UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, LLC	**)**	**Docket No. ER24-2045**
	)	

PROTEST OF PUBLIC INTEREST ORGANIZATIONS

Dated: June 20, 2024.

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Protest of Public Interest Organizations

Pursuant to Rule 211 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("FERC" or "Commission"), Environmental Law and Policy Center, Illinois Citizens Utility Board, Sierra Club, Natural Resources Defense Council, Penn Future, Union of Concerned Scientists, and Sustainable FERC Project (collectively "Public Interest Organizations" or "PIOs") submit this Protest to PJM Interconnection, LLC's ("PJM") compliance filing with Order No. 2023.[1]

I. INTRODUCTION

In Order No. 2023, the Commission crafted comprehensive reforms to respond to the profound nationwide problem of clogged interconnection queues that reduce the entry of new generation to a glacial pace. No region is more acutely in need of these reforms than PJM. The interconnection queue in PJM is among the longest in the nation, whether measured by the number of projects, total electric capacity, or how long projects languish awaiting studies. The queue is so badly backlogged that PJM is not reviewing any new applications—and will not do so until 2026 at the earliest. At the same time, PJM is sounding the alarm about a reliability crisis because new generation cannot come online quickly enough to replace retiring power plants. To accelerate interconnection and bring new generation online to avoid reliability challenges from foreseeable retirements, PJM should welcome Order No. 2023's reforms with open arms.

Instead, PJM resists reform to its interconnection process. PJM proposes very few changes to comply with Order No. 2023, and the few changes it proposes do not meet the Order's rigorous standards. While PIOs supported PJM's proposal of its current interconnection process before the Commission issued Order No. 2023, PIOs cautioned at the time that

[1] PJM Interconnection, LLC, *Order Nos. 2023 and 2023-A Compliance Filing of PJM Interconnection, LLC* ("PJM Compliance Filing"), Docket No. ER24-2045 (May 16, 2024), Accession No. 20240516-5155.

compliance with Order No. 2023 would likely require additional significant reforms. PIOs continue to believe that PJM's interconnection process could provide a foundation for further improvements to fully comply with Order No. 2023—and PIOs believe that PJM can implement such improvements without disrupting ongoing efforts to clear the backlogged queue. But PJM has not proposed meaningful changes to its interconnection process or any transition mechanism to implement further reforms smoothly. Especially because PJM's lengthy interconnection queue continues to stymie the entry of new resources that the region badly needs for reliability and affordability, PIOs encourage the Commission to require that any independent entity variations in PJM must fully and rigorously meet Order No. 2023's comprehensive goals.

To be clear, PIOs do not believe that PJM must begin at square one or must necessarily adopt the Commission's *pro forma* procedures. PJM's existing first-ready, first-served cluster study process complies with one of Order No. 2023's objectives—but does not achieve all the Order's goals, such as speed and accountability. PJM can and should refine its existing process to comply with Order No. 2023 by meeting the Order's remaining key objectives, including: (1) reducing study timelines to the level the Commission specified; (2) implementing binding deadlines; (3) studying technologies that can make network upgrades more affordable; (4) realistically studying the charging behavior of storage resources seeking interconnection; and (5) holding transmission providers accountable for study delays. To avoid disruption to ongoing work to clear the queue, PIOs would also support an appropriate transition period.

II. BACKGROUND

A. PJM's lengthy interconnection queue exemplifies the problems that Order No. 2023 aims to solve.

In Order No. 2023, the Commission found that "large interconnection queue backlogs and uncertainty regarding the cost and timing of interconnecting to the transmission system" are

"increasing costs for consumers" and creating "reliability issues as needed new generating facilities are unable to come online in an efficient and timely manner."[2] The Commission reasoned that "[t]hese backlogs and delays, and the resulting timing and cost uncertainty, hinder the timely development of new generation and thereby stifle competition in the wholesale electricity markets."[3] This problem exists nationwide: "every single region has faced an increase in both interconnection queue size and the length of time interconnection customers are spending in the interconnection queue prior to commercial operation."[4]

To address this pervasive problem, the Commission crafted an integral, comprehensive set of reforms based on best practices from around the country. The Commission emphasized that its integrated approach "as a whole, will improve the efficiency of study processes, reduce interconnection queue backlogs, and thereby ensure just, reasonable, and not unduly discriminatory or preferential rates."[5] And while the Commission acknowledged that "the majority of the individual reforms . . . have already been implemented in one or more regions," it stressed that the "broad suite of reforms [], in their entirety, have not yet been adopted by any region and . . . will ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner."[6]

PJM exemplifies the need for queue reform that the Commission identified in Order No. 2023. Beginning in roughly 2018, a huge amount of low-cost, clean energy sought interconnection to the PJM grid—and because PJM's slow, serial process was ill-equipped to

[2] *Improvements to Generator Interconnection Procedures and Agreements* ("Order No. 2023"), 184 FERC ¶ 61,054 at P 3 (2023).
[3] *Id.* at P 37.
[4] *Id.* at P 38.
[5] *Id.* at P 59.
[6] *Id.*

study so many projects, the queue rapidly grew beyond PJM's ability to facilitate timely interconnection.[7] The results were bad for new entry and bad for consumers. New entry slowed dramatically: as the Commission found in Order No. 2023, by February 2022, all of the projects in PJM's queue had waited at least a year for studies, a third had been stagnant for over 500 days, and nearly a quarter had languished for over two years.[8] And the cost of new entry soared, as "[i]n PJM, interconnection costs, per kW, [] doubled (or more) for recently completed generating facilities."[9] Due to these delays and mounting interconnection costs, consumers are not receiving the benefits of the vast amount of low-cost, clean energy stuck in the PJM queue.[10]

B. PJM's interconnection reforms address only parts of Order No. 2023.

PJM recognized that its interconnection backlog had become a crisis and began working with its stakeholders in 2020 to develop reforms, which aimed to "more efficiently and timely process" new entry "by transitioning from a serial first-come, first-served queue process to a first-ready, first-served clustered cycle approach."[11] PJM's move to a first-ready, first-served cluster study process is an "individual and incremental improvement[]" that meets one of Order No. 2023's goals—but does not achieve the Order's goal of a comprehensive "broad suite of

[7] *See PJM Interconnection, LLC*, ("PJM Interconnection Reform Order"), 181 FERC ¶ 61,162 at P 5 and n.15 (2022) (noting that PJM "received 470 New Service Requests in 2018; 708 requests in 2019; 1,028 requests in 2020; and 1,352 requests in 2021"); *see also id.* at P 5 (noting that "the volume of New Service Requests has more than tripled in the past three years" resulting in "a mounting backlog").
[8] Order No. 2023, 184 FERC ¶ 61,054 at P 39 ("[A]s of February 2022, all 2,274 projects waiting for an interconnection agreement in the PJM interconnection queue had been waiting for a year or more; 33% (758 projects) had been waiting more than 500 days, 22% (497 projects) have been stuck for more than two years, and 7% (166 projects) have been waiting more than three years.").
[9] *Id.* at P 41.
[10] *See* PJM Interconnection Reform Order, 181 FERC ¶ 61,162 at P 31 (noting that as of May 2022, PJM had "over 2,700 active projects, representing more than 250,000 MW, at various points in its study process"); *see also* PJM, *Energy Transition in PJM: Resource Retirements, Replacements & Risks* ("PJM Resource Retirement Report") at 2 (2023) (noting that 94% of the PJM interconnection queue consists of 290 GW of renewable energy projects).
[11] *See* PJM Interconnection Reform Order, 181 FERC ¶ 61,162 at P 1.

reforms."[12] For this reason, PIOs supported PJM's proposed reforms while stressing that "it is essential" that approval of PJM's reforms "not prejudice the outcomes of" Order No. 2023.[13] PIOs explained that while PJM's reforms addressed some of then-proposed Order No. 2023's objectives, PJM ignored others, such as the need to consider grid-enhancing technologies or the need for penalties for study delays.[14] Hence, PIOs cautioned that even with the proposed reforms, PJM's interconnection process would still "suffer from many of the flaws in current interconnection procedures identified as potentially unjust, unreasonable, or unduly discriminatory" in then-proposed Order No. 2023.[15]

Although the Commission approved PJM's interconnection reforms in 2022, nothing in PJM's proposal or the Commission's ruling foreclosed further reforms to comply with Order No. 2023. For example, PJM itself "argue[d] that the issue of whether to apply penalties for delays in the interconnection process is best addressed holistically as a policy matter in the interconnection rulemaking proceeding."[16] Similarly, the Commission did not forever reject the need for firm deadlines, instead declining to require them only "at th[at] time."[17] Hence, both PJM and the Commission foresaw the need for further reforms in light of Order No. 2023.

Commissioner Clements foreshadowed the need for further reform even more starkly while "reluctantly concur[ring]."[18] As Commissioner Clements explained, "[t]he unfortunate fact

[12] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 59 ("This final rule uses some of the individual and incremental improvements as a basis for a broad suite of reforms that, in their entirety, have not yet been adopted by any region and we believe will ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner.").
[13] *See* Comments of Public Interest Organizations at 2, Docket No. ER22-2110 (July 14, 2022), Accession No. 20220714-5195.
[14] *Id.* at 3–4.
[15] *Id.* at 10.
[16] PJM Interconnection Reform Order, 181 FERC ¶ 61,162 at P 120.
[17] *Id.* at P 138.
[18] *Id*. (Clements, Comm'r, concurring at P 1).

