COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
COMMONWEALTH KEYSTONE BUILDING
400 NORTH STREET
HARRISBURG, PENNSYLVANIA 17120

August 17, 2026

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

Re: **Pennsylvania Public Utility Commission Complaint v. PJM Interconnection, LLC, Docket No. EL26-___-000.**

Dear Secretary Reese:

Please find for e-filing the Complaint of the Pennsylvania Public Utility Commission (PA PUC) against PJM Interconnection, LLC, at Docket Nos. EL26-___ -000 and Request for Expedited Action.

Copies of this document have been served upon Christopher O'Hara, Senior Vice President, General Counsel, Thomas DeVita, Assistant General Counsel, Mark J. Stanisz, Associate General Counsel, and Steven R. Pincus, Esquire, Associate General Counsel of PJM Interconnection, LLC.

If you have any questions, please do not hesitate to contact me.

Respectfully submitted,

/s/ Kriss E. Brown
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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Pennsylvania Public Utility Commission Complainant	)	Docket No. EL26-__-000
v.	)	
PJM Interconnection, LLC., Respondent	)	

COMPLAINT OF THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pursuant to Sections 206 and 306 of the Federal Power Act (FPA),[1] and Rule 206 of the Federal Energy Regulatory Commission's (Commission) Rules of Practice and Procedure,[2] the Pennsylvania Public Utility Commission (PA PUC) hereby files this complaint against PJM Interconnection, LLC (PJM) in that Schedule 6, Section 1.5.7 of PJM's Operating Agreement is unjust, unreasonable, and unduly discriminatory or preferential in the manner it selects market efficiency projects, thus harming Pennsylvania consumers. For the reasons stated herein and in the attached Direct Testimony of Zachary Ming, Partner, Energy and Environmental Economics, Inc. (E3),[3] the PA PUC requests that the Commission

[1] 16 U.S.C. §§ 824e and 825e.
[2] 18 C.F.R. § 385.206.
[3] The Written Testimony of Zachary Ming is Attachment A to this Complaint.

direct PJM to include the impact of all (benefitting and non-benefitting) zones when calculating consumer benefits for the purposes of market efficiency projects[4] by either:

(1) deleting from PJM's Schedule 6, Section 1.5.7 of the Operating Agreement, the following red-lined language from the definitions of "Change in Load Energy Payment" and "Change in Load Capacity Payment."

> Change in Load Energy Payment = [the annual sum of (the hourly estimated zonal load megawatts for each Zone) * (the hourly estimated zonal Locational Marginal Price for each Zone without the Economic-based Enhancement or Expansion)] – [the annual sum of (the hourly estimated zonal load megawatts for each Zone) * (the hourly estimated zonal Locational Marginal Price for each Zone with the Economic-based Enhancement or Expansion)] .... ~~The Change in the Load Energy Payment shall be the sum of the Change in the Load Energy Payment only of the Zones that show a decrease in the Load Energy Payment.~~
>
> Change in Load Capacity Payment = [the sum of (the estimated zonal load megawatts in each Zone) * (the estimated Final Zonal Capacity Prices under the Tariff, Attachment DD without the Economic-based Enhancement or Expansion) * (the number of days in the study year)] – [the sum of (the estimated zonal load megawatts in each Zone) * (the estimated Final Zonal Capacity Prices under the Tariff, Attachment DD with the Economic-based Enhancement or Expansion) * (the number of days in the study year)]. … ~~The Change in the~~

[4] Direct Testimony of Zachary Ming at 39.

~~Load Capacity Payment shall be the sum of the change in the Load Capacity Payment only of the Zones that show a decrease in the Load Capacity Payment.~~

(2) Alternatively, PA PUC requests the Commission order PJM to revise its Operating Agreement to add the increase in Load Energy Payment and Load Capacity Payment to the denominator of the Benefit-Cost Ratio, in the definition of Total Enhancement Cost. The resultant definition would be:

> Total Enhancement Cost (except for accelerations of planned reliability-based enhancements or expansions) = the estimated annual revenue requirement for the Economic-based Enhancement or Expansion plus the Change in Load Energy Payment for the Zones that show an increase in the Load Energy Payment and Change in Load Capacity for the Zones that show a decrease in the Load Capacity Payment.
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> Total Enhancement Cost (for accelerations of planned reliability-based enhancements or expansions) = the estimated change in annual revenue requirement resulting from the acceleration of the planned reliability-based enhancement or expansion, taking account of all of the costs incurred that would not have been incurred but for the acceleration of the planned reliability-based enhancement or expansion plus the Change in Load Energy Payment for the Zones that show an increase in the Load Energy Payment and Change in Load Capacity for the Zones that show a decrease in the Load Capacity Payment.

