnection customers in the cluster must make their elections at the same point in time rather than piece-meal and serially.[22] The types of project modification allowed were developed with stakeholder input and were selected as modifications that would help make projects more viable. The June 14 Filing also proposed gating each Cycle from the immediately preceding Cycle, by requiring each Cycle to reach a certain late stage before the next Cycle can begin.[23] This gating will limit cascading restudies and ensure actionable and accurate study results for projects in subsequent Cycles, unaffected by previous Cycles.

For these reasons, PJM sets forth below its specific recommendations to the Commission, including areas of agreement with the proposed reforms and places where the Commission should modify its proposal.

1. First-Ready, First Served Approach

The Commission proposes to require transmission providers to adopt a first-ready, first-served approach in place of the serial, first-come, first-served approach that is a major cause of backlogs in the interconnection study process.[24] The Commission proposes a number of reforms to accomplish this, including modifying the definition of stand-alone

[22] *See* June 14 Filing at 33-36.

[23] *Id.* at 35, 49-50 & Attachment D ¶¶ 14, 35 (Affidavit of Jason R. Shoemaker on Behalf of PJM Interconnection, L.L.C. ("Shoemaker Aff.")).

[24] NOPR at PP 53, 64.

network upgrades and material modification, as well as revising or adding other definitions,[25] adding new study deposit requirements,[26] and including language stating that potential interconnection customers are encouraged but not required to use the new informational interconnection study process.[27]

PJM strongly supports the NOPR's call to adopt a cluster study process and notes the June 14 Filing was designed to accomplish just that. Thus, the June 14 Filing and this aspect of the NOPR are generally aligned, and the Commission should allow the June 14 Filing to go into effect as filed, subject to the staged compliance procedures proposed herein.

a. Gating between Cycles

The June 14 Filing proposes to adopt a gated cluster study process, whereby subsequent clusters (referred to as Cycles under the June 14 Filing) are gated (i.e., prevented from proceeding) based upon the completion of prior clusters. This serves to reduce uncertainty as to which facilities are needed for a specific cluster.[28] The gating mechanism will also protect PJM from having to address a large number of requests in one cluster while still undertaking the studies required for a prior cluster.[29] Figure 1 below shows that gating process under PJM's New Rules proposal:

[25] *Id.* at P 65.

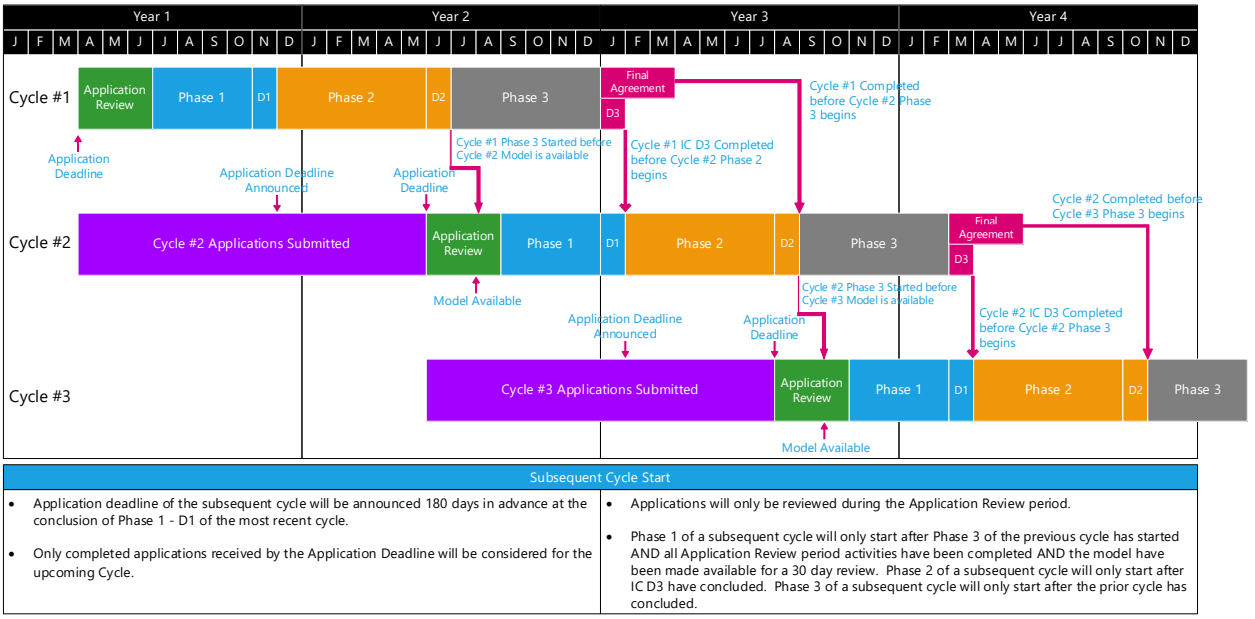
[26] *Id.* at P 66. The NOPR addresses deposit requirements at length in section III.A.6.b(1) of the NOPR, and PJM responds to those proposed requirements below.

[27] *Id.* at P 66.

[28] June 14 Filing at 30, 35 & Shoemaker Aff. ¶¶ 14-20, 35-41.

[29] *Id.* at 35.

Figure 1



The Commission should include such a gating mechanism as a component of the proposed clustered study process in the final rule that it issues in this proceeding.

b. Stand-Alone Network Upgrades

PJM supports the Commission's proposed revisions to the definition of stand-alone network upgrades[30] as this adds clarity as to the facilities subject to the Option to Build. As the Commission notes, this clarity can help avoid conflict when multiple interconnection requests trigger the need for network upgrades that would otherwise qualify as Stand-Alone Network Upgrades subject to the Option to Build.

c. Material Modifications

PJM also supports the Commission proposal[31] to modify the definition of material modification to include modifications that have any material impact on the costs or timing

[30] *See* NOPR at P 65.

[31] *Id.* at P 66.

on an interconnection request within the same cluster. However, PJM opposes the NOPR's proposal regarding changes to a project's point of interconnection, in which moving the point of interconnection would result in loss of priority or place in the interconnection process position *only* if the transmission provider determines it to be a material modification.[32] There is little ambiguity or need to study the materiality of a change in a project's point of interconnection: each such change requires analysis and the application of engineering judgment, which takes time away from processing interconnection requests and performing the cluster study. In addition, each such change represents a project developer seeking to optimize its project in mid-process, rather than performing its due diligence before entering the interconnection process, and comes at the expense of other projects in the process. Rather than allowing unrestricted project modifications, the Commission should restrict the ability to modify projects after the initial application and, as the June 14 Filing proposes, allow an interconnection customer to move its point of interconnection only in certain limited instances and allow other specified modifications from the interconnection customer's interconnection request only at certain specified times,[33] so as to avoid restudies and study delays.

Moreover, allowing such changes is contrary to the first-ready, first-served principles of PJM's and the Commission's proposed interconnection reforms. To be

[32] *Id.* at P 71.

[33] Specifically, at Decision Points I and II a Project Developer cannot request a modification that is not expressly allowed and can only move the location of its point of interconnection at Decision Point I if the move is along the same segment of transmission line, as defined by the two electrical nodes located on the transmission line as modeled in the Phase I Base Case Data, or to a different breaker position within the same substation, subject to review and approval by PJM; a Project Developer cannot move its point of interconnection at Decision Point II. June 14 Filing, Attachment A proposed Tariff, Part VII, Subpart D, sections 309(B)(1), (4) and 311(B)(1), (4) & Part VIII, Subpart C, sections 405(B)(1), (4) and 408(B)(1), (4) ("Proposed Tariff"). No changes are allowed at Decision Point III. Proposed Tariff, Part VII, Subpart C, section 313(C) & Part VII, Subpart C, section 410(C).

considered ready, a project developer should have determined its point of interconnection by the time it submits its interconnection request. Changing a point of interconnection can cause the need for restudies; an interconnection customer should not be permitted to impose delays on other interconnection customers in a cluster because it is not able to finalize its point of interconnection.

d. Requiring the informational interconnection study

PJM opposes the proposed requirement that the LGIP be required to encourage but not require interconnection customers evaluating different options for their projects, such as different sizes, sites, or voltages, to use the new informational interconnection study prior to submitting an interconnection request,[34] because PJM opposes the proposed informational interconnection study itself, for the reasons stated *infra* in section III.C.1. However, it would be reasonable to include a provision in the LGIP encouraging but not requiring interconnection customers evaluating different options for their projects to use the appropriate prescreening tool, such as the "Queue Scope" tool PJM is developing, prior to submitting an interconnection request.[35] The Commission could modify the proposed LGIP, section 3.1.2, last sentence of the first paragraph, as follows:

> Interconnection Customers evaluating different options (such as different sizes, sites, or voltages) are encouraged but not required to use the prescreening tool ~~Informational Interconnection Study~~ (Section 6.1 of this LGIP) before entering the Cluster Study.

e. Application period

PJM supports the NOPR's proposal that interconnection customers be required to submit an interconnection request during a specified window of time but does not support

[34] NOPR at P 66; *see also id*. at P 74 (referencing the informational interconnection study requirements).

[35] Queue Scope is an interactive prescreening tool that will allow developers to screen potential points of interconnection and assess grid capacity (head room) based on a given amount of MW injection or withdrawal at a given point of interconnection; the tool will be available at no charge. *See supra* section III.C.1

the proposed 45-day application period or an annual cluster window. These proposed periods or windows are unduly restrictive and would artificially constrain applications. Under PJM's proposed New Rules, PJM will post notice of each Cycle's application deadline at the beginning of Phase II of the prior Cycle, providing at least 180-days' notice of the application deadline for the next Cycle but, due to the gating between Cycles, not providing a set date or dates each year.[36] The 180-day period proposed by PJM allows for a longer open window period than the 45-day period set forth in the NOPR, which affords greater opportunity for interconnection customers to submit their interconnection requests. Also, an annual application window would not work with a gating process between clusters, which is necessary for the orderly processing of an interconnection process, because the gating mechanism does not artificially constrain the start or end dates for a cluster.

f. Kick off meetings

PJM also opposes the requirement that transmission providers open a 30-day customer engagement window (this interaction is often referred to as a "kick off" meeting) after the cluster request window closes as set forth in the NOPR; if this requirement were modified to allow grouping of projects for meetings and the window of time were lengthened, the requirement might be workable.[37] The 30-day timeline might be appropriate for small transmission providers but it does not recognize the sheer volume of projects in many regions, and would not be feasible where the transmission provider is an RTO that may have in excess of 500 to 1000 interconnection requests submitted in a cluster request window. If the Commission adopts this requirement, it should clarify that a

[36] Proposed Tariff, Part VIII, Subpart B, section 403(A); Shoemaker Aff. ¶ 34.