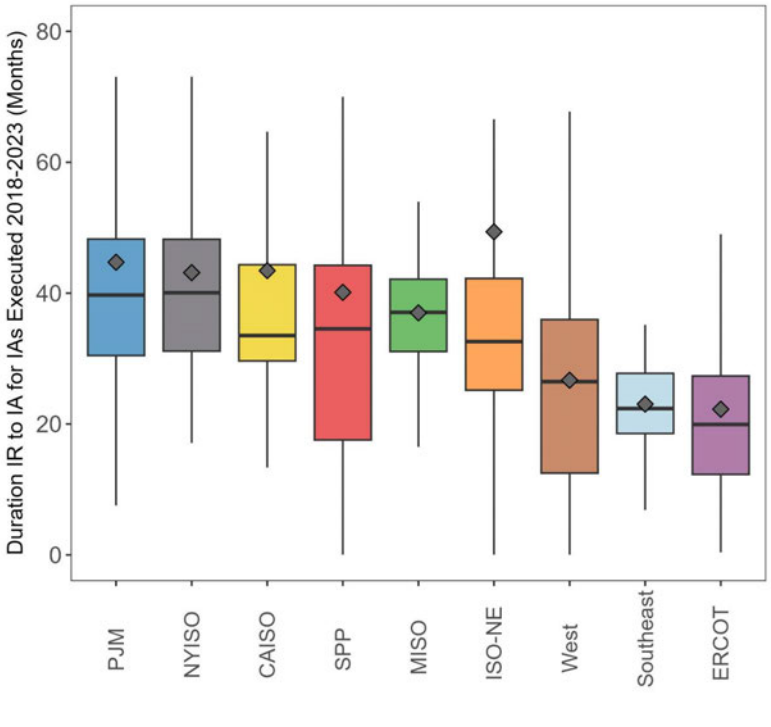
is that PJM's interconnection queue has spiraled out of control," with "only one percent of all facilities studies" completed on time.[19] The consequences are severe: "PJM's interconnection process is failing customers, as thousands of megawatts of projects holding the potential to deliver lower cost energy to customers while enhancing system reliability wait years to connect to the system and face enormously costly delays."[20] Hence, while finding that "PJM has done just enough to demonstrate that its proposal is just and reasonable," Commissioner Clements noted that Order No. 2023 "remain[ed] pending and its broader record may well provide a basis for further changes to PJM's interconnection process."[21]

C. PJM's queue remains among the longest in the nation and will not accept new entry until 2026 at the earliest.

Eighteen months after the Commission approved PJM's current interconnection process, PJM's queue now remains among the most backlogged in the nation—even though PJM is not reviewing any new projects. At the end of 2023, PJM had 3,309 active projects stuck in its queue—the largest number of any region.[22] In terms of capacity, 286.7 GW were mired in PJM's

[19] *Id.* (Clements, Comm'r, concurring at PP 1, 3).
[20] *Id*. (Clements, Comm'r, concurring at P 1).
[21] *Id.* (Clements, Comm'r, concurring at P 2).
[22] Lawrence Berkeley National Laboratory, *Queued Up: 2024 Edition*, *Characteristics of Power Plants Seeking Transmission Interconnection As of the End of 2023* ("Queued Up 2024") at slide 9 (April 2024), available at https://emp.lbl.gov/sites/default/files/2024-04/Queued%20Up%202024%20Edition_1.pdf (Attachment 1).

queue as 2023 ended—the nation's fourth largest queue.[23] In terms of delay, projects languish in PJM's queue longer than in any other region, as depicted below:[24]



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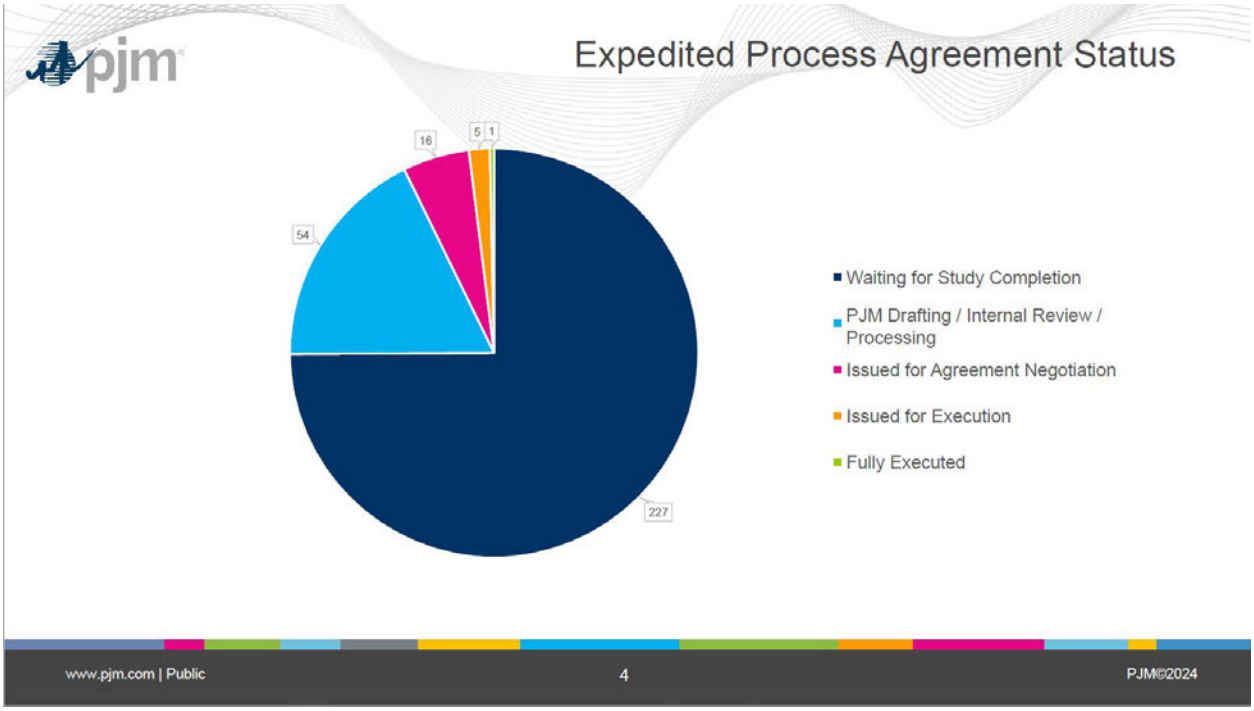
In its compliance filing, PJM describes itself as in "mid-flight" with its current interconnection process, but the progress it describes toward "reducing its study backlog" reflects only a small percentage of the necessary work.[25] PJM states that it "processed 160 service agreements for projects representing approximately 18,000 megawatts ("MWs") in 2023 alone."[26] However, 160 service agreements constitute only 4.8% of the 3,309 active projects in PJM's queue at the end of 2023. Similarly, the 18,000 MW that PJM cleared in 2023 reflects only 6.2% of the 286.7 GW still in the queue at the end of 2023. As of the end of 2023, "[i]n

[23] *Id.*
[24] *Id.* at slide 35.
[25] PJM Compliance Filing, *supra* note 1, at 10.
[26] *Id.*

PJM, just ~25 GW ha[d] signed [interconnection agreements], though it's the largest U.S. RTO"—placing PJM well behind most other regions.[27]

Even PJM's interconnection "fast lane" is moving slowly. According to the recent PJM "Fast Lane Progress Update" reproduced below, roughly 75% of purportedly "expedited" projects in PJM's queue are still waiting for PJM to complete studies.[28] And as of April 2024, *only one expedited project had received an executed agreement*.[29]



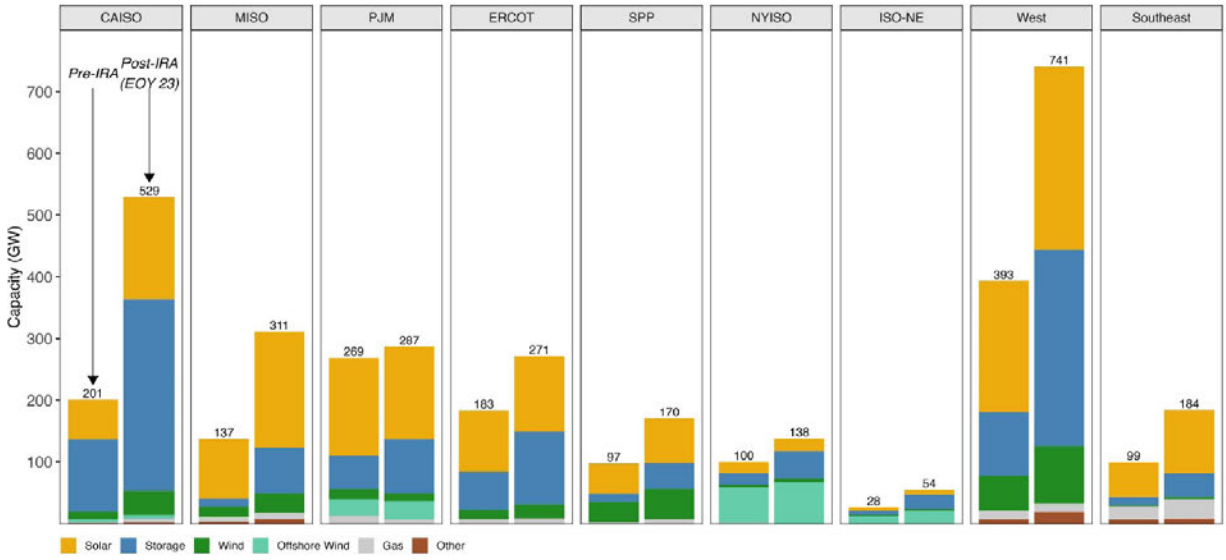
PJM also stands out among regional markets because its four-year freeze on reviewing new interconnection requests is the longest in the country.[30] PJM's 2022 interconnection reforms included a "four-year pause on new interconnection requests,"[31] meaning that PJM will not

[27] LBNL, *Queued Up* 2024, *supra* note 22, at slide 22.
[28] *See* PJM, *Fast Lane Progress Update* at slide 4 (April 2024), available at https://www.pjm.com/-/media/committees-groups/subcommittees/ips/2024/20240422/20240422-item-04---fast-lane-progress-update.ashx.
[29] *Id.*
[30] *See* LBNL, *Queued Up 2024*, *supra* note 22, at slide 12 (noting one year pauses in CAISO and MISO, but a four-year stoppage between 2022 and 2026 in PJM).
[31] PJM Interconnection Reform Order, 181 FERC ¶ 61,162 (Clements, Comm'r, concurring at P 3).

review any new requests until it reopens the queue, which may—or may not—happen in 2026.[32] PJM's current process contains no binding deadlines or mechanisms for accountability for reopening the queue on the lengthy timeline it proposed. And PJM's compliance filing essentially ignores the stoppage in reviewing new interconnection requests, merely stating that it "currently anticipates" that it will begin "its first Cycle" involving new projects "in 2026,"[33] an anticipation that fails to provide the Commission with any actual evidence—much less any binding commitment—that PJM's queue will reopen on time.

In the meantime, with PJM's queue remaining backlogged, consumers are missing out on the benefits of new projects for which important federal and state policies continue to reduce costs. As Lawrence Berkeley National Laboratory explains, "[c]lean energy has ballooned in many regions' queues after the passage of the Inflation Reduction Act (IRA), which likely spurred additional development interest."[34] But because PJM is not reviewing any new interconnection requests, the IRA cannot spur investment in low-cost clean energy in this region—meaning that PJM has seen the least post-IRA investment of any part of the country, as LBNL shows[35]:

[32] LBNL, *Queued Up 2024*, *supra* note 22, at slide 7.
[33] PJM Compliance Filing, *supra* note 1, at 60.
[34] LBNL, *Queued Up 2024*, *supra* note 22, at slide 50.
[35] *Id.*



In other words, consumers in the nation's largest wholesale energy market are missing out on one of the most consequential federal energy investments in U.S. history.[36] The same is true for state policies that aim to drive new generation: PJM's inability to review new interconnection requests also limits the impact of state laws such as the Illinois Climate and Equitable Jobs Act[37] or the Virginia Clean Economy Act.[38]

[36] *See*, *e.g.*, U.S. Dep't of Treasury, *The Inflation Reduction Act: Pro-Growth Climate Policy*, available at https://home.treasury.gov/news/featured-stories/the-inflation-reduction-act-pro-growth-climate-policy#:~:text=The%20Inflation%20Reduction%20Act%20(IRA,investment%20in%20our%20economic%20growth. ("The Inflation Reduction Act (IRA) is the largest investment in reducing carbon pollution in U.S. history" and "serves as a key investment in our economic growth"); *see also* The White House, *FACT SHEET: One Year In, President Biden's Inflation Reduction Act is Driving Historic Climate Action and Investing in America to Create Good Paying Jobs and Reduce Costs*, available at https://www.whitehouse.gov/briefing-room/statements-releases/2023/08/16/fact-sheet-one-year-in-president-bidens-inflation-reduction-act-is-driving-historic-climate-action-and-investing-in-america-to-create-good-paying-jobs-and-reduce-costs/ (noting that the Inflation Reduction Act is "the largest investment in clean energy and climate action ever").