While the PA PUC does not request fast-track procedures under Rule 206(b)(11), PA PUC requests expedited action as PJM continues to select market efficiency projects in an unjust, unreasonable, and discriminatory fashion. PA PUC requests implementation of this relief on a going-forward basis with an effective date as of the date of this filing. That is, PA PUC is not seeking retrospective implementation prior to the filing date.

COMPLAINT

I. THE PARTIES

PA PUC

The Pennsylvania Public Utility Commission is an independent agency charged and authorized by the Pennsylvania General Assembly to balance the needs of consumers and utilities; ensure safe and reliable utility service at reasonable rates; protect the public interest; educate consumers to make independent and informed utility choices; further economic development; and foster new technologies and competitive markets in an environmentally sound manner.

PJM

PJM is the regional transmission organization ("RTO") for all or part of 13 states[5] and the District of Columbia. PJM operates organized wholesale electricity markets and manages the high-voltage electricity grid to ensure reliability for more than 65 million people. As a private RTO, PJM plans regional transmission lines within its territory using administrative planning methodologies.

[5] The 13 States include: Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. See link: https://www.pjm.com/en/about-pjm/who-we-are/territory-served.

II. INTRODUCTION

Under the FPA, States are the default siting authorities.[6] While a recent Third Circuit panel decision[7] has somewhat confused jurisdictional boundaries, under *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369 (2024), federal agencies are not granted deference to act through a non-governmental organization. There is no clear Congressional authorization to expand FERC jurisdiction through the RTO it regulates to somehow acquire siting authority outside a National Interest Electric Transmission Corridor (NIETC). PJM is a private entity. PJM exercises no independent federal power. It operates pursuant to tariffs approved by the Commission under the FPA and its own Operating Agreement.[8] While addressing the federal goal of regional transmission and cost allocation in Order No. 1000, the Commission explicitly cautioned that the transmission planning outlined in the Order "in no way involves an exercise of authority over those specific substantive matters traditionally reserved to the states," i.e., siting. FERC Order No. 1000, 76 Fed. Reg. 49842-01.

PA PUC is charged by statute with fostering the provision of safe and reliable service at reasonable rates to the retail customers of utilities subject to

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[6] *See* 16 U.S.C. §§ 824(a), 824p.
[7] *Transource v. DeFrank, et al.*, No. 24-1045 (3d Cir.) (judgment entered on Sept. 5, 2025).
[8] The PJM Operating Agreement describes the process for posting needs, opening a project proposal window, reviewing proposed projects, and determining which transmission projects will be included in the recommended plan. PJM Interconnection, L.L.C., 154 FERC ¶ 61,096, at P 2 n.2 (citing PJM Operating Agreement, Schedule 6, §§ 1.5.8 (b)-(d)).

PA PUC jurisdiction. 66 Pa.C.S. §§ 501, 1301-1304, 1308, 1309, 1501, 2802(9). PA PUC regulates the siting of high-voltage electric transmission lines under the Pennsylvania Code Title 52, Sections 57.71–57.77 (relating to PA PUC review of siting and construction of electric transmission lines), 52 Pa. Code §§ 57.71–57.77. Pennsylvania requires entities seeking to site and construct high voltage transmission lines within its borders to establish, by a preponderance of the evidence, that there is a public "need" for the project. *See* 66 Pa.C.S. §§ 1101, 1102, 1501; *see also* 52 Pa. Code § 57.76. To determine whether there is a "need," the PA PUC considers evidence regarding "present and future necessity of the proposed [high voltage] line in furnishing service to the public." 52 Pa. Code § 57.75(e)(1). Over forty states require state permits and siting approval for high voltage electric transmission facilities within their state lines. *See* James J. Hoecker and Douglas W. Smith*, Regulatory Federalism and Development of Electric Transmission: A Brewing Storm?,* 35 Energy L.J. 71, 82 (2014). These rules ensure that transmission projects are reviewed for public health, safety, environmental impact, and reasonable alternatives before approval. The PA PUC is the only siting authority within its borders for high-voltage transmission projects that are needed and sufficiently competitive to procure the most cost-effective solutions.

For transmission projects planned under PJM Interconnection's Market Efficiency framework[9], the reduction of congestion[10] can allow generation to be built in the most cost-effective locations and then distributed throughout the region. Oftentimes, the most cost-effective location is Pennsylvania due to broad support for an all-of-the-above energy generation strategy and the maintenance of adequate dispatchable generation capacity in the PJM region.