[37] NOPR at P 67.

transmission provider may group requests together for purposes of this engagement window unless an interconnection customer requests otherwise

Grouping kick off meetings will reduce the burden on the transmission provider and transmission owners of having to schedule and participate in hundreds of meetings that do not need to be separately held, and the burden on interconnection customers of having to wait for their meeting to be scheduled. This type of grouping is provided under PJM's proposed New Rules, which include a 90-day "application review" period. During this period, PJM will review all applications submitted in the Cycle and hold collective kick-off calls to confirm project details and points of interconnection with transmission owners and project developers.

g. Timing of site control showing and deposits

PJM generally supports the requirement that the interconnection customer must submit to the transmission provider, at the same time it submits the executed LGIA, demonstration of continued site control, the requisite deposit, and reasonable evidence of achieving milestones in the development of the generating facility. This requirement will reduce the number of speculative or non-viable projects in the interconnection process, by enabling the transmission provider to remove projects that cannot meet these requirements from the interconnection process. PJM notes, however, that the June 14 Filing handled the timing of these requirements in slightly different fashion, requiring that an interconnection customer provide evidence of site control at the Application Phase, and Decision Points I and III, and provide the security associated with any required network upgrades at Decision Point III, prior to the time it executes (or directs an unexecuted filing) of a Generator

Interconnection Agreement ("GIA") or other agreement.[38] PJM suggested these requirements based on its experience that speculative or non-ready projects provide evidence of Site Control when submitting applications but may not maintain or acquire the necessary Site Control throughout the interconnection process.[39] The Commission should consider imposing more stringent site control, deposit, readiness deposits and/or milestone requirements as critical means to reduce speculative and non-ready projects in the interconnection process.

h. Conducting studies of subgroups

PJM does not oppose the option for transmission providers to conduct studies on a subgroup basis but does not see the benefit of doing so and does not believe this should be mandatory.[40] It may be difficult for a transmission provider to determine how to develop the appropriate subgroups, and there is a chance that delays in the studies for one subgroup could cause delays in others. It also may be better to allow transmission providers to gain experience with the cluster study process before being required to break their regions into subgroups, and to determine whether there would be any efficiency benefits to this approach.

i. Re-running cluster studies

PJM submits that the NOPR's proposal to require transmission providers to specify in their tariffs how cluster studies must be rerun after the need to re-study is triggered,[41] is

[38] Proposed Tariff, Part VII, Subpart D, sections 309(A)(1)(b) and 313(A)(1)(a) and (c), and Part VIII, Subpart D, sections 406 (A)(1)(b) and 410(A)(1)(a) and (c).

[39] *PJM Interconnection, L.L.C.*, Motion for Leave to Answer and Answer of PJM Interconnection, L.L.C., Docket No. ER22-2110-000, at 16-17 (Aug. 2, 2022) ("August 2 Answer"); June 14 Filing at 21; *see also Midcontinent Indep. Sys. Operator, Inc.*, 169 FERC ¶ 61,173, at P 45 (2019).

[40] NOPR at P 77.

[41] *Id.* at P 79.

acceptable but the Commission should avoid being overly prescriptive as to how and when such re-studies will be performed. PJM submits that instead of limiting the transmission provider to two re-studies per month within the 150-day cluster re-study period,[42] the Commission should consider mechanisms such as the June 14 Filing's scheduling of restudies at defined points in the process after project developers have made permitted modifications and chosen whether to proceed in the process.[43]

j. Processing requests outside the cluster

PJM opposes any option that would allow some interconnection requests to be processed outside of the cluster study process.[44] Such an option would unduly complicate the study process, likely requiring additional time and PJM and transmission owners' resources, and may provide some interconnection customers with preferential treatment, for no discernible reason. PJM submits that, rather than processing some interconnection requests outside the cluster, the better way to advance projects that have little or no impact on the transmission system is to provide these projects with the ability to advance past the cluster study process to the agreement stage. Thus, the June 14 Filing allows PJM, based on the results of the Phase I or Phase II System Impact Study, to accelerate the treatment of some interconnection requests such that the Project Developer can enter into a final GIA or other agreement without undergoing further studies.

[42] *Id.* at P 78.

[43] June 14 Filing at 50-51, 55, 59-60; *id.*, Attachment E ¶¶ 10-11 (Affidavit of Marks Sims on Behalf of PJM Interconnection, L.L.C. ("Sims Aff.")); Shoemaker Aff. ¶¶ 13, 17-19, 38, 40.

[44] NOPR at P 78.

2. Increased financial readiness requirements

PJM generally supports the Commission's proposed study deposit framework and agrees that appropriately sized study deposits are necessary to disincentivize speculative interconnection requests. However, rather than the framework proposed in the NOPR based solely on study costs, the Commission should adopt readiness payments or deposits based on the costs of the Network Upgrades necessary to interconnect the projects in the cluster, which also contain "at-risk" non-refundable provisions.

PJM does not support a rigid requirement that an interconnection customer submit a deposit equal to nine times the study deposit when executing an LGIA; instead, the Commission should allow transmission providers to adopt security amounts and structures that are rationally related to relevant costs. In the June 14 Filing, PJM proposes to require both (i) increasing readiness deposit amounts throughout the process, which are designed to reduce speculative projects by requiring project developers to put money at risk (with the amounts based on the Network Upgrades necessitated by the interconnection of their projects) from an early point in the process, and (ii) security to be provided by interconnection customers at Decision Point III equal to 100 percent of the Network Upgrades costs allocated to them.[45] This amount, which is tied to the cost of Network Upgrades, serves to protect the transmission owner, by ensuring the interconnection customer has provided sufficient security so the transmission owner is reimbursed for the costs it incurred for constructing the Network Upgrades. This amount also means that funds are available so that the Network Upgrades identified as necessary in the cluster studies are constructed even if an interconnection customer withdraws, protecting other

[45] June 14 Filing at 56; Proposed Tariff, Part VIII, Subpart C, section 410(A)(1)(a); Shoemaker Aff. ¶¶ 20, 24, 54.

interconnection customers in the same cycle who may also been assigned a portion of that Network Upgrade's costs.

This security amount is based on the expected costs of Network Upgrades and therefore aligns the purpose of the security—ensuring that the necessary Network Upgrades are paid for and constructed—with the amount of the security and thereby is in accord with the Commission's cost allocation follows cost causation principle.[46] A security amount based on the costs of Network Upgrades also more accurately reflects the risk to the cluster if a project withdraws from the process, and thereby better protects the cluster against that risk. In contrast, the NOPR's proposed security of nine times the study costs bears no relation to the actual Network Upgrades—it will likely be less than the network upgrades, but also may be more.

3. Site control

a. One hundred percent site control

After stating "more stringent site control requirements will help prevent interconnection customers from submitting interconnection requests for speculative, non-commercially viable proposed generating facilities," the NOPR proposes to require interconnection customers to, in most instances, demonstrate 100 percent site control for their proposed generating facilities when submitting interconnection requests, and also would require that transmission providers include in their tariffs the specific acreage

[46] *See Entergy Ark., LLC v. FERC*, 40 F.4th 689 (D.C. Cir. 2022) (upholding Commission order rejecting filing on the basis that the cost allocation method was inconsistent with cost causation principles); *Old Dominion Elec. Coop. v. FERC*, 898 F.3d 1254, 1256 (D.C. Cir. 2018) (indicating that allocation of the costs of new transmission facilities selected in the regional transmission plan for purposes of cost allocation must satisfy six general principles, the first of which is the cost-causation principle,); *see also KN Energy, Inc. v. FERC*, 968 F.2d 1295, 1300 (D.C. Cir. 1992) (stating "all approved rates [must] reflect to some degree the costs actually caused by the customer who must pay them").

requirements for each generating facility technology type.[47] To demonstrate site control, interconnection customers will need to demonstrate the exclusive right to land on which to develop, construct, operate, and maintain its generating facility or, where facilities are co-located, to demonstrate a shared land-use right to develop, construct, operate, and maintain co-located facilities.[48] However, the NOPR proposes to allow interconnection customers to submit a deposit in lieu of site control "when regulatory limitations prohibit the interconnection customer from obtaining site control."[49]

PJM generally supports the Commission's site control requirements but opposes any proposal to allow deposits in lieu of site control as insufficient to weed out speculative projects and therefore not appropriate for the PJM interconnection process. In PJM's experience, the ability to provide money in lieu of actual site control is easily abused by interconnection customers with speculative or non-ready projects.[50] PJM also believes it is important that site control be maintained and demonstrated beyond the application stage and urges the Commission to consider extending the site control requirement beyond the application stage, through the agreement negotiation stage, and into the construction stage. Therefore, as illustrated below, and as part of its June 14 Filing, PJM proposes to adopt requirements under its New Rules that an interconnection customer must demonstrate 100 percent site control for the land on which the generating facility will be sited at the application stage and at Decision Point I and Decision Point III, must demonstrate 50

[47] NOPR at PP 115-116, 120.

[48] *Id.* P 117.

[49] *Id.* P 118.

[50] PJM notes the Commission previously accepted elimination of the deposit in lieu of site control option, in the context of queue reform and balancing flexibility for interconnection customers with the need to ensure projects in the queue are viable. *See Avista Corp.*, 179 FERC ¶ 61,183, at P 61 (2022).

percent site control for the land on which the interconnection facilities and interconnection switchyard will be sited at Decision Point I, and must demonstrate 100 percent site control for the land on which the interconnection facilities and interconnection switchyard will be sited at Decision Point III.[51]

FIGURE 2

Site Control Term	
SUBMISSION #1 – APPLICATION PHASE	
Full Site Control: • 100% Generating facility: deed/lease/option	Term Requirement: • 1 Year from Application Deadline
SUBMISSION #2 – DECISION POINT I	
Partial Site Control: • 100% Generating facility: deed/lease/option • 50% Interconnection Facilities: deed/lease/option/ROW • 50% Interconnection Switchyard: deed/lease/option	Term Requirement: • Additional 1 Year from last day of Phase 1 • 1 Year from last day of Phase 1 • 1 Year from last day of Phase 1
SUBMISSION #3 – DECISION POINT III	
Full Site Control: • 100% Generating facility: deed/lease/option • 100% Interconnection Facilities: deed/lease/option/ROW • 100% Interconnection Switchyard: deed/lease/option	Term Requirement: • Additional 3 Years from last day of Phase 3 • Additional 3 Years from last day of Phase 3 • Additional 3 Years from last day of Phase 3

- Projects that are eligible for an accelerated process to receive their final GIA at Decision Point I or Decision Point II will be required to provide full site control for an additional 3 years from the last day of Phase 1 or Phase 2, respectively.