[37] Illinois Climate and Equitable Jobs Act, Public Act 102-0662, available at https://www.ilga.gov/legislation/publicacts/102/PDF/102-0662.pdf.

[38] Virginia Clean Economy Act, HB 1526, available at https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+CHAP1193.

D. The Commission has already found that PJM's existing interconnection process does not presumptively comply with Order No. 2023.

In Order No. 2023-A, the Commission "reject[ed] requests to presume that any transmission provider's tariff meets the requirements of Order No. 2023."[39] Specifically, the Commission was "unpersuaded by PJM's arguments on rehearing that ongoing, recently approved interconnection queue reform packages presumably already comply with Order No. 2023."[40] Rejecting arguments that PJM's reforms rendered Order No. 2023 stale or premature,[41] the Commission found that PJM provided no significant evidence of the reforms' efficacy: "due to the early stages of PJM's reforms, the instant record does not contain any information regarding the effects of such reforms, including whether PJM is meeting all study deadlines on time, the overall length of time for each interconnection, or the portion of interconnection customers reaching commercial operation."[42] PJM still has not provided such evidence. The Commission also found no evidence that PJM "is unaffected by the underlying factors that are persistent and increasing drivers of widespread interconnection queue delays and backlogs."[43] To the contrary, PJM's lengthy, persistent backlog—and its stoppage in reviewing new requests—show that PJM is still suffering profoundly from the drivers of queue delays.

Finally, PJM's adoption of a first-ready, first-served cluster process did not persuade the Commission that PJM should be excused from Order No. 2023's comprehensive requirements. The Commission was unsurprised that "many transmission providers have adopted many of the reforms in Order No. 2023" because the Commission crafted the rule by "carefully examin[ing]

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[39] *Improvements to Generator Interconnection Procedures and Agreements: Order on rehearing and clarification* ("Order No. 2023-A"), 186 FERC ¶ 61,199 at P 78 (2024).
[40] *Id.*
[41] *Id.* at PP 27, 29, 31, 39.
[42] *Id.* at P 40.
[43] *Id.*

recent queue reform proposals to identify best practices to implement nationwide."[44] Rather than finding the single measure of moving to first-ready, first-served cluster studies sufficient, the Commission stressed that "no transmission provider has yet adopted *all* of the reforms in Order No. 2023."[45] The Commission also reiterated the *integrated* nature of Order No. 2023, noting that *"*this broad suite of reforms, *as a whole, is necessary* to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner."[46]

III. DISCUSSION

A. The Independent Entity Variation

PJM bears the burden of justifying any deviation from Order No. 2023 as an independent entity variation.[47] To do so, PJM must demonstrate that each variation from the Order is (1) just and reasonable, and (2) accomplishes Order No. 2023's purposes.[48] As FERC clarified in Order No. 2023-A, each deviation from the Order must be individually justified, and "general statements alone are insufficient."[49] Moreover, PJM may not merely state that a variation was made to conform with its current practices, definitions, or terminology.[50]

Any previous approval of tariff provisions on issues that Order No. 2023 encompasses is irrelevant to the Commission's consideration of proposed independent entity variations from Order No. 2023, because prior variations were considered under a different standard. As the

[44] *Id.* at P 48.
[45] *Id.* (emphasis original).
[46] *Id.* (emphasis added).
[47] *Id.* at P 79.
[48] *See PJM Interconnection, LLC*, 181 FERC ¶ 61,162 at P 2 (2022).
[49] Order No. 2023-A, 186 FERC ¶ 61,199 at P 79. The Commission used this same approach to evaluate variations from Order No. 2006 and Order No. 845. *See, e.g.,* Order No. 2006, 111 FERC ¶ 61,220 at P 549 (noting that to justify an independent entity variation, "[t]he RTO or ISO should explain the basis for each variation").
[50] *New York Independent System Operator*, 170 FERC ¶ 61,117 at P 14 (2020).

Commission explained, any acceptance of filings evaluated under the standards of *previous* orders "has no bearing on whether [a transmission provider] has satisfied its obligation to comply with the requirements of Order No. 2023."[51] Thus, while PJM's 2022 filing may have been "just enough" to be just and reasonable before the finalization of Order No. 2023, the Commission's new findings require fresh scrutiny of PJM's compliance submission.[52]

B. To ensure reliability, the Commission should require PJM to accelerate its interconnection process.

Accelerating interconnection is essential to maintaining reliability in the PJM region, in addition to providing consumers with economic benefits from competitive, low-cost energy. As PJM describes, the region "is at a critical juncture as new projects are needed to move into commercial operation to make up for the spate of retirements of existing generation."[53] PJM raises "a significant reliability concern" that under current policies, new entry may not be fast enough to ensure reliability as resources retire.[54] "High new entry" could avert this reliability concern, but only if PJM can clear sufficient new generation through the queue and these resources can come online quickly.[55] PJM raises doubts about whether new power plants will be built promptly upon clearing the queue due to challenges that PJM is quick to note are beyond its control.[56] Setting aside how PJM unfairly ignores how its own queue delays impair project construction,[57] the clear solution to this problem is to achieve Order No. 2023's purposes by

[51] *Arizona Public Service Company*, 186 FERC ¶ 61,201 at P 19 (2024).
[52] *PJM Interconnection, LLC*, 181 FERC ¶ 61,162 (2022) (Clements, Comm'r, concurring at P 2).
[53] PJM Compliance Filing, *supra* note 1, at 10.
[54] *Id.* at 48; *see also* PJM Resource Retirements Report, *supra* note 10, at 2 (noting that "it is possible that the current pace of new entry would be insufficient to keep up with expected retirements and demand growth by 2030").
[55] PJM, *Resource Retirements, Replacements & Risks: Frequently Asked Questions* at 11 (April 2023), available at https://www.pjm.com/-/media/committees-groups/committees/mrc/2023/20230328-special/resource-retirements-replacements-and-risks-faq.ashx.
[56] PJM Compliance Filing, *supra* note 1, at 48–49.
[57] Order No. 2023, 184 FERC ¶ 61,054 at P 43 (noting that "delayed interconnection study results or unexpected cost increases can disrupt numerous aspects of generating facility development"); *id.* at P 971 ("Interconnection

making interconnection timelier and more efficient. Accelerating interconnection will increase the number of new resources that can be built and thus improve the odds that new resources can come online quickly enough to maintain reliability.

However, instead of embracing the Commission's reforms in Order No. 2023 or proposing variations that fully comply with the Order, PJM proposes to retain the same interconnection procedures that it doubts will bring new generation online quickly enough to maintain reliability. And in the meantime, PJM is taking measures to prevent aging resources from retiring. To that end, PJM has sounded the alarm over federal pollution control regulations[58] and urged states not to adopt policies that could spur retirements.[59] It has proposed capacity market reforms that would postpone retirements by inflating revenues for existing capacity resources.[60] And it has backed extremely costly "reliability must run" contracts that harm consumers.[61] While PIOs appreciate the need to maintain reliability, PIOs believe the

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customers face financial harm when study deadlines are not met, ultimately inhibiting their ability to interconnect to the system in a reliable, efficient, transparent, and timely manner"); *see also* Abraham Silverman, et al., *Outlook for Pending Generation in the PJM Interconnection Queue* at 7 (May 2024), available at https://www.energypolicy.columbia.edu/publications/outlook-for-pending-generation-in-the-pjm-interconnection-queue/ (describing the "key finding" that "PJM's increasingly lengthy interconnection process is exacerbating siting and permitting challenges and leading to knock-on delays in equipment procurement and financing decisions, suggesting the timeline for new generation in this market will likely remain long for the foreseeable future.").

[58] *See* Joint Comments of Electric Reliability Council of Texas, Inc.; Midcontinent Independent System Operator, Inc., PJM Interconnection, LLC; and Southwest Power Pool, Inc., available at https://www.pjm.com/-/media/documents/other-fed-state/20230808-comments-of-joint-isos-rtos-docket-epa-hq-oar-2023-0072.ashx (criticizing proposed Clean Air Act regulations).

[59] PJM, *Fact Sheet for Policy Makers* at 1 (2024), available at https://www.pjm.com/-/media/about-pjm/ensuring-a-reliable-energy-transition/fact-sheet-for-policymakers.ashx ("PJM also urges policymakers to be cautious in advancing legislation that could further exacerbate the retirement of PJM's existing fleet."); *id.* at 4 ("PJM urges policymakers to: *Avoid* policies meant to push generation resources off the system until an adequate quantity of replacement generation is online and has been shown to be operating" (emphasis original).

[60] *See PJM Interconnection, LLC*, 186 FERC ¶ 61,097 (2024) (rejecting proposed capacity market reforms that would have increased market seller offer caps and limited eligibility for overperformance bonuses only to existing capacity resources).

[61] *See Brandon Shores, LLC*, RMR Arrangement – Continuing Operations Rate Schedule at 2, Docket No. ER24-1790 (April 18, 2024), Accession No. 20240418-5176 (proposing a reliability must run arrangement that would cost consumers nearly $15 million each month for over three years, or over $500 million and noting that the arrangement "is the result of nearly a year's long discussion between Talen and PJM"). The Independent Market Monitor maintains that the arrangement is unjust and unreasonable and would yield "windfalls . . . based on PJM's need for reliability." *Brandon Shores, LLC*, Protest of the Independent Market Monitor for PJM at 3, Docket No. ER24-1790

appropriate way to do so is to fully comply with the Commission's standards in Order No. 2023. Accelerating interconnection would enhance reliability and benefit consumers, but PJM's measures to keep aging resources online risk significant negative consequences, including failing to rein in harmful pollution,[62] encroaching on the policy-making role over generation that the FPA allocated to states,[63] and imposing unreasonable costs on consumers.[64] Fortunately, those negative consequences can be avoided (or at least mitigated) because the Commission has already crafted interconnection reforms that can maintain reliability by accelerating interconnection and fostering the entry of new generation—the vast majority of which is from non-emitting resources.[65]

In requiring PJM to accelerate interconnection, the Commission should reject PJM's misleading narrative that implementing Order No. 2023 would disrupt ongoing work to clear the backlogged queue.[66] PJM presents a false choice by arguing that "the Commission should grant the requested independent entity variations rather than requiring PJM to halt processing Interconnection Requests" and re-do work.[67] In reality, the Commission has consistently stated

(May 16, 2024), Accession No. 20240516-5171. Yet PJM has supported this reliability must run agreement while "tak[ing] no position regarding the specific cost-of-service or monetary elements." *Brandon Shores, LLC*, Motion to Intervene and Comments of PJM Interconnection, LLC at 2, Docket No. ER24-1790 (May 14, 2024), Accession No. 20240514-5127.