Likewise, the Pennsylvania General Assembly has encouraged competitive regional markets for electric generation and interstate power pools.[11] The PA PUC welcomes the economic development of generation located in Pennsylvania and the ability to provide electric generation supply services to its constituents and the region for the benefit of all. However, Pennsylvania, a net-exporter State[12], cannot

[9] PJM's Schedule 6, Section 1.5.7 of the Operating Agreement. *See also* PJM Manual 14B: PJM Region Transmission Planning Process, Section 2.1.3 Market Efficiency Planning, 2.2 The RTEP Process Drivers, 2.6 RTEP Market Efficiency Planning, and Attachment E: Market Efficiency Analysis Economic Benefit/Cost Ratio Threshold Test.

[10] Congestion occurs when the least-cost available energy cannot be delivered to load in a transmission constrained area and higher cost units in the constrained area must be dispatched to meet that load. The result is that the price of energy in the constrained area is higher than in the unconstrained area because of the combination of transmission limitations and the cost of local generation. Congestion is the difference between the total cost of energy paid by load in the transmission constrained area and the total revenue received by generation to provide that energy, after virtual bids have been settled in both the day-ahead and balancing markets. Congestion can be defined to be total load payments in excess of generation revenues, excluding marginal losses, from both the day-ahead and balancing markets. When there are binding transmission constraints and locational price differences, load pays more for energy than generation is paid to produce that energy. *See* Attachment A - Testimony of Zachary Ming at pp. 8-9. *See also* PJM billing examples in the Independent Market Monitor's *2019 Annual State of the Market Report for PJM,* Appendix F: Congestion and Marginal Losses.

[11] 66 Pa.C.S. §§ 2802(19), (20), 2805(a).

[12] An interactive hourly State Net Import/Export Map may be found on PJM's website at https://www.pjm.com/markets-and-operations/State-Import-Export-Map.aspx.

be expected to bear all burdens associated with generation while also bearing unjust or unreasonable costs for transmission projects to export power to neighboring states simply because PJM seeks parity in wholesale pricing throughout its entire system and because some States are actively retiring generation without sufficient replacement within their borders.[13,14] The current market efficiency selection process, in the name of parity, unreasonably, unjustly and in a discriminatory manner ignores price increases in the locational marginal price ("LMP") zones that are upstream of transmission constraints that cause congestion in order to lower prices in zones downstream of the constraint.

The current market efficiency selection construct serves to dampen the market signals to build generation close to the load it serves; thus, causing transmission projects to be selected that are not necessary to maintain reliability, which in turn results in unjust, unreasonable and unduly discriminatory transmission rates. Transmission and generation in a congested zone are

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[13] *Sierra Club v. PJM Interconnection, L.L.C., Complaint of Sierra Club, Natural Resources Defense Council, Public Citizen, Sustainable FERC Project and Union of Concerned Scientists*, Docket No. EL24-148-000 (Sept. 27, 2024). *See PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,088 (2025).

[14] *Maryland's Near-Term Challenge: Preserving Resource Adequacy During a Period of Transition,* PJM, January 15, 2025, at https://www.pjm.com/-/media/DotCom/library/reports-notices/testimony/2025/20250115-presentation-maryland-general-assembly-econonmic-matters-committee-resource-adequacy.pdf. *Virginia Energy Report: Policy Roadmap for the Commonwealth,* The Center for Energy Science and Policy Schar School of Policy and Government at George Mason University, October 2025, at https://cesp.gmu.edu/wp-content/uploads/2025/10/Virginia-Energy-Report-2025-Policy-Roadmap-for-the-Commonwealth-Final.pdf.

competing to alleviate market inefficiencies. A project selection methodology that unreasonably overstates the benefits of a transmission solution may suppress the price signal to build generation in the congested zone, even when the construction of that generation may represent the most efficient or least-cost way to reduce the congestion and serve load.

When transmission projects are selected through a method that ignores the increased costs in areas upstream of the congestion, the principles of a well-functioning and overall cost-effective wholesale market for generation are violated.[15] The PA PUC files this Complaint under Rule 206 of the Commission's Rules and Regulations because the Market Efficiency project selection process does not consider overall costs in both the net-beneficiary zone and other zones.[16]

The current rules governing market efficiency project selection suppress market signals to build new or upgrade existing generation in areas downstream from the point of constraint, which could lower congestion costs and more reasonably solve a congestion cost issue without the siting and construction of new transmission facilities that will be paid for by customers throughout the region. The current rules regarding market efficiency project selection are an impediment to the objectives of the Secretary of Energy's advance notice of proposed

[15] *See* Attachment A, Direct Testimony of Zachary Ming dated July 30, 2026, at pp. 3-4.
[16] 18 C.F.R. § 385.206.

rulemaking (ANOPR) issued for comment in October 2025 pursuant to section 402 of the Department of Energy Organization Act.[17, 18] This ANOPR directed the Commission to consider taking additional actions to address the addition of large and co-located loads to the transmission system. The ANOPR observed that "siting a large load near or at the same point of interconnection as a new generating facility could reduce the network upgrades needed to interconnect only the load or only the generating facility."[19] ANOPR at P 20.