- If 100 percent of site control is not obtained by Decision Point III, then Developer must show concrete evidence acceptable to PJM they are in negotiations to achieve 100 percent of all site control for a period of at least 3 years from the last day of Phase 3. PJM will add a condition precedent in the GIA tariff template requiring that within 180 days of the effective date of the GIA, 100 percent site control be

[51] Proposed Tariff, Part VIII, Subpart B, sections 403(B)(5), 406(A)(1)(b) and 410(1)(c); Shoemaker Aff. ¶ 28. The Site Control requirement in the Application includes an acreage requirement for the Generating Facility, as set forth in the PJM Manuals.

acquired for at least 3 years from the last day of Phase 3. If 100 percent of site control is not obtained within 180 days of the effective date of the GIA, then the project will automatically be deemed terminated and will be withdrawn from the cycle.

PJM has proposed slightly different site control requirements[52] for its Transition Period:

FIGURE 3

Site Control Term (Transition Phases)	
SUBMISSION #1 – APPLICATION PHASE*	
Full Site Control: • 100% Generating facility: deed/lease/option	Term Requirement: • 1 Year from Application Deadline
SUBMISSION #2 – DECISION POINT I	
Partial Site Control: • 100% Generating facility: deed/lease/option • 50% Interconnection Facilities: deed/lease/option/ROW • 50% Interconnection Switchyard: deed/lease/option	Term Requirement: • Additional 1 Year from last day of Phase 1 • 1 Year from last day of Phase 1 • 1 Year from last day of Phase 1
SUBMISSION #3 – DECISION POINT III	
Full Site Control: • 100% Generating facility: deed/lease/option • 100% Interconnection Facilities: deed/lease/option/ROW • 100% Interconnection Switchyard: deed/lease/option	Term Requirement: • Additional 3 Years from last day of Phase 3 • Additional 3 Years from last day of Phase 3 • Additional 3 Years from last day of Phase 3

* Developers in Transition Cycle #1 will have already fulfilled this initial site control Submission #1 as a requirement to become eligible for the transition. The first open Application Phase for the process reform will be in Transition Cycle #2.

- Projects that are eligible for an accelerated process to receive their final GIA at Decision Point I or Decision Point II will be required to provide full site

[52] Proposed Tariff, Part VII, Subpart C, sections 306(B)(5), 309(A)(1)(B) & 313(A)(1)(c).

control for an additional 3 years from the last day of Phase 1 or Phase 2, respectively.

- If 100 percent of site control is not obtained by Decision Point III, then Developer must show concrete evidence acceptable to PJM they are in negotiations to achieve 100 percent of all site control for a period of at least 3 years from the last day of Phase 3. PJM will add a condition precedent in the GIA tariff template requiring that within 180 days of the effective date of the GIA, 100 percent site control be acquired for at least 3 years from the last day of Phase 3. If 100 percent of site control is not obtained within 180 days of the effective date of the GIA, then the project will automatically be deemed terminated and will be withdrawn from the cycle.

These site control requirements are a key part of the stakeholder consensus that resulted in the June 14 Filing. PJM's experience has been that a project that has less than 100 percent, or no, site control may not be a viable project. Allowing that project to obtain a position in the existing interconnection queue or in a new cluster will tie up existing headroom on the Transmission System and thereby harm other projects that have done their due diligence to procure the necessary land to build their facility.[53] The filed proposal also allows some latitude, whereby if an interconnection customer fails to provide the required Site Control evidence at Decision Point III, it must provide evidence acceptable to PJM demonstrating that it is in negotiations with appropriate entities to meet the Site Control requirements, with PJM adding a milestone into its interconnection-related agreement requiring the interconnection customer to satisfy the Site Control requirements 180 days after execution of such agreement or be terminated and withdrawn.[54] PJM's site control requirements also provide certain leeway for projects that are constructed on federal or

[53] Speculative projects included in the interconnection process skew models and study results, occupying headroom and making it appear that Network Upgrades are needed when they are not, or that larger upgrades are required than are actually required; when these projects withdraw, restudies must be done and cost allocations will change.

[54] June 14 Filing at 56 n. 182; Proposed Tariff, Part VII, Subpart D, section 313(A)(1)(c)(iv) & Part VIII, Subpart C, section 410(A)(1)(c)(iv).

state lands or waters, such as offshore wind projects.[55] These more stringent site control requirements should reduce the number of speculative or non-ready projects in the interconnection process.

b. Specific acreage requirements

PJM also opposes the requirement that a transmission provider must include in its tariff the specific acreage requirements for each type of facility.[56] Instead, the Commission should allow transmission providers to include this type of information in its business practice manuals because this type of specific implementation detail may change from time to time, especially with changes in technology and capabilities of renewable energy generating equipment. This placement would be consistent with Commission precedent.[57] If the acreage requirements are specified in the tariff, a transmission provider will be required to submit a Federal Power Act ("FPA") section 205 filing every time the technology and implementation details change, which would be inefficient and burdensome, and would not benefit stakeholders or interconnection customers.

[55] These provisions of the June 14 Filing were the subject of an amendment proposal that was separately vetted and approved in the stakeholder process. *See* June 14 Filing at 27; Connell Aff. ¶ 24; August 2 Answer at 23.

[56] NOPR at P 116.

[57] *See, e.g.*, *Energy Storage Ass'n v. PJM*, 162 FERC ¶ 61,296, at P 103 (2018) (citing *Cal. Indep. Sys. Operator Corp.*, 122 FERC ¶ 61,271, at P 16 (2008)); *see also City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (finding that utilities must file "only those practices that affect rates and service significantly, that are realistically susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous"); *see also N.Y. Indep. Sys. Operator, Inc.*, 179 FERC 61,102, at P 106 (2022) (indicating that implementation details are appropriately addressed in the RTO's business practice manuals); *Midcontinent Indep. Sys. Operator, Inc.*, 170 FERC ¶ 61,075, at P 38 (2020) (rejecting protests and finding it appropriate to include implementation details in manuals rather than the RTO tariff; also finding that requiring MISO to include this information in the Tariff could curb needed operational flexibility).

c. Co-located facilities

PJM supports the Commission's proposal to require that interconnection customers demonstrate exclusive land rights or, for co-located facilities, demonstrate a shared land use right.[58] With regard to any co-located or shared land, the Commission should clarify that interconnection customers are prohibited from submitting evidence of site control that utilizes the same land for multiple interconnection requests unless the total acreage amount of such land is adequate to support all such requests. This is consistent with approach adopted in the June 14 Filing.[59]

d. When projects can be deemed non-speculative

The Commission seeks comment on the appropriate stage in project development when the Commission should view an interconnection customer's request as being non-speculative.[60] PJM submits that a project cannot be viewed as "non-speculative" prior to the time the project developer posts security for the costs of Network Upgrades necessary to interconnect the project. Until then, the costs of withdrawal will likely be less than the costs of constructing the Network Upgrades and moving forward.

e. Site control for projects located on government-owned or controlled land

The Commission also seeks comment on whether the definition of site control should be "refined" to account for issues in siting and permitting of offshore resources or when the site is controlled by a state or federal entity.[61] PJM supports allowing accommodations for projects to be sited offshore or on government owned land. PJM notes

[58] NOPR at P 117.

[59] Proposed Tariff, Part VII, Subpart A, section 302(A)(5) & Part VIII, Subpart A, section 402(A)(5).

[60] NOPR at P 122.

[61] *Id.*

that the June 14 Filing includes site control requirements specifically applicable to "non-standard" sites, such as bodies of water and submerged land owned or controlled by state and federal entities, that recognize their unique permitting challenges.[62] Other than as set forth above, PJM opposes any requirement that transmission providers be obliged to accept demonstrations of less than 100 percent site control in the initial phases of the interconnection study process, including when regulatory limitations prohibit the interconnection customer from obtaining site control.[63] In order to have an efficient interconnection process, interconnection customer should have acquired the necessary land rights as of the time they submit their interconnection request, rather than developing their projects as they go.

4. Commercial readiness

The NOPR proposes to include commercial readiness requirements, as well as financial requirements in lieu of a showing commercial readiness that increase as the study process progresses.[64] Evidence of commercial readiness can include an executed term sheet or comparable evidence for the sale of a constructed generating facility or the generating facility's energy, capacity or ancillary services; reasonable evidence that the project has been selected in a resource plan or resource solicitation process by or for a load serving entity ("LSE"), is being developed by an LSE, or is being developed for purposes of a sale to a commercial, industrial, or other large end-use customer; or is the subject of a filed provisional LGIA.[65] The Commission also proposes to allow interconnection

[62] Proposed Tariff, Part VII, Subpart A, section 302(A)(2)(d) & Part VIII, Subpart A, section 402(A)(2)(d).

[63] *See* NOPR at P 123.

[64] *Id.* at P 128.

[65] *Id.* at P 130.

customers to provide a commercial readiness deposit in lieu of the commercial readiness showing, based on a multiple of two to seven times the study deposit, with the commercial readiness deposit increasing in the later study phases.[66] The commercial readiness deposit would be separate from the study deposits.[67]

PJM supports the use of financial readiness deposits that increase as the interconnection process progresses and that are separate from study deposit amounts. PJM does not support a requirement for transmission providers, particularly in regions with organized markets, to police "commercial readiness." As a multistate RTO, PJM should not be placed in the position of having to evaluate contracts for the sale of a generating facility's output or determine whether the project has been selected in a resource plan or resource solicitation process in any of the thirteen states (as well as the District of Columbia) within its footprint. Requiring PJM to undertake such analyses would be burdensome and potentially divert resources that could be better used to process other interconnection requests. These contracts also may not be as good an indicator of commercial readiness as the NOPR appears to presume, as they may have provisions allowing the interconnection customer to terminate the agreement if certain requirements or conditions are not met. Moreover, the basis for this proposal seems to be the assumption that an interconnection customer in a bilateral market area will not construct a project without an off taker.[68] Whether or not this premise is accurate, it shows that commercial

[66] *Id.* at P133.