[62] *See* EPA, *New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emissions Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule*, 89 Fed. Reg. 39,798, 39,799 (May 9, 2024) (noting that because "GHG emissions endanger our nation's public health and welfare" and because "the evidence of the harms posed by GHG emissions has only grown and Americans experience the destructive and worsening effects of climate change every day," EPA finalized rules "to reduce the significant quantity of GHG emissions" from fossil fuel-fired power plants using "available and cost-effective technologies").

[63] *See* 16 U.S.C. § 824 (preserving state jurisdiction over "facilities used for the generation of electric energy").

[64] *See supra* note 62.

[65] PJM Resource Retirement Report, *supra* note 11, at 2 (noting that 94% of the PJM interconnection queue consists of 290 GW of renewable energy projects).

[66] *See*, *e.g.*, PJM Compliance filing, *supra* note 1, at 10 (claiming that "[w]ithout the requested independent entity variations, PJM will have to stop work, put in place new or altered procedures, and then redo under the Final Rule's processes, work it has already performed.").

[67] *Id.* at 3.

that it "do[es] not intend to disrupt [] ongoing transition processes or stifle further innovation" and invited "deviations seeking to minimize interference with ongoing transition plans"—so long as those "deviations satisfy the standards" of Order No. 2023.[68] These provisions solicit proposals for transition mechanisms that would achieve compliance with Order No. 2023 while allowing ongoing work on clogged queues to proceed.[69] However, the requirement that deviations must "satisfy the standards" of Order No. 2023 plainly disallows proposals that—like PJM's current filing—avoid purported disruption by failing to satisfy the Order's standards.

PIOs would support a reasonable transition mechanism to enable PJM to come into compliance with Order No. 2023 by further reforming its existing interconnection process without causing undue disruption to ongoing work to clear the backlogged queue. But PJM has not proposed one. PIOs respectfully recommend that the Commission should require PJM to propose a transition mechanism to come into full compliance with Order No. 2023 while continuing with ongoing work to clear the backlogged queue.

PJM's request to leave its current policies in place is not just and reasonable. PJM itself raises "a significant reliability concern" that its existing policies do not allow the entry of new resources to match the pace of retirements.[70] Attempting to avoid predictable resource retirements and pursuing out-of-market Reliability Must Run arrangements is not a viable alternative to comprehensive interconnection reforms. Instead, any threat to reliability should reinforce the need for the Commission to require PJM to comply fully with Order 2023.

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[68] Order No. 2023, 184 FERC ¶ 61,054 at P 1765; *see also* Order No. 2023-A, 186 FERC ¶ 61,199 at P 41 (reiterating these points in response to a suggestion that it had ignored regions' existing moves to cluster studies).
[69] *See*, *e.g.*, Order No. 2023, 184 FERC ¶ 61,054 at P 856 (noting that "given current interconnection queue backlogs in multiple regions, it is essential that the Commission craft a transition process"). While PIOs understand that PJM is exempt from Order No. 2023's specific mechanism for transitioning to cluster studies because PJM is already implementing cluster studies, *id.* at P 861, PIOs believe that the Commission's support for transition mechanisms to address queue backlogs remains relevant to PJM.
[70] *See* PJM Compliance Filing, *supra* note 1, at 48.

C. PJM fails to justify retaining its pause on reviewing new interconnection requests.

PJM's compliance filing is notably silent about one of the most salient features of its existing interconnection process—namely, the "four-year pause on new interconnection requests" under which PJM will not review any new entry into its interconnection queue until 2026 at the earliest.[71] And while PJM *might* clear its backlogged queue by that time, its filing states only that it "anticipates" that its first studies after it clears its queue will begin "in 2026"—without providing any clear evidence, much less any binding commitment, that it will achieve this timeline.[72] Importantly, PJM's proposes that its "rebate" system (which itself is not compliant with Order No. 2023, as discussed below) would take effect only upon the first cycle of studies *after* PJM clears its backlogged queue[73]—meaning that PJM would face no accountability for ongoing work to clear its interconnection backlog. Instead, PJM will merely proceed under the "reasonable efforts" standard that Order No. 2023 eliminates.[74]

PIOs remain concerned that the length of the stoppage in review of any new entry into PJM's queue, along with the lack of any binding deadlines or accountability for clearing the queue by 2026, mean that PJM's current process is unjust and unreasonable and will not achieve the objectives of Order No. 2023.[75] Order No. 2023's goal is "to ensure that interconnection

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[71] *See* PJM Interconnection Reform Order, 181 FERC ¶ 61,162 (Clements, Comm'r concurring at P 3). In proposing its current interconnection procedures, PJM argued that there would be "no block-outs, i.e. no periods in which applications will not be accepted." *PJM Interconnection, LLC*, Tariff Filing at 39–40, Docket No. ER22-2110 (June 14, 2022), Accession No. 20220614-5081. However, PJM also noted that until PJM clears its queue, any applications submitted after October 2021 will not be considered complete and "will need to supplement and update their New Service Requests with additional items" before PJM would begin reviewing them. *Id.* PJM maintains that "[t]hese projects will essentially be in the process but, by necessity, on hold." *Id.* PJM's attempt to characterize this process as anything but a pause in accepting new interconnection requests strains credulity, as PJM will not consider these applications complete and will not act on them.

[72] PJM Compliance Filing, *supra* note 1, at 60.

[73] *Id.*

[74] *PJM Interconnection, LLC*, 181 FERC ¶ 61,162 at P 69.

[75] *See id.* P 58 ("Public Interest Organizations argue that the lack of firm deadlines for PJM's transition cycles and New Rules may make the tariff revisions unjust and unreasonable.").

customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner."[76] A fundamental aspect of that goal is that new projects must be able to meaningfully begin the interconnection process, including the review of their applications. PJM's current process will not satisfy that fundamental component of a functional interconnection queue for at least two years.

In declining to find that PJM's existing process presumptively complies with Order No. 2023, the Commission found that "due to the early stages of PJM's reforms, the instant record does not contain any information regarding the effects of such reforms, including whether PJM is meeting all study deadlines on time, the overall length of time for each interconnection, or the portion of interconnection customers reaching commercial operation."[77] This evidentiary gap persists today: PJM argues that its existing interconnection process—including its stoppage in reviewing any new projects—complies with Order No. 2023 but fails to provide evidence that it is meeting study deadlines (to the extent deadlines exist) or will clear its queue on its anticipated schedule. PIOs do not believe that a queue effectively closed to new entry while work proceeds without clear deadlines or accountability is just or reasonable or will achieve Order No. 2023's purposes.

D. PJM's proposal for a belated and lax penalty structure does not comply with the rule.

The Commission should reject PJM's requested variation from the Order's provisions for penalties on transmission providers in the event of delayed interconnection studies. The Commission's elimination of the abused reasonable efforts standard in favor of more strict deadline enforcement is a key part of the Order, and one that is "needed to remedy unjust and

[76] Order No. 2023, 184 FERC ¶ 61,054 at P 3.
[77] Order 2023-A, 186 FERC ¶ 61,199 at P 40.

unreasonable rates and ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner."[78] Together with PJM's proposal for study timelines roughly twice as long as Order No. 2023 permits (discussed below), PJM's rebate proposal—even in its incomplete form—fails to provide a real incentive to complete studies on time. Hence, PJM's proposal fails to fulfill Order No. 2023's aims.

The Order's proposed penalty structure is "an integral element of a just and reasonable replacement rate to ensure that transmission providers are properly incentivized."[79] As the Commission explains, Order No. 2023 includes a "broad suite of reforms" that "as a whole, is necessary"[80] to target various causes of the interconnection backlog, including poorly aligned incentives for interconnection customers and transmission providers alike.[81] While site control requirements, increased deposits, and withdrawal penalties focus on interconnection customers, the penalty structure would "ensure that transmission providers are doing their part as well."[82]

Order No. 2023 strikes the appropriate balance in establishing the level and basic structure of the penalties. The Commission designed the study delay penalty structure to "balance[] the harm to interconnection customers of interconnection study delays and the associated need to incentivize transmission providers to timely complete interconnection studies with the burdens on transmission providers of conducting interconnection studies and potentially facing penalties for delays."[83] PIOs agree that the Commission accomplishes this balance with a reasonable grace period, increasing penalties for longer delays and later-stage delays, the capping

[78] Order No. 2023, 184 FERC ¶ 61,054 at P 968.
[79] *Id.* at P 989.
[80] Order No. 2023-A, 186 FERC ¶ 61,199 at P 48.
[81] Order No. 2023, 184 FERC ¶ 61,054 at P 968.
[82] *Id*.
[83] *Id.* at P 972.

of penalties at the study deposit amount, and the option for transmission providers to appeal penalties if good cause justifies study delays.

In contrast, PJM's penalty proposal does not properly balance the incentives between interconnection customers and transmission providers. PJM proposes three tiers of consequences for delayed interconnection studies, each of which starts *after* the grace period already established by the Commission.[84] As a baseline, PJM proposes to calculate a "targeted completion date" that will be "posted and reviewed" with stakeholders instead of using the timeline established by Order No. 2023.[85] If the delay is less than 10% longer than the total time allotted for the study, PJM would merely post the occurrence of the delay.[86] If the delay is 10 to 25% longer than the time allotted for the study, PJM would file a report with the Commission explaining the delay and proposed future preventative steps.[87] Only when the delay exceeds 26% of the targeted completion time would PJM (or a transmission owner) pay any penalty.[88] And even then, PJM would cap its fees at 50% of the total study deposits provided, rather than the 100% cap established in Order No. 2023.[89]

PIOs urge the Commission to reject PJM's proposals for an extended grace period, the substitution of reporting for appropriate penalties, and the lower cap on penalty amounts. First, PJM's extensive grace period would eliminate the incentive for speedier processing times that the Commission intended penalties to provide. PJM's proposal to significantly increase the grace period—and to do so on a percentage-calculation basis—is unjust and unreasonable, particularly

[84] PJM Compliance Filing, *supra* note 1, at 58-60.
[85] *Id.* at 58-59.
[86] *Id.* at 59.
[87] *Id.*
[88] *Id.*
[89] *Id.* at 60.

because PJM also proposes to retain a study process roughly twice as long as Order No. 2023 allows (as discussed below). Under PJM's current process, which takes up to 480 days,[90] no penalty would be assessed until the study was delayed by more than 120 days. In other words, under PJM's proposed process, no penalty would be assessed for delays that are nearly as long as the entire study process that Order No. 2023 contemplates.[91]

Second, PJM's proposed notice-and-report procedures are insufficient substitutes for the penalty structure. Indeed, the Commission has already noted that it does "not believe that imposing only a reporting requirement on study delays is sufficient to resolve the problem of interconnection queue backlogs and repeatedly delayed interconnection studies."[92] The Commission appropriately came to this conclusion in part based on the historical failure of the transparency measures in Order No. 845 to achieve reductions in study delays.[93] PJM's requested variation would water down the penalty provisions so much that the "reasonable efforts" standard would remain essentially intact.