[67] *Id.* at P 134.

[68] *Id.* at PP 124 ("Generally, *at least in bilateral markets*, an interconnection customer does not proceed to construct a generating facility unless it has executed some form of off-take agreement, such as a contract for the sale of electric energy or capacity from the generating facility" (emphasis added)); *id.* at P 127 ("We have learned through interconnection queue reform filings that interconnection customers typically do not actually construct generating facilities unless they have entered into an off-take agreement for the output of such facilities, *at least in bilateral market areas*." (emphasis added)).

readiness requirements are not applicable in an RTO with organized markets, in which a developer may build a project in anticipation of selling power into the RTO markets.[69]

Further, the Commission seeks comments on whether it should allow interconnection customers to use evidence of a commitment to participate in RTO markets, evidence of site-specific purchase orders for generating equipment, or statements signed by an officer or authorized agent of the interconnection customer attesting that the generating facility is to be supplied with major electric generating components (such as wind turbines) with a manufacturer's blanket purchase agreement to which the interconnection customer is a party, as alternative means of demonstrating commercial readiness.[70] Any such alternative commercial readiness showing would not be appropriate for an RTO such as PJM, for the reasons stated above, and would provide no protection to other projects in the Cycle against the impact of withdrawal of the project providing the alternate showing. Moreover, the first criterion – a commitment to participate in RTO markets – would not make sense and would be essentially meaningless for a project sited in PJM – practically all projects would qualify. The remaining criteria present the same issues as the other commercial readiness requirements.

In addition, the Commission should not require transmission providers to make the revisions to their milestones set forth in paragraph 135 of the NOPR to the extent this would require the transmission provider to adopt milestones, such a milestone for commercial readiness showings, which are inconsistent with the transmission provider's tariff or inappropriate for their region.

[69] Notably, the decisions cited in the NOPR as to commercial readiness involve transmission providers that are not RTOs and are not in an RTO region.

[70] NOPR at P 137.

Finally, while PJM supports the use of financial readiness deposits that increase as the study process progresses, PJM does not support a structure that is based on multiples of the study deposit amount; rather, the Commission should allow transmission providers to adopt readiness deposit provisions that are based on the costs of the Network Upgrades.

5. Cost Allocation

a. Allocating study costs

The NOPR proposes to allocate the shared costs of cluster studies as follows: 90 percent of the applicable study costs would be allocated to interconnection customers on a pro rata basis based on MWs of interconnection requests in the applicable cluster and 10 percent of the applicable study costs would be allocated to interconnection customers on a per capita basis based on the number of interconnection requests in the applicable cluster. The NOPR also seeks comment on whether to allow transmission providers to propose a different allocation method. PJM agrees that transmission providers should develop methods to allocate the costs of cluster studies but the Commission should allow transmission providers to retain existing cost allocation methods that were developed through a stakeholder process and have been used without issue.

b. Allocating Network Upgrade costs

The NOPR proposes to require adoption of the proportional impact method for allocation of network upgrade costs to interconnection customers within a cluster.[71] The Commission states that this method will be just and reasonable because it will allocate costs among the interconnection customers that cause the need for, and benefit from, such

[71] *Id.* at P 88. The allocation of costs under the proportional impact method is determined based on a distribution factor analysis. *See* NOPR at P 85. The Commission notes that some transmission providers use a proportional capacity method under which the allocation of costs is based on the interconnection customer's generating facility's MW capacity in proportion to the cluster's total MW capacity. *Id.*

network upgrades.[72] The Commission would require transmission providers to revise their LGIPs to include the specific technical parameters and thresholds of the cost allocation method.[73] The Commission indicates this will reduce the frequency of a single interconnection customer being allocated the costs of a large network upgrade that benefits subsequent interconnection customers, reduce the incentive to submit speculative interconnection requests, and reduce the amount of cascading withdrawals and restudies.[74] The Commission seeks comments on whether there are any specific sorts of analyses that should be required or prohibited.[75]

PJM generally supports this aspect of the NOPR. The proportional impact method will fairly and equitably allocate costs to interconnection customers within a cluster based on their relative contribution to the need for a network upgrade or upgrades, and thus is just, reasonable, and consistent with cost-causation principles.[76] PJM uses a proportional impact method to allocate costs under its current Tariff[77] and the proportional impact method is consistent with the cost allocation methodology set forth in the June 14 Filing.

Finally, the Commission proposes to require transmission providers to revise their LGIPs to include the specific technical parameters and thresholds for their method of cost

[72] *Id.* at P 88.

[73] *Id.*

[74] *Id.*

[75] *Id.* at P 89.

[76] *See supra* note 46; *see also Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, 136 FERC ¶ 61,051, at P 622 (2011) (establishing cost allocation principle 1 that costs be allocated in a manner that is at least roughly commensurate with benefits), *order on reh'g & clarification*, Order No. 1000-A, 139 FERC ¶ 61,132, *order on reh'g & clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012), *aff'd sub nom. S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 41 (D.C. Cir. 2014).

[77] Tariff, section 217.3a.

allocation.[78] While PJM generally supports the requirement to describe the cost allocation method in the applicable tariff, the Commission should clarify that transmission providers may provide the detailed and specific technical information and methodology in business practice manuals rather than in tariffs. As noted above, these types of detailed implementation details change from time to time and, consistent with Commission precedent, are appropriately addressed in the transmission provider's manuals.[79] Mandating that these procedures be placed in the transmission provider's tariff, on the other hand, would require a transmission provider to submit an FPA section 205 filing every time the implementation details changed. This would be inefficient and burdensome and would not benefit stakeholders or interconnection customers.

c. Allocating Network Upgrade costs across clusters

The Commission also proposes to require transmission providers to adopt a mechanism to allocate the costs of Network Upgrades among interconnection customers in earlier clusters and subsequent clusters that are determined to benefit from the same network upgrade.[80] The Commission points out that Midcontinent Independent System Operator, Inc. ("MISO") and the New York Independent System Operator, Inc. have adopted provisions to allow for such cost allocation.[81]

While such a cost sharing mechanism may be appropriate for certain regions, the Commission should not require its adoption by all regions. Allocating costs across multiple clusters would pose significant practical problems including disputes among

[78] NOPR at P 88.

[79] *See supra* note 57.

[80] NOPR at P 98.

[81] *Id.* at P 90.

interconnection customers as to cost responsibility, and would materially increase administrative burdens for PJM. Moreover, at least in PJM, any additional headroom that is created through the interconnection process will tend to benefit only the interconnection customers within a given queue or cycle. This is because in the PJM region and under both PJM's existing procedures and the June 14 Filing, interconnection customers are only allocated costs for the minimum amount of Network Upgrades necessary to accommodate their interconnection requests.[82] Finally, restricting inter-cluster cost allocation would provide greater cost certainty to interconnection customers because once a Cycle closes, the allocation of costs to projects in that Cycle is final.

6. Withdrawal penalties

The NOPR proposes to require transmission providers to assess withdrawal penalties on interconnection customers that withdraw at any point in the interconnection study process or that otherwise do not reach commercial operation, unless such withdrawal either does not harm other interconnection customers or occurs after a significant and unanticipated increase in network upgrade cost estimates.[83] For interconnection customers that provide commercial readiness deposits in lieu of demonstrating commercial readiness, the withdrawal penalties would increase as the interconnection customer progresses through the study process.[84] The withdrawal penalties would be the greater of the study deposit or (i) two times the study cost if the customer withdraws during the cluster study or after receipt of a cluster study report (capped at $1,000,000); (ii) three times the study

[82] Tariff, section 217.3 (currently effective cost allocation provisions); Proposed Tariff, Part VII, Subpart C, section 307(A)(5)(a) & Part VIII, Subpart C, section 404(A)(5)(a).

[83] NOPR at P 141.

[84] *Id.* at P 142.

costs if the customer withdraws during the cluster re-study or after receiving any re-study reports (capped at $1,500,000); (iii) five times the study cost if the customer withdraws during the facilities study, after receipt of the individual facilities study report, or after receipt of the draft LGIA (capped at $2,000,000); or (iv) nine times the study costs if the customer withdraws before achieving commercial operation and after executing the LGIA or filing an unexecuted LGIA.[85] The penalties would be used to fund studies conducted for the cluster from which the interconnection customer withdraws.[86] A withdrawing interconnection customer that has demonstrated commercial readiness and withdraws prior to executing, or requesting the unexecuted filing of, an LGIA, will be charged its actual allocated cost of all studies performed up until that point. [87]

PJM agrees that it is appropriate for a withdrawing interconnection customer to face financial consequences for its withdrawal, in order to mitigate the harm to other interconnection customers (which may cause other interconnection customers to withdraw),[88] and to provide a disincentive for non-ready projects to enter a cycle. PJM further suggests that transmission providers should be allowed to use forfeited funds to offset increased Network Upgrade costs allocated to interconnection customers or unfunded Network Upgrade costs resulting from that withdrawal. The June 14 Filing proposes, instead of being subject to withdrawal penalties, parties are at-risk for loss of some or all of the Readiness Payments. Figure 4 below illustrates the at-risk components

[85] *Id.* at P 143.

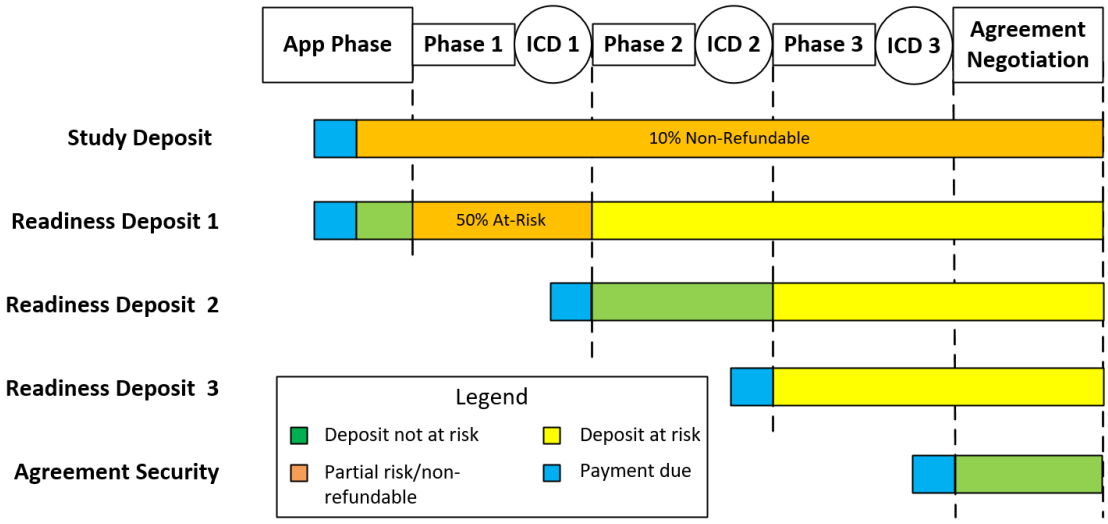
[86] *Id.*

[87] *Id.* at P 144.

[88] As discussed previously, withdrawal of projects at a late stage has cascading impacts on other projects because the withdrawing project(s) skewed the study models while they were included, and their withdrawal changes the need and cost allocation for network upgrades.

of the Readiness Deposits, as well as refundable portions of the Study Deposit. The use of these at-risk Readiness Deposits is an integral part of the June 14 Filing, and is based on the deposit structure adopted by MISO and Southwest Power Pool, Inc.[89] These phased Readiness Deposits, along with the ability of Project Developers or Eligible Customers to withdraw at Decision Points I, II and III, will allow projects that are ready to move forward to do so, while at the same time providing less than ready projects with financial requirements that incentivize them not to enter a Cycle or to withdraw from the Cycle at an earlier date.[90]

FIGURE 4



The NOPR's proposal seems to allow an interconnection customer to withdraw at any point during a clustered interconnection process. One of the reasons for the delays in the PJM's current interconnection queue is that interconnection customers can withdraw at

[89] *See* MISO Open Access Transmission, Energy and Operating Reserve Markets Tariff, Attachment X, sections 3.3.1, 7.3.1.4.1 & 7.3.2.4; SPP Open Access Transmission Tariff, Attachment V, sections 8.2, 8.5.1 & 8.5.2.

[90] The at-risk components of PJM's Readiness Deposits are set forth in the June 14 Filing at 33; Proposed Tariff, Part VII, Subpart A, section 301(A)(3)(b)(ii) & Part VIII, Subpart A, section 401(D)(2)(c)(ii).

any time, triggering the need for discrete cascading re-studies. PJM's approach in the June 14 Filing, which allows an interconnection customer to withdraw only at Decisions Points I, II and III, greatly reduces this impact and can help prevent cascading restudies. Only allowing withdrawals during these Decision Points ensures that studies are all started and finished at the same time and the cluster status is maintained during the duration of the study. Allowing withdrawals at any point, even with penalties, causes issues with cascading re-tools and restudies and negatively impacts other projects in the cluster.

The Commission also proposes that a withdrawal penalty does not apply if (1) the withdrawal does not delay the timing of other proposed generating facilities in the same cluster; (2) the withdrawal does not increase the cost of network upgrades for other proposed generating facilities in the same cluster; (3) the interconnection customer withdraws after receiving the most recent cluster study report and the costs assigned to the interconnection customer have increased 25 percent compared to the previous cluster study report; or (4) the interconnection customer withdraws after receiving the individual facilities study report and the costs assigned to the interconnection customer have increased by more than 100 percent compared to costs identified in the cluster study report.[91]

While PJM agrees that there should be some instances when the withdrawal penalties (or readiness deposit forfeitures) should not apply, the first criterion listed above—the penalty does not apply if the withdrawal does not delay the timing of other proposed generating facilities in the same cluster contained in the NOPR—is too vague and open-ended. For example, a withdrawal can impose costs on other interconnection customers even if does not delay the timing of other proposed generating facilities.

[91] NOPR at P 141.

7. Transition process

The Commission proposes to require transmission providers that are moving to a first-ready, first-served cluster study approach to adopt a transition mechanism that offers interconnection customers that have executed a facilities study agreement the option of entering into a transitional serial interconnection facilities study or a transitional cluster study, or to withdraw from the interconnection queue without penalty.[92]

PJM recognizes the importance of a transition mechanism but submits that a transition mechanism that provides too many options is likely to lead to a protracted transition. In contrast, the transition mechanism set forth in the June 14 Filing does not provide interconnection customers with the option of a serial transition study process. Instead, projects are sorted into the various transition cycles and the expedited transition process by their queue dates and certain eligibility criteria. This transition mechanism is a just and reasonable, balanced approach that limits options in favor of speed and efficiency. This trade off was a key element of the negotiated stakeholder package that resulted in the June 14 Filing.

PJM proposes that the Commission defer to the consensus proposal coming out of the PJM stakeholder process[93] by holding in abeyance any compliance filing obligations in the final rule in this proceeding until PJM has completed the transition to the reformed interconnection process in the June 14 Filing. Allowing PJM to implement this process as filed is consistent with the Commission's express statement in the NOPR that:

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[92] *Id.* at P 157.

[93] The Commission's policy is to respect filings that are the result of an involved stakeholder process to address regional issues, with compromises made on all sides, and high-level stakeholder support for the final package of reforms, and it should do so here. Order No. 890, 118 FERC ¶ 61,119, at P 561 ("[R]egional solutions that garner the support of stakeholders, including affected state authorities, are preferable.").

> We recognize that transmission providers have undertaken efforts to address interconnection queue management issues. This NOPR is not intended to divert or slow the potential progress represented by those efforts. We will review any filings that result from those efforts based on the record before us in those proceedings and not based on whether they comply with the proposed reforms in this NOPR.[94]

Moreover, allowing interconnection customers to choose a transitional serial study process would be inconsistent with the Commission's stated goal for transition processes, i.e., to speed the shift from the existing process to the reformed process so that the transmission provider can use and benefit from the reforms more quickly.[95] Given the size of the backlog in PJM's interconnection process, allowing interconnection customers the option of a transitional serial study process will delay implementation of PJM's cluster process by several years, and create a cloud of uncertainty on the proposed transition process once it is underway. This will all work to harm PJM's efforts and interconnection customers' interest in clearing the present interconnection backlog.

PJM also opposes the NOPR's proposal that transitional serial studies must be completed within 90 days after the deadline for satisfaction of the eligibility requirements, regardless of the number of projects to be studied and the potential complexity of those projects,[96] as impractical and not feasible to achieve, especially given the large number of projects that would avail themselves of the transition serial study process if it were an option.

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[94] NOPR at P 6.

[95] *Id.* at P 149.

[96] The complexity of the projects to be studied affects the timing of completing load flow, short circuit and stability analyses. Moreover, under the serial process, in which priority matters, cost allocation across queues is complex. Even if a project receives a study, PJM likely cannot immediately move to negotiating a final agreement with that interconnection customer due to the need to issue the agreements in queue order for those other projects that share in the network upgrades triggered by the first project. This sequential processing of projects prolongs the time.

C. PJM Opposes the NOPR's Proposals for Additional or Optional Studies and Flexibility to Modify Projects as They Would Provide Little Benefit and Are More Likely to Increase Delays

1. Informational interconnection study

As part of its proposal to require the adoption of a first-ready, first-served cluster study process, the Commission proposes to mandate that transmission providers offer an optional interconnection study to provide preliminary cost estimates for transmission owner interconnection facilities and network upgrades.[97] Interconnection customers could request up to five separate informational interconnection study requests.[98] The interconnection customer would need to provide a $10,000 study deposit, subject to a true-up based on actual costs, with the transmission provider being obligated to provide the study results within 45 days of execution of the study agreement.[99] The study would identify potential interconnection facilities and network upgrades that may be required to interconnect the interconnection customer's proposed generating facility and provide, at a minimum: (1) a preliminary identification of any circuit breaker short circuit capability limits exceeded; (2) a preliminary identification of any thermal overload or voltage limit violations; and (3) the estimated network upgrade costs related to the identified overloads and violations.[100]

The Commission seeks comment on whether the informational interconnection study would provide prospective interconnection customers with information that is sufficient and timely enough to inform their decision-making prior to submitting an

[97] NOPR at P 42.

[98] *Id.* at P 43.

[99] *Id.* at PP 43, 45.

[100] *Id.* at PP 45-46.

interconnection request; whether transmission providers should be required to establish a request window of a limited number of days each year in which potential interconnection customers can request an optional informational interconnection study; the burdens on transmission providers of conducting informational studies and whether other options, such as the proposal below for public interconnection information, might strike a better balance of providing useful information while making efficient use of transmission provider and transmission owner resources.[101]

While PJM supports providing information to potential interconnection customers that can help inform their decisions early in the process, PJM opposes the specific mechanisms set forth in the NOPR and submits the NOPR's public interconnection information proposal strikes a better balance between providing useful information and making efficient use of transmission provider resources. As an initial matter, the proposed informational interconnection study is not likely to provide much value. Such a study will not provide a developer "with sufficient and timely information to inform decision-making prior to submitting an interconnection request";[102] instead, the information is unlikely to be actionable as it will be outdated by the time the customer enters a specific cluster or cycle.[103] Also, the informational study will consider only one project, rather than analyzing the entire cluster of projects, limiting the usefulness of the analysis, and the informational study, by definition, will not have any binding effect in the interconnection process.

[101] *Id.* at P 48.

[102] *Id.* at P 47.

[103] The Commission seems to recognize as much, stating "[w]e recognize that the benefit of the informational interconnection study results would depend on the information provided, the assumptions made, and the timing of the proposed interconnection, with studies looking at interconnection requests with proposed commercial operation dates further into the future carrying greater uncertainty." NOPR at P 47.