Third, PJM's lower penalty cap of only 50% of study deposits neither adequately balances the harm to interconnection customers nor incentivizes PJM to meet its study deadlines. For penalties to be fair and effective behavioral incentives, they must be substantial enough to (a) reflect the costs that study delays impose on interconnection customers, and (b) incentivize the transmission provider's investment in infrastructure that will speed study processing, such as

[90] *See id.* at 33 (describing a three-phase study process, with Phase 1 taking 120 days, Phase 2 taking 180 days, and Phase 3 taking another 180 days, for a total of 480 days).
[91] Even assuming the Commission requires PJM to adopt Order No. 2023's study timelines, PJM's percentage-based proposal would still eliminate the function of the penalty incentive. Under the *pro forma* timeline of 150 days for a cluster study, for example, no penalty would be assessed until the study was 39 days late (in addition to the 10-day grace period).
[92] Order No. 2023, 184 FERC ¶ 61,054, at P 1025.
[93] Order No. 2023-A, 186 FERC ¶ 61,199 at P 281.

software and additional personnel.[94] The longer the interconnection study period, the more costs suffered by interconnection customers. PJM's 50% cap fails to appropriately lower the price that transmission providers can charge for studies that fail to meet the Commission's standards, and therefore would create an unjust and unreasonable rate.[95]

More broadly, PJM's justifications for its requested penalty variations demonstrate that PJM continues to misunderstand the Commission's well-reasoned basis for instituting the penalty structure in place of the reasonable efforts standard. In particular, PJM claims that its proposal avoids "the pitfalls of having to determine fault."[96] However, the Commission correctly decided—and thoroughly supported—that instituting study delay penalties against transmission providers will be effective because transmission providers are the entity with the most control over the process and timeline.[97] Recognizing that some delays may be beyond transmission providers' control, the Commission created an appeals process.[98] Counter to PJM's claim, it is only when transmission providers *choose* to get into questions of causation via the appeals process that the situation of determining fault arises. PIOs support this presumption and placement of the burden of proof on transmission providers, especially in light of the Commission's explanation that transmission providers have the most knowledge as to why a particular study delay might have occurred.[99]

[94] Order No. 2023, 184 FERC ¶ 61,054 at P 975.
[95] *See* Order No. 2023-A, 186 FERC ¶ 61,199 at P 289 (explaining that penalties are a "self-implementing performance incentive . . . that also effectively adjusts what transmission providers can charge for interconnection studies that fail to meet [the Order's] standards").
[96] PJM Compliance Filing, *supra* note 1, at 61.
[97] Order No. 2023-A, 186 FERC ¶ 61,199at P 284. *See also id.* at P 308 (noting that penalties "reflect[] the need for adequate incentives for transmission providers to take the steps within their control to help alleviate unjust and unreasonable rates stemming from interconnection queue delays and backlog").
[98] Order No. 2023, 184 FERC ¶ 61,054 at P 987.
[99] Order No. 2023-A, 186 FERC ¶ 61,199 at P 284.

PJM also tries to rely on the size of its interconnection queue as justification for its variations,[100] ignoring the Order's reasoning that the presence of large backlogs is what makes these reforms so vital. As the Commission notes on rehearing, "to the extent that factors contributing to study delays, including higher volumes or complexity of interconnection requests, are still expected to persist, this does not warrant failing to pursue other available solutions to reduce such backlogs that are within transmission providers' control."[101] Indeed, the Commission specifically noted that PJM's existing study backlogs "reinforce that it is imperative that [PJM] conduct their cluster study processes in a timely fashion, as will be facilitated by firm study deadlines."[102] PIOs firmly agree that the existence of significant backlogs and a larger queue in PJM makes adherence to Order No. 2023 more important, not less.

Finally, PIOs urge the Commission not to tolerate PJM's delayed compliance plan. Though PJM excuses its delayed filing under the assumption that it will still have time to finalize a penalty structure before the end of transition period, PJM simultaneously insists that the delay will provide "time for PJM and other interested parties to determine the success of the IPRTF Tariff and whether a penalty regime is even necessary."[103] But the Commission has already found that penalties are a necessary component of Order No. 2023. And as the Commission noted in Order No. 2023 and reiterated on rehearing, a more gradual approach such as allowing transmission providers to wait until the effect of other reforms are clear would not represent a just and reasonable rate.[104] The Commission also rightly points out that PJM cannot logically

[100] PJM Compliance Filing, *supra* note 1, at 57.
[101] Order No. 2023-A, 186 FERC ¶ 61,199 at P 288.
[102] *Id.* at P 292.
[103] PJM Compliance Filing, *supra* note 1, at P 57.
[104] Order No. 2023-A, 186 FERC ¶ 61,199 at P 296; *id.* at P 441 ("[G]iven that interconnection study delays are already a significant and widespread problem, we find that it would not be appropriate to further delay imposing meaningful incentives while we further 'monitor for chronic study delays' by individual transmission providers.").

have it both ways: PJM cannot simultaneously argue that penalties are unnecessary, while also arguing that it cannot comply with Order No. 2023's study deadlines.[105]

PIOs note two further gaps in PJM's logic. If PJM's reforms prove effective, then PJM should not mind having a penalty structure in place that it will never have to pay. On the other hand, if PJM does not meet its deadlines, then its reforms will have proven ineffective, and having a penalty structure in place would be essential. Moreover, PJM's insistence on reviewing future data ignores that such data would be biased by PJM's current freeze on reviewing new queue entrants; the mere ability to clear a frozen queue over the span of four years would not prove PJM capable of maintaining the pace of interconnection that Order No. 2023 requires. For all these reasons, the Commission should direct PJM to file a supplemental compliance filing, even prior to the Commission's review of the rest of PJM's filing.

PIOs are concerned that PJM does not suggest what it would establish as its penalty amounts, only when penalties would start to be levied. This is a critical detail that the Commission should direct PJM to include in its compliance filing. PIOs support an adoption of the penalty dollar amounts listed in Order No. 2023, assessed on a daily basis.

E. PJM's failure to ensure that studies meet the rule's timelines does not comply with the rule.

In Order No. 2023, the Commission found that "a 150-calendar day cluster study deadline provides a sufficient time to allow transmission providers to perform the stability analyses, power flow analyses, and short circuit analyses required in the cluster study process for complex clusters consisting of numerous interconnection requests."[106] However, despite the

[105] *Id.* at P 297 ("Both cannot be true.").
[106] Order No. 2023, 184 FERC ¶ 61,054 at P 324.

Commission sustaining this 150-day study timeline on rehearing,[107] PJM seeks an independent entity variation for a study timeline roughly twice as long as the 150-day timeline of Order No. 2023.[108] PJM's request for an independent entity variation is not just or reasonable and fails to achieve Order No. 2023's purposes.

PJM's current three-phase interconnection study process takes at least 480 days: 120 days for Phase 1, 180 days for Phase 2, and 180 days for Phase 3.[109] However, Phase 3 of PJM's process includes a facilities study that is not included in the Commission's 150-day cluster study timeline.[110] Under the process described in Order No. 2023, a Facilities Study commences after delivery of cluster study results and may take either 90 or 180 days.[111] Including the Facilities Study, the Commission's process could take either 240 days (150 + 90) or 330 days (150 + 180). If the *pro forma* Facilities Study takes 90 days, then PJM's process takes twice as long as permitted under Order No. 2023. If the *pro forma* Facilities Study takes 180 days, then PJM's process takes 150 days longer than Order No. 2023 permits—the entire duration of a cluster study. Finally, because PJM's process remains subject to extensions under the Reasonable Efforts standard, PJM's process may take much longer.[112]

Both in Order No. 2023 itself and again on rehearing, the Commission made extensive, record-based findings explaining that 150 days is a sufficient timeline for interconnection cluster

[107] *See*, *e.g.*, Order No. 2023-A, 186 FERC ¶ 61,199 at P 325 ("Arguments that the deadlines are too short are largely conclusory.").
[108] *See* PJM Compliance Filing, *supra* note 1, at 33 (describing a three-phase study process, with Phase 1 taking 120 days, Phase 2 taking 180 days, and Phase 3 taking another 180 days, for a total of 480 days).
[109] *Id.*
[110] *See* PJM Compliance Filing, *supra* note 1, at Tariff, Part VIII, Subpart C, Section 409, PDF 179 ("During the Phase III System Impact Study, a Facilities Study shall also be conducted"); *see also* Order No. 2023, 184 FERC ¶ 61,054 at Appendix C § 8.1 (noting that under the Commission's *pro forma* process, the Interconnection Facilities Study will begin after the delivery of the Cluster Study Report).
[111] Order No. 2023, 184 FERC ¶ 61,054 at Appendix C § 8.3 (describing Interconnection Facilities Study Procedures).
[112] *See* PJM Compliance Filing, *supra* note 1, at 33 n. 85 ("All Completion dates are subject to the Reasonable Efforts standard.").

studies. For example, the Commission rejected arguments that a 150-day timeline is too short, finding instead that this period represents "a reasonable extension to account for the more complex study," especially because "transmission providers will be conducting only one interconnection study, or at most a small number of interconnection studies, at a time, allowing them to devote more resources to completing the studies in a timely manner."[113] Similarly, the Commission chose not "to allow transmission providers flexibility to set their own study deadlines," because that approach "would undermine the purpose of ensuring that transmission providers complete interconnection studies by standard deadlines prescribed by their tariffs and would thus be insufficient to ensure that interconnection customers are able to interconnect to the transmission system in a reliable, efficient, transparent, and timely manner."[114]