Moreover, the proposal to have transmission providers perform these "informational" studies shifts too much of the initial analysis and project identification phase from developers and their consultants to transmission providers in a way that will divert substantial resources away from transmission providers' and transmission owners' study and analysis of actual interconnection requests. This will be unduly burdensome in large regions such as PJM, which currently receives hundreds of interconnection requests in each of its queue windows and expect to see large numbers of requests once it implements a cluster process. This burden, if each potential interconnection customer can submit up to five study requests,[104] will be monumental—for example, in any given cluster, PJM might have to perform thousands of these studies, while still having to perform System Impact and other studies as required under its Tariff.[105]

A better approach, which would "strike a better balance of providing interconnection customers with useful information while making efficient use of transmission provider resources"[106] would be to allow transmission providers to develop screening tools that can be used by interconnection customers to evaluate locations for their projects that are less constrained. PJM is in the process of developing Queue Scope—an interactive prescreening tool that will provide similar levels of information and transparency as MISO's POI Analysis Tool to potential interconnection customers at no

[104] *See id.* at P 43.

[105] PJM opposes this proposed study requirement as amounting to PJM acting as a consultant to developers without payment. Nevertheless, if this proposal is adopted, it would be reasonable to establish a request window of a limited number of days each year during which potential interconnection customers can request an optional informational interconnection study—if nothing else, this will allow PJM to perform the studies in a concentrated manner, which would reduce the burden compared to allowing potential interconnection customers to submit study requests at any time. However, this question should be moot, as the Commission should not require transmission providers to perform optional interconnection studies.

[106] *Id.* at P 48.

charge, while at the same time avoiding having to divert resources to undertake studies of limited value.[107] Queue Scope will allow developers to screen potential points of interconnection and assess grid capacity (head room) based on a given amount of MW injection or withdrawal at a given point of interconnection. Better still, interconnection customers will not have to submit a separate study application and will not be limited as to the number of potential points of interconnection that can be analyzed. Such information can be of value to interconnection customers by indicating which areas may be favorable or unfavorable for potential new interconnections. Queue Scope will use the latest queue or cluster case in the beginning of the cycle, will contain largely static output of the generation deliverability stored in a database; and will allow users to select available points of interconnection to assess the injection or withdrawal for a given amount of MWs. It provides a selection of points of interconnection at 100 kilovolt and above within the PJM network, with over 6000 point of interconnection buses available to assess within the PJM footprint and provides users with feedback on worst case flowgate loading.

The Queue Scope tool, in conjunction with the planning models PJM makes publicly available (subject to Critical Energy Infrastructure Information protections) and the System Impact Study reports and Facilities Study reports available on the PJM website,[108] will allow project developers to identify favorable locations to interconnect, to run their own studies using the models, and to estimate costs of required facilities. PJM

[107] PJM expects that Queue Scope will become available in early 2023. *See* June 14 Filing at 34 n.104; Connell Aff. ¶ 36 & Sims Aff. ¶ 12. MISO's POI Analysis Tool, referred to as a heatmap in the NOPR, *see* NOPR at P 50, is available on MISO's website. *Points of Interconnection*, Midcontinent Independent System Operator, Inc., https://giqueue.misoenergy.org/PoiAnalysis/index.html (last visited Oct. 13, 2022).

[108] These reports are posted on the PJM website. *New Services Queue*, PJM Interconnection, L.L.C., https://pjm.com/planning/services-requests/interconnection-queues.aspx (last visited Oct. 13, 2022) (enter the queue number in the "Queue/OASIS ID" search box and select the Phases & Agreements tab).

makes all data except Equivalent Demand Forced Outage Rates available so consultants should be able to closely mirror PJM's analysis. These types of information, combined with the functionality offered by Queue Scope, should allow developers to more fully vet their projects, required upgrades, and costs before submitting interconnection requests.

2. Public information

In addition to the optional informational interconnection study, the Commission proposes to establish minimum requirements for the public posting by transmission providers of an interactive visual representation of available interconnection capacity, along with a table of relevant interconnection metrics that allow prospective interconnection customers to see estimates of a potential generating facility's effect on the transmission provider's transmission system.[109]

As just discussed, PJM generally supports this aspect of the NOPR and believes it is a far better alternative than a requirement to provide up to five informational interconnection studies for each interconnection customer that requests such studies. However, PJM urges the Commission not to be too prescriptive as to the required tools. Rather than requiring a specific type or form of tool, the Commission should clarify that an interactive visual congestion map can comply with this proposed requirement. When it is fully developed, sometime in 2023, Queue Scope will provide a congestion map with color hueing or symbols to indicate the worst case flowgate loading at each point of interconnection.

In addition, rather than requiring all buses in a transmission network to be made available to a user, the Commission should allow transmission providers to use prescreened

[109] NOPR at PP 49, 51.

data sets that capture a majority of the feasible points of interconnection in the transmission network, at least for large, multistate RTOs. PJM left out gen-coded buses (the existing generator bus on the low side of the generator step-up unit**)** from its studies because the number of points of interconnection would be too large for purposes of running studies that could be saved and stored in a database. PJM includes all transmission buses and tap buses that represent interconnecting switchyards—even without the gen-coded buses, there are over 6,000 potential points of interconnections across the PJM system for a developer to select. This will provide sufficient information to developers to assess the impact of a potential interconnection request.

In addition, the requirement to update the information in the interactive tool within 30 days after completion of a cluster re-study[110] will not be feasible for a large RTO such as PJM. PJM currently plans to upload two to three datasets per year (for both RTEP projects and projects in its New Service Queue or cluster) for summer peak. Once it includes light load results, this will be four to six datasets per year. Each data set will include millions of point of interconnection flowgate records. Eventually, maintaining this number of datasets may not be feasible from a storage perspective, especially if PJM wishes to make available two to three years of dataset results.

3. Optional Resource Solicitation Studies

The NOPR proposes to allow "resource planning entities"[111] to initiate optional resource solicitation studies.[112] Such studies could include all-source procurements, or

[110] *Id.* at P51.

[111] The NOPR defines "resource planning entity" as "any entity required to develop a Resource Plan or conduct a Resource Solicitation Process, including a relevant state entity or load serving entity." *Id.* at P 223 n.315.

[112] *Id.* at P 223.

procurements focused on particular geographic areas, such as offshore wind lease areas or other location-constrained resource procurements.[113] The proposal would allow resource planning entities to coordinate directly with transmission providers, outside of the interconnection queue, to submit for inclusion in an optional resource solicitation study certain valid interconnection requests made by interconnection customers.[114] The NOPR states that this proposal "will benefit interconnection customers and transmission providers through efficiencies in studying resources vying for selection in a qualifying solicitation process by grouping these resources together for purposes of informational interconnection studies."[115] The NOPR specifically seeks comment on the challenges multistate transmission providers—such as PJM—may face regarding study timing, multiple concurrent studies, or other issues in offering an optional resource solicitation study option.[116]

Similar to the proposed informational interconnection studies, PJM does not believe the proposed optional resource solicitation study would be of much value. The study would include only a subset of the clustered interconnection requests, so the results would not be indicative of the outcome when considering the entire cluster of projects. As such, the optional resource solicitation study would not provide information upon which resource planning entities could act or base decisions. Also, to the extent this resource solicitation study enables an interconnection request to be processed outside of the cluster study process, it would unduly complicate the study process, likely requiring additional

[113] *Id.* at PP 223, 229.

[114] *Id.* at P 226.

[115] *Id.* at P 224.

[116] *Id.* at P 237.

time and transmission providers' and transmission owners' resources, and may provide some interconnection customers with preferential treatment, for no discernible reason (particularly if it allows some interconnection customers to avoid paying readiness deposits they would be required to pay if they were in the cluster study process).

Moreover, with a footprint comprising thirteen states and the District of Columbia, PJM is concerned that the NOPR's proposal creates the potential for large numbers of resource planning entities, which would then proliferate an even larger number of solicitation studies, both of which would be beyond PJM's control and to which PJM's interconnection process would be beholden. Requiring PJM to serve as a de facto consultant to resource planning entities in addition to its efforts to expedite and process the country's largest interconnection queue would be unduly burdensome, hinder efficiency, and require PJM to take on a role beyond its authority as a transmission provider.

Rather than institute the proposed optional solicitation study process, PJM believes the better approach in its multistate footprint is to have resource planning entities and their consultants use the Queue Scope tool PJM is implementing, along with the models and study reports PJM makes available, to perform these studies for themselves. The Queue Scope tool has been presented to PJM stakeholders as a means for developers to obtain better, more actionable information. At a minimum, however, the proposed optional resource solicitation study leaves open multiple questions that must be addressed before such a process could be implemented in a multistate transmission region.

4. Increased flexibility and generator additions

As already discussed in section III.B.1.c, PJM urges the Commission to allow opportunities for project developers to modify their projects only within certain guard rails, i.e., only allowing certain types of changes and only at defined Decision Points. This

approach, a key element of the June 14 Filing, provides opportunities for project developers to improve their projects and make them more viable, but limits the changes to defined points in the process and requires all project developers to make such changes at the same point, so that they can all be re-studied together.[117] This provides interconnection customers the opportunity to make project changes (e.g., reductions, not increases, in the maximum output of a facility) while controlling the impact such changes have to the rest of the projects in the cluster. This is preferable to the current material modification process, which causes cascading re-tools and withdrawals.

For these reasons, PJM opposes the NOPR's proposal to "require transmission providers to evaluate the proposed addition of a generating facility to an interconnection request as long as the interconnection customer does not request a change to the originally requested interconnection service level" and for a 60-day timeline for material modification request reviews.[118] Interconnection customers should not be permitted to increase the maximum facility output and/or Capacity Interconnection Rights of projects already in the interconnection process, as this causes the need for restudies and can cause cascading withdrawals as cost allocations change. And even if the maximum facility output and/or Capacity Interconnection Rights are not increasing, the addition to a project of an additional facility can affect other interconnection customers. For example, if an interconnection customer wants to substitute battery storage facilities for a portion of their solar generating project, without changing the project's maximum facility output or Capacity Interconnection Rights, this would likely be considered a material modification

[117] The rules for project changes at Decision Point I are found in Proposed Tariff, Part VIII, Subpart C, section 406(B); the rules for project changes at Decision Point II are found in Proposed Tariff, Part VIII, Subpart C, section 408(B)(4).

[118] NOPR at P 255.

as it would cause the need for a light load test, which was not performed for the original solar request. Adding this additional facility to the light load analysis that was already performed for the cluster will skew results already given to the other projects in the cluster. For this reason, PJM allows such increases only through a new interconnection request.

The June 14 Filing proposes a better approach, with three Decision Points at which project developers may make changes that meet pre-defined conditions. This allows project developers to refine and modify their projects as they progress through the interconnection process while preventing the need for cascading re-tool studies as projects make changes individually and at any time during the process. Consolidating the opportunity to make changes into these discrete windows of time will greatly improve the study process and help keep Cycles on track.

The NOPR also seeks comments on whether the addition of a generating facility that does not alter the service limit could require a full study.[119] Even without a change to the maximum facility output or Capacity Interconnection Rights, the analyses required for such an addition can be extensive. For example, different fuel types must be modeled differently, and battery storage additions, which represent loads on the system, must be studied for light load conditions. The addition may change the dynamic response of the facility, necessitating costly stability and short circuit restudies. In addition, there is a resource time commitment needed for any change, regardless of whether the service limit changes, as there need to be conference calls to go over and confirm the changes and email correspondence and meetings concerning the changes and their impacts.

[119] *Id.* at P 256.

Finally, the NOPR seeks comment on whether and how customers in later clusters, or customers in the same cluster, could be adversely impacted by addition of a generating facility to an interconnection request.[120] The Commission's proposal for addition of generating facility will certainly have an impact on projects in later clusters. PJM addresses above the skewing of study results other interconnection customers already have received as a result of the addition of a facility. In addition, those projects could experience delays in their cluster being studied or their agreements being finalized as transmission provider and transmission owner resources are occupied in studying the generating facility addition. Projects in later clusters also could see changes in the amount of available capacity on the transmission system. Also, all projects in the same cluster or later clusters would indirectly be impacted due to the drain on time and resources.

D. Penalties and Harsher Standards Will Not Help

1. The proposed elimination of the Reasonable Efforts standard is unjustified, will not help matters, and should not be adopted

The NOPR proposes to eliminate from the *pro forma* LGIP the Reasonable Efforts standard for transmission providers completing interconnection studies and impose in its place firm study deadlines and penalties that would apply when transmission providers fail to meet these deadlines.[121] The NOPR would add to the LGIP a new section to impose financial penalties on transmission providers that fail to meet study deadlines except where force majeure is determined to be applicable.[122] Penalty revenues would offset the study

[120] *Id.* at P 257.

[121] *Id.*at P 168.

[122] *Id.* at P 169.

costs of those interconnection customers whose studies were delayed and would not be recoverable in transmission rates.[123]

The Commission seeks comment on whether penalties will incent more timely completion of interconnection studies in RTO/ISO regions and whether monetary penalties for study delays incentivize timeliness over accuracy or have other adverse consequences.[124] In addition, recognizing the "complexity" regarding assigning monetary penalties to RTOs/ISOs for late interconnection studies, the Commission seeks comment on whether there is a more appropriate method for assigning such penalties in RTOs/ISOs.[125]

PJM strongly opposes the NOPR's proposals to eliminate the Reasonable Efforts standard and to penalize transmission providers and transmission owners for study delays; the imposition of any such requirement on a strict liability basis would be unjust and unreasonable. The NOPR states that the Commission has never found that a transmission provider has violated the Reasonable Efforts standard, meaning there is no evidentiary basis for eliminating the standard. The Commission effectively proposes to make transmission planning by a transmission provider a strict liability endeavor by removing any reasonableness from the requirements, regardless of the cause(s) of any delays in providing the study results.[126] The mere fact that studies can be lengthy does not establish that the time needed for transmission providers to complete studies is unreasonable or

[123] *Id.*

[124] *Id.* at P 172.

[125] *Id.*

[126] As noted below, if adopted, the penalties could serve to incentivize developers, in particular those with more speculative projects, to delay providing necessary information, in the hopes that any penalties imposed on the transmission provider will reduce its study costs.

unnecessary. Moreover, the existing pro forma LGIP define Reasonable Efforts as "efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests,"[127] which does not give a transmission provider the ability to arbitrarily delay studies. Parties remain free to file a complaint pursuant to FPA section 206 if they feel a study has been unnecessarily delayed.

Moreover, imposing monetary penalties on transmission providers that are delayed in interconnection studies does nothing to address the root causes of study delays, namely, limited personnel and resources, unmanageable volumes of interconnection requests, and a lack of available capability on the transmission system. In fact, the NOPR almost seems to be setting transmission providers up to fail, as it proposes additional study obligations and requirements and further opportunities for interconnection customers to modify their projects, thereby triggering the need for cascading re-studies and inherent delays. In an environment of exponentially increasing interconnection requests, it is extremely difficult for PJM to anticipate and plan the workload for each queue window or cycle. As a result, PJM will have problems staffing to meet strict deadlines accompanied by monetary penalties. Add to this situation the fact that the transmission owners with which PJM works to perform interconnection studies face the same challenges and it becomes clear that monetary penalties are not the solution.

In response to the Commission's question as to possible adverse consequences of the proposed penalties, PJM notes that the prospect of monetary penalties for study delays is almost certain to give rise to pressure to prioritize timeliness over accuracy. This would

[127] *See* pro forma LGIP (definition of Reasonable Efforts). Both the existing Tariff and the proposed Tariff revisions use similar definitions. Tariff, Part I, Definitions R-S; Proposed Tariff Part VII, Subpart A, section 300, Definitions R & Part VIII Subpart A, section 300, Definitions R.

be a serious adverse consequence, as a reduction in study accuracy has the potential to undermine reliability.

In addition, as the Commission acknowledges, the issues concerning how penalties will be collected and paid for by not-for-profit RTOs such as PJM are complex. The NOPR provides no solutions as to the financial mechanisms, other than to say that the penalties will offset study costs for interconnection customers whose studies are delayed. This offset introduces perverse incentives, e.g., an interconnection customer has an incentive to dispute and thereby delay its study reports, so that it will receive its project studies free of charge. And it is not at all clear how PJM and other transmission providers will be able to hire contract employees to perform interconnection studies when the funds that would be used to pay the contract employees would be returned to the interconnection customers if studies are delayed, particularly when the pool of qualified engineers the RTOs, transmission owners, and project developers all are trying to draw from is limited. There is also the concern that qualified engineers may not want to work for RTOs or transmission owners if they risk being identified as a cause of study delays that result in penalties or face potential liability.

Another possible adverse consequence of imposing penalties for study delays is that it has the potential to erode the working relationship of PJM with transmission owners in its footprint. PJM relies on its transmission owners, who have the most knowledge of their Transmission Systems, to perform Facilities Studies. Yet the NOPR suggests that one way for not-for-profit RTOs to pay penalties is to pass them on to the transmission owners.[128] Arguments over responsibility for delays and penalties will not be good for

[128] NOPR at P 172.

PJM-transmission owner relations and will inevitably lead to protracted litigation should PJM submit an FPA section 205 filing to recover penalty costs from transmission owners.

At its root, the problem is that PJM cannot know until the queue window closes or the Cycle application period ends how much engineering will be required to perform the necessary studies, and imposition of fixed study deadlines, without regard to the complexity of a particular cluster, makes no sense. Only when the population of projects, their locations, fuel types, and the strength of the transmission grid at their locations are known can PJM make a realistic assessment of the time it will take to model and study the interconnection requests. As a hypothetical, consider the difference in the time it would take to study the upgrades needed in the following two scenarios: (1) many small solar facilities will interconnect at a point of interconnections on the system where there is very little congestion; (2) many new generation projects seek to interconnect in and around Philadelphia, necessitating a complete build out of the underground transmission system in that area. The number of projects in a specific cluster, as well as the number of projects that withdraw during the cluster study process, will also impact the time it takes to undertake the studies. Applying the same arbitrary deadlines backed by penalties to these two scenarios would be manifestly unfair.

As demonstrated above, the imposition of penalty provisions is unjust, unreasonable and may result in adverse yet unintended consequences, and this aspect of the NOPR should be rejected. PJM joins the comments of the ISO/RTO Council being filed concurrently, which provide numerous reasons the proposed penalties and blanket elimination of the Reasonable Efforts standard are imprudent.

2. PJM's proposed alternative to the NOPR's penalties proposal

If, despite these stated concerns of all of the RTOs and ISOs, the Commission chooses to impose monetary penalties for study delays, PJM proposes the following alternative:

1. Upon the close of a particular queue, the RTO, working with its transmission owners, will perform an assessment and then develop a targeted study completion date based on an analysis of, among other factors: (a) the size of the queue, (b) the complexity and dominant location of the requested interconnection points (c) historic trends as to interconnection withdrawal rates by interconnection customers and (d) the interrelationship of queue processing to baseline upgrades that may already be underway. This fundamental step of a detailed analysis of the size and complexities of a given queue recognizes that a 'one size fits all' deadline for processing of queues of varying size and complexity simply does not comport with reality. The queue-specific analysis of a projected study completion date will be informed by historic data as to the complexities of queue processing, drop-out rates and other factors that could impact queue processing. To ensure that there are appropriate checks and balances on the choice of target dates, the proposed dates will be reviewed with stakeholders and made available publicly for review and comment by existing and potential new interconnection customers.

2. If the number of days for completion of the studies for the queue are missed by *10 percent*, no action will be taken other than a public posting of the missed date.

3. If the number of days for completion of the studies for the queue are missed by *25 percent*, the RTO and affected transmission owners will jointly file a report to the Commission as to the situation that caused the queue study completion date(s) to be missed. The joint report will also address whether it is expected that study completion dates for future queues are expected to be missed to the same degree as a result of the particular cause that gave rise to the missed deadline for the queue in question. The RTO and transmission owners will also explain in their filing any proposed process reforms to resolve identified causes for study completion delays. To avoid duplication, that filing could be added to the transmission provider's ongoing Order 845 informational study metrics reports;

4. If the number of days for completion of the queue are missed by *40 percent*, the Commission, at its discretion, may initiate an FPA section 206 proceeding to determine the explanation for the recurring delays as well as any process improvements or tariff changes the RTO and transmission owners are planning to address the situation. The Commission can review the reasonableness of those proposals and memorialize the same in an order in that proceeding.

5. If despite the FPA section 206 proceeding and the proposed process improvements detailed in the order in that proceeding, the subsequent queues are expected to miss the study completion deadlines at the same level that gave rise to the section 206 proceeding, then the Commission may take further action, which could include the imposition of penalties for any

proven malfeasance or misfeasance in the actions of the RTO or the transmission owners based on record evidence.

6. Any penalties imposed will take into account whether their imposition will achieve compliance or, in the alternative, whether the imposition of the penalty will unduly harm RTO customers and not serve their intended purpose when applied to RTOs. Parties to the proceeding may propose alternatives to the imposition of penalties to address the demonstrated misfeasance or malfeasance.