On rehearing, the Commission also found that the 150-day timeline "appropriately address[es] transmission providers' role and control in the interconnection study process and strike[s] a reasonable balance between the transmission provider and other interests, such as those of interconnection customers, in addressing [] unjust and unreasonable rates."[115] The Commission "acknowledge[d] that conducting a cluster study of many interconnection requests may involve increased complexity or require an increased commitment of resources in a given study timeframe as compared to conducting a single, individual study of a particular interconnection request under the serial process."[116] However, the Commission found that "the full package of reforms aimed at improving efficiency of the study process" supports 150 days as a reasonable timeframe, because those reforms introduce efficiencies such as focusing resources

[113] Order No. 2023, 184 FERC ¶ 61,054 at P 326.
[114] *Id.* at P 331.
[115] Order No. 2023-A, 186 FERC ¶ 61,199 at P 315.
[116] *Id.* at P 318.

on fewer studies, as well as fewer project withdrawals that could cause restudies, delays, or wasted resources.[117] Nevertheless, the Commission permitted PJM to "explain specific circumstances on compliance and justify why any deviations . . . merit an independent entity variation."[118]

PJM fails to provide any specific explanation that justifies an independent entity variation from Order No. 2023's 150-day timeline—much less any persuasive justification for roughly doubling the Order's timeline. Instead, PJM makes vague, generalized statements that mostly rehash arguments the Commission already found unpersuasive. For example, PJM cites "the complexity and number of Interconnection Requests that PJM receives and expects to continue receiving" as a purported basis for vastly exceeding Order No. 2023's study timeline.[119] As an initial matter, PJM's assertion that it is currently receiving a high volume of interconnection requests is unsupported; as discussed above, PJM is not reviewing any new projects and will not do so until at least 2026. And as discussed above, available data shows that PJM has received fewer post-IRA interconnection requests than any other region.[120] More critically, the Commission already found that "general assertions that some transmission providers may have higher workloads than others do not establish that the relevant deadlines will not, as a general matter, be sufficient."[121] Instead, "to the extent that some transmission providers have higher workloads," the Commission reasoned that "the deadlines in order No. 2023 incentivize those transmission providers to devote resources commensurate with those workloads."[122] PJM's

[117] *Id.* at P 318-19.
[118] *Id.* at P 156.
[119] PJM Compliance Filing, *supra* note 1, at 34.
[120] LBNL, *Queued Up 2024*, *supra* note 22, at slide 50.
[121] Order No. 2023-A, 186 FERC ¶ 61,199 at P 326.
[122] *Id.*

general assertion that it may face a high volume of interconnection requests does not present any more detailed or substantiated argument than those the Commission rejected on rehearing.

PJM is especially unpersuasive in citing LBNL's *Queued Up* study to justify its lengthy process by purportedly showing that it receives more interconnection requests than other RTOs.[123] First, the figure that PJM cites does not—and cannot—show that PJM receives a larger number of interconnection requests than other RTOs. Again, due to its paused interconnection process, PJM is not currently reviewing *any* new interconnection requests. Instead, the cited figure reflects interconnection requests that accumulated for years into an extensive backlog under PJM's prior first-come, first-served serial study process and remain stuck in PJM's queue.[124] Moreover, data from LBNL's study—which PJM omits—demonstrate that other regions are currently receiving far more interconnection requests than PJM.[125]

At most, PJM demonstrates that it has a badly backlogged queue due to extensive delays in interconnection studies—which the Commission has already rejected as a reason to exceed Order No. 2023's 150-day study timeline. For example, in Order No. 2023-A, the Commission explained that "[t]he mere existence of past study delays, under a standard that allowed transmission providers significant discretion to extend those deadlines, does not show that any given set of deadlines to perform studies are unachievable or unreasonable."[126] Similarly, when reviewing "the most recent data set available," the Commission found that only three of eight

[123] *See* PJM Compliance Filing, *supra* note 1, at 34-35.
[124] *See supra* § II(A) (discussing the history of PJM's bloated interconnection queue).
[125] *See* LBNL, *Queued Up 2024*, *supra* note 22 at 50 (showing rapid queue growth in many other regions—but not PJM—and especially in CAISO, MISO, and the non-RTO west).
[126] Order No. 2023-A, 186 FERC ¶ 61,199 at P 333.

transmission providers were unable to complete cluster studies in 150 days.[127] As the Commission explained, the fact:

> that these transmission providers did not complete their studies in fewer than 150 days, operating under a regime governed by the reasonable efforts standard and the ability to self-extend such deadlines, does not demonstrate that they could not have done so if appropriately incentivized to meet these performance standards, as under the deadline and penalty structure adopted in Order No. 2023.[128]

PJM provides no specific reason or concrete evidence why it cannot attain the efficiency demonstrated by the majority of transmission providers that the Commission reviewed, particularly since those transmission providers were conducting studies "for clusters containing significant numbers of interconnection requests."[129] And "[t]o the extent that volumes of interconnection requests remain high" in PJM, the Commission has already explained that this fact "counsels in favor of—not against—ensuring that transmission providers exercise the control they have over the process to help ensure transmission studies proceed more expeditiously."[130]

F. PJM's failure to require consideration of enumerated Alternative Transmission Technologies and lack of transparency do not comply with the rule.

In Order No. 2023, the Commission required transmission providers such as PJM to "evaluate the list of alternative transmission technologies enumerated in this final rule during the cluster study, including any restudies, of the generator interconnection process in all instances (*i.e.*, for all interconnection customers in a cluster), without the need for a request from an interconnection customer."[131] The Commission went on to require PJM and other transmission

[127] *Id.* at PP 321-22.
[128] *Id.* at P 323.
[129] *Id.* at P 322.
[130] *Id.* at P 332.
[131] Order No. 2023, 184 FERC ¶ 61,054 at P 1578.

providers to include in the cluster reports "an explanation of the results of the evaluation of the enumerated alternative transmission technologies for feasibility, cost, and time savings as an alternative to a traditional network upgrade."[132] While PJM does not request an independent entity variation to the requirement to study the enumerated alternative transmission technologies ("ATT") in all interconnection studies, PJM suggests that it will not comply with this requirement by stating that it studies these technologies only "as necessary, if merit exists in the use of such technologies."[133] PJM seeks an independent entity variation to rely on the parameters set forth in its allegedly forthcoming Technical Reference Guide rather than provide the required explanation of the results of studying the enumerated alternative transmission technologies for each interconnection study.[134] This despite the Commission already denying PJM's request on rehearing to remove the transparency requirement.[135] The Commission should deny PJM's compliance filing because it does not comply with or seek an independent entity variation from the requirement to study all the enumerated alternative transmission technologies in all interconnection studies. The Commission should also reject PJM's proposal to use the Technical Reference Guide in lieu of transparently documenting case-by-case evaluation of ATTs, because it is not just or reasonable and fails to achieve the Commission's purposes in Order No. 2023.

1. Consideration of Enumerated Alternative Transmission Technologies

In Order No. 2023, on rehearing, and throughout the rulemaking process, the Commission made extensive, record-based findings that the study of enumerated alternative transmission technologies in all interconnection studies and a transparent reporting of the results of those studies are necessary to ensure just and reasonable rates. When proposing Order No.

[132] *Id.*
[133] PJM Compliance Filing, *supra* note 1, at 69.
[134] *Id.* at 70-71.
[135] Order No. 2023-A, 186 FERC ¶ 61,199 at PP 616-17.

2023, the Commission found that despite the potential benefits of alternative transmission technologies, these technologies "often do not receive the same consideration during generator interconnection processes as other network upgrades."[136] Because these technologies "can be deployed both more quickly and at lower costs," failure to consider them "may render Commission-jurisdictional rates unjust and unreasonable."[137] It is, therefore, necessary for PJM to demonstrate that it will comply with the Commission's requirement to study the enumerated alternative transmission technologies or else seek a variance. PJM has done neither.

PJM claims that all the enumerated alternative transmission technologies "already are considered" in its interconnection studies. However, PJM's compliance filing states that it only studies alternative transmission technologies "as necessary, if merit exists in the use of such technologies, in the course of interconnection studies in the PJM Region."[138] This statement alone should disqualify PJM's compliance filing because it plainly states that PJM does not intend to comply with Order No. 2023, which requires transmission providers to study the enumerated alternative transmission technologies in all interconnection studies.[139]

Despite PJM's claim that it studies alternative transmission technologies "as necessary," PJM does not provide any evidence of these studies or any explanation of when it deems them "necessary." PIOs are aware of only one instance in which PJM has studied an enumerated alternative transmission technology in the interconnection process. In 2018, a developer *requested* that PJM study advanced power flow control in place of an estimated $100 million

[136] Order No. 2023, 184 FERC ¶ 61,054 at P 1534.
[137] *Id.*; Order No. 2023-A, 186 FERC ¶ 61,199 at P 615.
[138] PJM Compliance Filing, *supra* note 1, at 69.
[139] Order No. 2023, 184 FERC ¶ 61,054 at P 1578.

transmission upgrade for a 100 MW wind project.[140] PJM determined that a $12 million advanced power flow control project was a viable alternative, which allowed the project to move to a draft interconnection service agreement in summer 2023.[141] The selection of an ATT in this instance indicates that merit *does* exist in the use of these technologies, yet PJM is not consistently studying them, as in this case they only did so at the request of an interconnection customer. More routine consideration is very likely to yield more viable applications of these technologies, as indicated in a recent study of grid-enhancing technologies as interconnection network upgrades. Given the lower cost of these technologies, this consideration is key to ensuring just and reasonable rates.[142]

As demonstrated above, PJM's existing tariff does not comply with the Order No. 2023 requirement to study the enumerated alternative transmission technologies in the interconnection process. Yet PJM does not seek an independent entity variation on this issue. Therefore, the Commission cannot simply grant a variation where PJM's compliance filing does not meet the requirements of Order No. 2023.

2. Lack of Transparency in the Evaluation of Enumerated Alternative Transmission Technologies

PJM seeks an independent entity variation from the Order No. 2023 requirement that transmission providers such as PJM include in their cluster study reports "an explanation of the results of the evaluation of the enumerated alternative transmission technologies for feasibility,

[140] RMI, *GETting Interconnected in PJM: Grid-Enhancing Technologies (GETs) Can Increase the Speed and Scale of New Entry from PJM's Queue* ("GETting Interconnected"), at 22 (February 2024), available at https://rmi.org/wp-content/uploads/dlm_uploads/2024/02/GETs_insight_brief_v3.pdf (Attachment 2).
[141] *Id.*
[142] *See*, *e.g.*, *id.* at 5 (noting that "deploying GETs as network upgrades would allow over 6 gigawatts (GW) of new capacity from the existing PJM queue to come on line within the next three years . . . at significant savings for both project developers . . . and consumers").

cost, and time savings as an alternative to a traditional network upgrade."[143] On rehearing, the Commission denied PJM's request to eliminate this requirement from Order No. 2023 where a transmission provider already studies the enumerated alternative transmission technologies.[144] The Commission permitted PJM to submit an independent entity variation seeking to avoid such transparency, which PJM has done here.[145]

PJM argues a variation is appropriate because it will "provide a summary of its evaluations in the study results and will address its evaluation in the studies in more detail, relying on the parameters set forth in the Technical Reference Guide."[146] PJM then states, without support, that the Technical Reference Guide "will provide a far more effective and efficient way to review the use of GETs with stakeholders."[147] It is unclear why PJM believes reliance on the Technical Reference Guide (which does not exist yet) will meet the goals of the Commission's requirement that transmission providers share and explain the results of evaluations for each enumerated alternative transmission technology in each study. According to PJM, the Technical Reference Guide will simply "catalog [alternative transmission technologies] and describe the conditions under which certain technologies may be considered as a reinforcement solution."[148] This explanation of the Technical Reference Guide that PJM intends to use as a replacement for case-by-case explanations of results of studying enumerated alternative transmission technologies demonstrates that PJM does not even intend to study all enumerated alternative transmission technologies for each interconnection study. Rather, PJM intends to use the Technical Reference Guide to determine when to study enumerated alternative

[143] Order No. 2023, 184 FERC ¶ 61,054 at P 1578.
[144] Order No. 2023-A, 186 FERC ¶ 61,199 at P 616.
[145] Order No. 2023, 184 FERC ¶ 61,054 at P 616.
[146] PJM Compliance Filing, *supra* note 1, at 70-71.
[147] *Id.* at 71.
[148] *Id.* at 70.

transmission technologies and provide the public with an explanation of how it makes those determinations. Simply put, this does not achieve the purpose of Order No. 2023.

The Commission's requirement to provide the results of the transmission provider's study of enumerated alternative transmission technologies is meant to provide needed transparency in the evaluation of these technologies, which have to date been underutilized despite their ability to meet interconnection needs faster and at least cost. As the Commission found in Order No. 2023, explanation of results "provides sufficient transparency without placing a further burden on transmission providers that would delay the processing of interconnection requests."[149] This transparency is especially important where the transmission provider has unilateral authority not to pursue alternative transmission technologies even where they are feasible and cost effective. PJM's reliance on the Technical Reference Guide will not produce the requisite transparency to ensure that the enumerated alternative transmission technologies are being appropriately evaluated and given a fair chance at being selected rather than traditional transmission reinforcements where appropriate.

G. PJM's failure to adopt a realistic approach to studying storage resources does not comply with the rule.

Order No. 2023 adopted a rule for the study of charging behavior of energy storage resources that improves the accuracy of interconnection studies by recognizing the flexibility, economics, and reliability contributions of energy storage.[150] The Commission clarified that "more accurately reflecting the technical capabilities of electric storage resources in interconnection studies through the use of appropriate operating assumptions" will help "ensure[] the reliable interconnection of new electric storage resources without overestimating their impact

[149] Order No. 2023, 184 FERC ¶ 61,054 at P 1590.
[150] *Id.* at P 1509.

on the transmission system."[151] Hence, the Commission ordered transmission providers to ask a single narrow question in interconnection studies regarding operating assumptions—"whether the interconnecting generating facility will or will not charge during peak load conditions"—if requested by the interconnection customer.[152] The Commission made clear in Order No. 2023 and Order No. 2023-A that there is no new provision for interconnection customer-proposed operating assumptions for energy injections.[153] By defining the question to apply only to energy withdrawals, the Commission provided a consistent rationale for limiting this use of customer-proposed operating assumptions to only energy storage resources.

PJM seeks to omit this reform from its compliance and continue the current practice in PJM Generator Interconnection studies, which inaccurately treats the load on the system from charging energy storage the same as a firm load or right to withdraw energy at times of peak load.[154] Essentially, PJM treats proposed storage resources as adding to peak load rather than resources capable of meeting peak load, which is inaccurate and directly contrary to Order No. 2023.[155] PJM's arguments for this independent entity variation lack merit for several reasons. First, PJM recycles arguments that the Commission already rejected on rehearing. Second, PJM's arguments are either unsupported by, or conflict with, its own manuals and procedures.

[151] *Id.* at P 1510.
[152] *Id.* at P 1509.
[153] *Id.* ("We clarify that studying electric storage resources, at the request of the interconnection customer, according to their planned operating assumptions means only the operating assumptions for withdrawals of energy (*e.g.,* the charging of an electric storage resource) in interconnection studies."); *see also* Order 2023-A, 186 FERC ¶ 61,199 at P 575 ("The instant reform is directed specifically and exclusively at how transmission providers study the withdrawal of power from electric storage resources (*i.e.,* the unique feature of electric storage resources compared to other types of generating facilities) within the generator interconnection process.").
[154] PJM Compliance Filing, *supra* note 1, at 66–69.
[155] Order No. 2023, 184 FERC ¶ 61,054 ("[T]he speed and control with which electric storage resources can respond to signals from transmission providers sufficiently distinguishes the charging behavior of electric storage resources from that of firm customer end-use load.").

And third, PJM's arguments ignore the economic incentives and technical characteristics that the Commission considered as fundamental reasons for this reform in Order No. 2023.

1. PJM recycles rejected arguments.

PJM seeks an exemption from Order No. 2023's common-sense approach to studying storage while recognizing "that the Commission rejected its request for rehearing of this aspect of the Final Rule."[156] However, PJM fails to provide new arguments, instead rehashing those the Commission already rejected. For example, PJM claims its current approach "is far more reliable and consistent with PJM's planning requirements."[157] Even setting aside the fact that mere consistency with a current practice is not a basis for an independent entity variation,[158] the Commission already rejected the argument that accurately modeling storage is somehow unreliable.[159] Instead, the Commission explained that storage resources' technical characteristics and economic incentives demonstrate "that this reform will ensure the reliable operation of the transmission system."[160]

Similarly, the Commission already rejected PJM's contention that this reform will present "an extraordinary administrative burden."[161] The Commission explained that "the benefits of this reform—reducing unduly discriminatory or preferential barriers to the interconnection of electric storage resources—outweigh the added burden to transmission providers."[162] And as to PJM's argument that storage resources would be somehow difficult to monitor or their behavior

[156] PJM Compliance Filing, *supra* note 1, at 66.
[157] *Id.* at 66–67.
[158] *New York Independent System Operator*, 170 FERC ¶ 61,117 at P 14 ("It is not a sufficient justification to state that a variation conforms to current RTO/ISO practices . . .").
[159] Order No. 2023-A, 186 FERC ¶ 61,199 at P 578 ("We disagree with PJM . . . that this requirement will compromise reliability because . . . transmission providers are unable to monitor and enforce" storage resources' operating characteristics).
[160] *Id.* at P 578.
[161] PJM Compliance Filing, *supra* note 1, at 67 (arguing that restudies or monitoring would be burdensome).
[162] Order No. 2023-A, 186 FERC ¶ 61,199 at P 580.

difficult to enforce,[163] the Commission already found that as a general matter "ensuring that an electric storage resource adheres to the operating assumptions . . . presents substantially similar concerns to ensuring that any generating facility stays within its interconnection service level."[164]

PJM also recycles the argument that the Commission's reforms could shift network upgrade costs to load.[165] But the Commission rejected this idea as well, explaining that if a storage resource violates its stated operating characteristics, the transmission provider could cancel its interconnection agreement rather than passing costs on to consumers.[166]

Finally, as to PJM's argument that realistically studying storage resources "is fundamentally inconsistent with how transmission providers, including PJM, perform planning studies,"[167] Order No. 2023-A already rejected this notion almost verbatim.[168] Instead, the Commission explained not only that some transmission providers "already assume in their interconnection studies that electric storage resources will not charge during peak load," but also that PJM's practice is less realistic.[169]

The Commission should reject PJM's effort to justify an independent entity variation with arguments that the Commission already rejected in the context of rehearing. Not only do these arguments remain unpersuasive, but they also fail to provide any genuinely "[r]egion-

[163] *See* PJM Compliance Filing, *supra* note 1, at 67.
[164] Order No. 2023-A, 186 FERC ¶ 61,199 at P 578; *see also id.* (listing technical characteristics and economic incentives that make storage resources easy to hold to their stated operating parameters).
[165] PJM Compliance Filing, *supra* note 1, at 68.
[166] Order No. 2023-A, 186 FERC ¶ 61,199 at P 579.
[167] PJM Compliance Filing, *supra* note 1, at 68.
[168] Order No. 2023-A, 186 FERC ¶ 61,199 at P 577 ("We are unpersuaded by PJM's . . . arguments that reflecting whether an interconnecting electric storage resource will or will not charge during peak load conditions is fundamentally incompatible with interconnection studies.").
[169] *Id.* (noting that "the assumption that all electric storage resources will withdraw power at their maximum capacity during peak load conditions . . . fails to recognize the real-time attributes of electric storage resources").

specific concerns" that could justify an independent entity variation where they failed to justify changing the rule more generally.[170]

2. PJM's own manuals and procedures do not support its compliance filing.

PJM attempts to support its claim for an independent entity variation by making a series of conjectural statements that realistically analyzing storage would require additional studies, which PJM does not attempt to support with references to its planning manuals or procedures. However, scrutiny of the relevant PJM manuals reveals no support for PJM's argument that additional, complex studies will be required. Instead, evidence from PJM's manuals is clear that compliance will reduce the number of studies that PJM will need to conduct.

PJM makes three sets of claims to support its request to deviate from Order No. 2023's requirements on modeling storage operations: (1) claims that compliance would require additional interconnection studies; (2) claims about market changes; and (3) claims of operational and enforcement uncertainties. None of these arguments is persuasive or consistent with PJM's actual practices and manuals.

First, compliance with Order No. 2023 would not require additional interconnection studies, as PJM suggests,[171] but would instead reduce the number of studies required. PJM asserts that its interconnection process is "resource-neutral"[172] and that complying with Order No. 2023 by changing its approach to studying storage resources would create "administrative burdens and additional studies" that would purportedly "slow down interconnection studies for all Project Developers."[173] This portrayal of PJM's interconnection process is not consistent with

[170] *See id.* at P 79 (noting that "[r]egion-specific concerns" could help justify an independent entity variation).
[171] PJM Compliance Filing, *supra* note 1, at 68 (claiming that "[s]trict adherence to the Final Rule would require PJM to include a special interconnection study within the larger cluster study for each project whose owner submits operating parameters").
[172] *Id*. at 9.
[173] *Id.* at 67. As discussed above, the Commission has already rejected the argument that compliance with the rule would create an administrative burden.

practices described in PJM's manuals. Rather than being "resource-neutral," PJM's current practices require an extra interconnection study—a Load Deliverability Test—for only one type of resource seeking Generation Interconnection: "Storage type Generation Interconnection Requests."[174] PJM requires this Load Deliverability Test for storage resource because it assumes that they will charge during peak hours. Hence, adopting Order No. 2023's more realistic approach to modeling storage would not require any additional study, but would instead reduce the number of studies that PJM applies to storage resources seeking interconnection. Similarly, by removing a test that is unnecessary for storage resources that will not charge during peak load, compliance with the rule would reduce the need for any "unit-specific studies"[175] and allow cluster studies to proceed more smoothly. Hence, PJM's arguments regarding the burdens and delays of additional tests are simply not supported by the facts.