The imposition of automatic penalty provisions is unjust, unreasonable, and may result in adverse and unintended consequences. If the Commission nevertheless ultimately imposes financial penalties for study delays, it should, at a minimum, (1) modify the penalty provisions to account for the difficulty in knowing, for any given queue, how much RTO and transmission owner engineering work is required and thus how much time will be required to complete studies for a given queue, and to account for reasonable causes for delays beyond a force majeure situation; or (2) allow RTOs to cap the number of requests they would accept in a given cluster to an amount that is commensurate with the resources available to perform such work. The PJM alternative proposal is designed to recognize these realities.

E. Additions to the LGIP and SGIP Should Produce Substantial Benefits for All Parties and Not Impede Efficient Interconnection Processes

1. Affected Systems coordination

The NOPR proposes to revise the LGIP to include an affected systems study process.[129] The proposed process would require a transmission provider to notify the

[129] NOPR at P 183.

affected system operator of a potential affected system impact caused by the interconnection request within 10 business days after the close of the first event giving rise to the identification of an affected system impact, and to provide, at a minimum, monthly data updates about its transmission system and generation in its interconnection queue for the duration of the affected system study process.[130] The transmission provider would also be required to provide the interconnection customer with a list of potential affected systems.[131] Transmission providers acting as an affected system would be required to respond within 15 days of receiving notice from the host transmission provider whether they intend to perform an affected system study.[132] Scoping meetings would occur within 14 days of receipt of the response.[133]

The NOPR also requires the use of a "first-ready, first-served" interconnection queue priority approach, which would require the transmission provider acting as the affected system to assign the affected system interconnection customer an interconnection queue position in its interconnection queue according to when the affected system interconnection customer executes an affected system study, rather than when the affected system interconnection customer entered its host transmission provider's queue.[134] The transmission provider acting as the affected system would be required to provide the affected system interconnection customer with affected system study results within 90 calendar days after the receipt of the executed affected system study agreement, and

[130] *Id.* at P 184.

[131] *Id.*

[132] *Id.* at P 185.

[133] *Id.* at P 186.

[134] *Id.* at P 189.

tender an affected system facilities construction agreement within 30 calendar days.[135] Compliance with these requirements would be subject to financial penalties.[136]

PJM does not dispute that the affected systems coordination processes in place today are in need of reform, and that increased transparency and coordination may help interconnection customers to better evaluate costs and reduce the need for re-studies.[137] Nevertheless, as discussed below, a Commission-imposed affected systems coordination process that is defined in the tariff will be unworkable and inefficient.

As a threshold matter, each transmission provider is on a different study schedule within its own generator interconnection process. While the NOPR asserts that under its proposal "transmission providers conducting cluster studies are not required to delay those studies by waiting for the results of affected systems studies,"[138] such delays will be inevitable under the process proposed. As with the additional studies discussed in sections I.C and III.C above, each additional affected system study, kick off meeting, and related deadline causes delays to the existing interconnection processing. The Commission will be leaving RTO/ISO personnel with a Hobson's choice given that the deadlines of its own generator interconnection process and the affected system process inevitably overlap (and it faces strict liability and severe penalties under the NOPR if its own interconnection processes are delayed). The NOPR's disregard of volume and complexity of interconnection requests in setting deadlines, while seeking to award priority to every type of project, sets transmission providers up for inevitable failure.

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[135] *Id.* at PP 190-91.

[136] *Id.* at P 192.

[137] *Id.* at P 182.

[138] *Id.* at P 192.

Moreover, moving affected system projects ahead before all studies have been completed, or studying them for energy delivery only, could cause operational problems or require curtailment. It could also lead to late-stage withdrawals when the full scope of necessary Network Upgrades is known. Late-stage withdrawals create uncertainty for the remaining projects.

Given the practical impediments to implementation and the inefficiencies resulting from a process aimed at increased transparency, the proposed affected systems coordination process will not achieve the objective it is designed to address. Rather than the overly prescriptive approach proposed in the NOPR, PJM suggests requiring a stated structure for Affected Systems coordination, with defined steps and checkpoints, similar to the process PJM has been working to implement with neighboring systems through its joint operating agreements with those neighboring systems. PJM has outlined how it expects neighboring entities to support its reformed interconnection process and how PJM will study and treat the Affected Systems requests it receives from neighboring systems. Under the reformed interconnection process set forth in the June 14 Filing, there will not be more than two Cycles occurring at the same time, reducing the impact of PJM's interconnection process on neighboring systems.

2. Surplus Interconnection Service

The NOPR proposes to expand Surplus Interconnection Service, building on the process established in Order No. 845 that enabled new interconnection customers to utilize unused portions of an existing interconnection customer's approved interconnection service through the inclusion of an additional generating facility behind a single point of

interconnection.[139] The NOPR would require transmission providers to allow interconnection customers to access the Surplus Interconnection Service process once the original interconnection customer has an executed LGIA or requests the filing of an unexecuted LGIA, earlier in the process than is currently allowed.[140] The Commission states that this expansion "would increase the overall efficiency of the interconnection queue and ensure the efficient use of available interconnection capacity that has already been studied and granted to an interconnection customer."[141]

In PJM's view, the current Surplus Interconnection Service construct provides no value due to the challenges inherent in assessing the dynamic response associated with adding a surplus resource to the system while not infringing on the rights of the interconnection customers in the queue or the "headroom" on the system, and therefore PJM sees no benefit in expanding its application as the NOPR proposes. PJM's existing Surplus Interconnection Service[142] is rarely used. Since the service was made available in compliance with Order No. 845, PJM has had only one request for Surplus Interconnection Service; the request was subsequently withdrawn and never received an ISA. Accordingly, in PJM's experience, Surplus Interconnection Service imposes overhead costs (applications, database support, training and resources), but has provided no value to customers wishing to interconnect.

[139] *Id.* at P 262.

[140] *Id.* at P 264.

[141] *Id.*

[142] Tariff, Part IV, Subpart A, 36.1.1B & Attachment RR.

3. Customer-provided operating assumptions

The NOPR proposes to require transmission providers, at the request of an interconnection customer, to use customer-provided operating assumptions for interconnection studies that "reflect the proposed operation" of an energy storage resource or hybrid resource.[143] The requested assumptions would be memorialized in the interconnection customer's interconnection agreement, and failure to operate the electric storage resource or hybrid resources in accordance with these conditions could result in breach.[144] The NOPR requests comment on the extent of the burden on transmission providers in tracking the usage of such operating limitations.[145]

Both of these proposals are fundamentally inconsistent with how PJM performs its planning studies and the manner in which PJM operates the system in real time. First, while operational flexibility of energy storage projects is a benefit of these types of resources, PJM planning studies are different from operational studies. For example, the GenDeliv test[146] is a stress test on exporting the Capacity Resources in a given area. This test does not guarantee that a given resource will be chosen to produce energy at any given system load condition. Rather, its purpose is to ensure that bottled-up capacity conditions that limit the availability and usefulness of certified Capacity Resources to system operators will not exist. In actual real-time operating conditions, energy-only resources may displace Capacity Resources in the economic dispatch that serves load.

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[143] NOPR at P 280.

[144] *Id.*

[145] *Id.* at P 283.

[146] *See PJM Manual 14B*; *PJM Region Transmission Planning Process, Revision 51*, PJM Interconnection, L.L.C. Attachment C at section C.1.2 (Dec. 15, 2021), https://www.pjm.com/-/media/documents/manuals/m14b.ashx.

Second, requiring PJM to model storage or hybrid resources using asymmetric operation assumptions based on parameters set by the interconnection customer and then to ensure these projects are operating in accordance with the assumptions and parameters they supplied to PJM would impose an insurmountable administrative burden on PJM and would be extremely difficult to police and enforce. It also does not guarantee that units will operate within their studied parameters. While PJM could verify a resource's operating range is consistent with study parameters when it initially goes into service, enforcement over time would be difficult, if not impossible. The resulting inability to enforce customer-provided parameters could create a scenario in which, in the aggregate, hundreds of resources within the PJM footprint could be operating outside of studied conditions. Such a scenario could put PJM at operational risk, negatively affecting reliability.

4. Evaluation of alternative transmission technologies

The NOPR proposes to require transmission providers, at the request of an interconnection customer, to evaluate a specific alternative transmission technology.[147] The NOPR also seeks comment on whether its list of alternative transmission technologies is sufficient, on barriers to use of alternative transmission technologies, and whether transmission providers should be required to submit annual reports detailing the alternative technologies used.[148]

As PJM recently demonstrated in another Commission rulemaking proceeding, while alternative technologies are useful operational tools, incorporation of such

[147] NOPR at P 297-98.

[148] *Id.* at PP 297, 300-01.

technologies in the planning process provides little value.[149] As with their place (or lack of place) in long-term transmission planning, alternative technologies should not be incorporated into the generator interconnection process because they do not represent long-term solutions that can serve as blanket substitutes for the need for transmission expansion.[150] PJM therefore cautions the Commission not to conflate the operational benefits of alternative transmission technologies, such as dynamic line ratings, with the need to address significant capacity enhancement needs (short and long-term) or long-range transmission needs under rapid growth or changing resource mix scenarios. PJM addressed these issues in its recent comments filed in Docket Nos. RM21-17-000 and AD22-5-000, and incorporates those comments here by reference.[151]

[149] *See Building for the Future through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*, Initial Comments of PJM Interconnection, L.L.C., Docket No. RM21-17-000, at 105-06 (Aug. 17, 2022).

[150] *See id.* at 108.

[151] *See Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*, Docket No. RM21-17-000, Initial Comments of PJM Interconnection, L.L.C. at 8, 105-06, 108-09 (Aug. 17, 2022); *Implementation of Dynamic Line Ratings*, Docket No. AD22-5-000, Motion to Leave to Intervene and Comments of PJM Interconnection, L.L.C. at 2-10 (May 9, 2022).

IV. COMMUNICATIONS

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V. CONCLUSION

For the reasons stated above, PJM respectfully requests that the Commission take these comments into consideration, and hold in abeyance the compliance obligations imposed by a final rule adopted in this proceeding until PJM has completed its transition to its reformed interconnection processes set forth in the June 14 Filing.

Respectfully submitted,

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