Second, PJM unpersuasively argues that compliance with Order No. 2023's approach to studying storage resources would render PJM incapable of responding to changing market conditions. PJM's concern that "Project Developers will change their behavior" and their operating parameters in response to "PJM's ever evolving markets" is vastly overstated.[176] PJM fears that it may face an "untenable" number of "operating parameter restudies" if the markets change.[177] But Order No. 2023's requirement to accurately model the behavior of storage resources is based on a fundamental and predictable behavior: buying power (charging) when prices are low to sell power (discharging) during peak periods when prices are high. PJM is

[174] *See* PJM Manual 14A: New Service Request process at 25 (2023), available at https://pjm.com/-/media/documents/manuals/m14a.ashx. The only other resources that must undergo a Load Deliverability Test are ones that are explicitly requesting firm energy delivery. *See id.* (requiring a Load Deliverability Test for "Transmission Interconnection Requests requesting Firm Transmission Withdrawal Rights" and "requests for Incremental Capacity Transfer Rights arising from a New Service Request").
[175] PJM Compliance Filing, *supra* note 1, at 68.
[176] *Id.* at 67.
[177] *Id.*

suggesting that after a storage facility is studied, financed, and built, there could be a change in the markets such that it would be advantageous to buy energy when demand is at peak. But if PJM's markets were to undergo a sea change to the point where a storage resource's incentive to "buy low, sell high" were no longer correlated to times of low load for buying energy to charge and times of high loads to discharge and sell energy, then the operating parameters of storage resources would be the least of PJM's concerns. Such a fundamental change in the nature of the market would require all of PJM's members to reconsider their approach to energy markets. This overblown concern is not a persuasive basis to exempt PJM from compliance with Order No. 2023's mandate to realistically study storage resources seeking interconnection.

Last, PJM's argument that it will not be able to monitor or enforce customer-supplied parameters is equally without merit.[178] Again, PJM's narrative is overstated, because it suggests that PJM must monitor and enforce some greater range of conditions and operational parameters than Order No. 2023 addresses (or are part of the existing Load Deliverability Test).[179] However, the Order focuses on only one operational parameter: whether a storage facility will charge during peak load conditions.[180]

As the Commission found in Order No. 2023-A, "ensuring that an electric storage resource adheres to the operating assumptions memorialized in its LGIA presents substantially similar concerns to ensuring that any generating facility stays within its interconnection service level."[181] Every generator in the PJM system, whether still in the interconnection queue or operating, provides PJM with several operating parameters (e.g. maximum facility output) when

[178] *Id.* at 67–68.
[179] *See id.* (suggesting that "individualized operating assumptions" are not "enforceable as a practical matter" and that monitoring storage resources' compliance with stated "operating parameters" would be "an extraordinary administrative burden").
[180] Order No. 2023, 184 FERC ¶ 61,054 at P 1509.
[181] Order No. 2023-A, 186 FERC ¶ 61,199 at P 578.

making an interconnection request, which PJM uses in interconnection studies and which PJM has tools to enforce. For example, PJM requires generators to provide a great deal of information about their actual energy output. PJM interconnection studies routinely state: "The Interconnection Customer may be required to install and/or pay for metering as necessary to properly track real time output of the facility." PJM's manuals further define the obligation to provide "real time output," with PJM requirements for every interconnection customer to provide telemetry for PJM to enable monitoring either at 2-second or 10-second intervals.[182] Beyond the one-time election of parameters in the interconnection process, PJM also accommodates generators making changes to operating parameters through market software, such as Markets Gateway.[183] PJM has extensive capabilities to monitor the operations of connected generators, as well as the operational constraints and changing limits on all sorts of elements of the bulk electric system.[184] In light of its extensive tools to monitor and enforce the operations of other generator types, PJM's argument that it cannot enforce a single simple parameter for storage resources is incongruent with, and challenges, PJM's claim to be resource-neutral.

[182] *See*, *e.g.*, PJM Manual 14D: Generator Operational Requirements at § 4: Data Exchange and Metering Requirements, available at https://pjm.com/-/media/documents/manuals/m14d.ashx ("Real-time or instantaneous information is defined as data required by PJM that determines system security and stability as well as congestion and LMP. The minimum data model for real-time data transmission requires: Instantaneous Net (+/-) MW for each unit, measured on the low-side of generator step-up transformer.").

[183] *See*, *e.g.*, PJM Markets Gateway User Guide at Section 9.0 Parameter Limited Schedules, available at https://pjm.com/-/media/etools/markets-gateway/markets-gateway-user-guide.ashx ("Generation suppliers must submit schedules that meet certain pre-determined limits ('parameter limited schedules') which are based on the physical parameters of the units and are applied when certain system conditions exist…Parameter limits are determined on a unit-class basis and are assigned to each unit for the following schedule parameters: Minimum Runtime; Maximum Runtime; Minimum Downtime; Maximum Daily Starts; Maximum Weekly Starts; Turn Down Ratio; Startup Times (Cold, Intermediate, Hot); Notification Times (Cold, Intermediate, Hot)").

[184] *See*, *e.g.*, PJM Manual 03: Transmission Operations Section 2: Thermal Operating Guidelines, at § 2.1.1 Facility Ratings, available at https://www.pjm.com/-/media/documents/manuals/m03.ashx (outlining PJM's practices for facility ratings that describe three sets of thermal limits for all monitored equipment: normal limit, emergency limit and load dump limit, that are used while continuously monitoring power flows and ambient temperatures across the PJM system).

If anything, the Commission's findings indicate that enforcing storage resources' decisions not to charge during peak load may be even easier than monitoring or enforcing other resources' operations. For example, Order No. 2023 explains four characteristics that make storage resources' charging behavior predictable and enforceable:

> (1) control devices can prevent electric storage resources from charging during peak load conditions; (2) modern electric storage resources can respond to signals from the transmission provider within seconds; (3) electric storage resources generally do not have an economic incentive to charge during peak load conditions; and (4) the consequence of being considered in breach of the LGIA provides an additional incentive for electric storage resources to follow the agreed-upon operating assumptions memorialized in their LGIA.[185]

Order No. 2023-A reiterated these findings when rejecting PJM's same argument about the difficulty of monitoring and enforcing storage resources' charging behavior.[186] Further, the Commission noted that transmission providers can require any storage resource that wishes to be studied as not charging during peak times to install appropriate control technologies.[187]

3. PJM's request for an independent entity variation ignores storage resources' economic incentives and would imperil reliability.

Finally, PJM's request to be exempt from Order No. 2023's common-sense approach to studying storage resources would wrongly leave this region with an inaccurate set of assumptions that will not promote solutions to the region's potential reliability challenges. PJM's approach to studying storage as a load (as a withdrawal of energy to charge) during peak conditions is broadly nonsensical because it disregards storage resources' economic incentives. Economically, storage resources have an incentive to buy energy when it is cheap and plentiful and sell energy when it is scarce and expensive—but charging a storage resource at peak times

[185] Order No. 2023, 184 FERC ¶ 61,054 at P 1522.
[186] Order No. 2023-A, 186 FERC ¶ 61,199 at P 578.
[187] *Id.* at P 587.

would correlate to times when the price of energy on the system is high, as is the likelihood of congestion or import limits.[188] Assuming charging at peak times for storage resources proposed for areas in need of peak energy supplies wrongly assumes the intention is to increase the demand at peak, rather than building the storage to contribute to meeting that demand. Hence, PJM's current practice perversely assumes that storage resources will not be rational economic actors or be controllable to help solve reliability problems.

PJM's current practice is especially problematic because it precludes storage resources of any description from being recognized as replacements for retiring generation in resource constrained areas or zones. Assuming that storage resources will charge during peak hours is not "conservative," as PJM suggests,[189] but is instead inaccurate and highly discriminatory against the entry of these flexible resources where they are most needed. This inaccurate assumption is discriminatory because it uniquely singles out storage resources from every other interconnecting generator and prevents storage from consideration as a method to preserve reliability by meeting peak demand—which is again contrary to Order No. 2023's aim to "reduce[] unduly discriminatory or preferential barriers to the interconnection of electric storage resources."[190]

Finally, PJM's discrimination against storage resources is especially inappropriate in light of PJM's stated "significant reliability concern" that its current policies may not allow new resources to come online quickly enough to replace retiring resources.[191] As explained above, any such concern about an imminent reliability problem is a reason for the Commission to

[188] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1522 (noting that "electric storage resources generally do not have an economic incentive to charge during peak load conditions").
[189] PJM Compliance Filing, *supra* note 1, at 66.
[190] *See* Order No. 2023, 184 FERC ¶ 61,054 at P 1510 ("[R]eflecting the technical capabilities of electric storage resources through the use of appropriate operating assumptions in interconnection studies reduces unduly discriminatory or preferential barriers to the interconnection of electric storage resources.").
[191] PJM Compliance Filing, *supra* note 1, at 48.

require PJM to facilitate the entry of new resources—not to allow PJM to retain inaccurate assumptions that prevent the entry of flexible new resources when they are needed most.[192] PJM's suggestion that complying with Order No. 2023's approach to studying storage resources would provide "little benefit to anyone but battery storage operators" is simply incorrect.[193] To the contrary, given the potential for storage deployed in load pockets to support reliability by economically *discharging* at peak times, the benefit of the Commission's reform is substantial for communities with old power plants seeking to retire and regions straining to build transmission to meet load growth.[194]

IV. CONCLUSION

For the reasons explained above, the Commission should reject PJM's requested independent entity variations, which would essentially preserve the status quo in the PJM region rather than comply with Order No. 2023. The Commission should further direct PJM to submit another compliance filing within 30 days that: (1) achieves Order No. 2023's 150-day timeline for completing cluster studies; (2) includes penalties at least as rigorous as Order No. 2023; (3) contains a binding timeline for PJM to begin reviewing new interconnection requests; (4) requires consideration of enumerated ATTs in all interconnection studies; and (5) requires realistic assessments of storage resources seeking interconnection consistent with Order No. 2023.

DATED: June 20, 2024

[192] *See supra* § III(B).
[193] PJM Compliance Filing, *supra* note 1, at 67.
[194] *See* Mike Jacobs, Union of Concerned Scientists, *Batteries Now Can Replace Old Power Plants*, available at https://blog.ucsusa.org/mike-jacobs/batteries-now-can-replace-old-power-plants/ (2023).

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing has been served in accordance with 18 C.F.R. § 385.2010 upon each party designated in the official service list compiled by the Secretary in this proceeding, by email.

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