III. BACKGROUND

A. The Federal Power Act

The FPA, 16 U.S.C. §§ 791a, *et seq.,* preserves a dual system of clearly defined federalism. Through its ratemaking authority, FERC regulates transmission sales and wholesale power sales in interstate commerce, and the states retain authority over siting and permitting of specific utility assets within their

[17] "The Secretary ... [is] authorized to propose rules, regulations, and statements of policy of general applicability with respect to any function within the jurisdiction of the Commission under section 402 of this Act." 42 U.S.C. § 7173(a). "NEPA does not apply to rulemaking actions proposed by the Secretary pursuant to section 403(a) of the DOE Act ... because such proposals are not final agency action." DOE NEPA Implementing Procedures, § 2.1(c)(8) (2025).

[18] *See Secretary of Energy's Direction that the Federal Energy Regulatory Commission Initiate Rulemaking Procedures and Proposal Regarding the Interconnection of Large Loads Pursuant to the Secretary's Authority Under Section 403 of the Department of Energy Organization Act.*

[19] *See PJM Interconnection, L.L.C. et al.,* EL26-67, 195 FERC ¶ 61,211 (Order issued June 18, 2026) citing *Interconnection of Large Loads to the Interstate Transmission System, Advance Notice of Proposed Rulemaking*, Docket No. RM26-4-000 (Oct. 23, 2025) (ANOPR); *see also Letter from Chris Wright, Sec'y, U.S. Dep't of Energy,* Docket No. RM26-4-000 (Oct. 23, 2025).

borders, including transmission lines, generation plants and distribution networks.[20]

B. PJM's 2007 Economic Planning Proposals.

PJM has had a process for planning economic transmission enhancements since at least 2002.[21] In July 2005, ahead of the rulemaking that led to Order 890,[22] PJM instituted a stakeholder process to improve market efficiency transmission planning, resulting in a September 2006 filing to implement that improved process. In June 2007,[23] the Commission accepted in part the PJM market efficiency project enhancements. However, the Commission also determined that PJM's proposed selection method was not sufficiently detailed regarding the methodology for selecting market efficiency projects. In response, in October 2007, PJM submitted

[20] *Transmission Plan. & Cost Allocation by Transmission Owning & Operating Pub. Utils.*, Order No. 1000, 136 FERC ¶ 61,051, PP 227, 253 n.231, 287, 76 Fed. Reg. 49,842 (2011) ("Order No. 1000"), *order on reh'g*, Order No. 1000–A, 139 FERC ¶ 61,132, P 342, 77 Fed. Reg. 32,184 (2012) ("Order No. 1000–A"), *order on reh'g*, Order No. 1000–B, 141 FERC ¶ 61,044, 77 Fed. Reg. 64,890 (2012) ("Order No. 1000–B"), *aff'd sub nom., S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 41 (D.C. Cir. 2014); *see, e.g., Hughes v. Talen Energy Mktg., LLC*, 578 U.S. 150, 154-155 (2016) (describing the jurisdictional divide set forth in the FPA); *FERC v. Elec. Power Supply Ass'n*, 577 U.S. 260, 266-267 (2016) (explaining that "the [FPA] also limits FERC's regulatory reach, and thereby maintains a zone of exclusive state jurisdiction").

[21] FERC Orders in 2002 (101 FERC ¶ 61,345 at P 24) that approved PJM as an RTO specifically directed PJM to include an economic transmission planning process.

[22] *Preventing Undue Discrimination and Preference in Transmission Service*, 118 FERC ¶ 61,119 (Issued February 16, 2007) (Order No. 890).

[23] PJM Interconnection LLC, ER06-1474 , 119 FERC ¶ 61,265 (2007) (Order On Compliance issued June 11, 2007).

a compliance filing (2007 PJM Proposal) describing both the project selection criteria and cost allocation methodologies.[24]

The 2007 PJM Proposal treated facility project selection differently by voltage, splitting between 1) Regional Facilities and Necessary Lower Voltage Facilities, and 2) other Lower Voltage Facilities. The 2007 PJM Proposal further distinguished between two types of benefits, Energy Market Benefits and Reliability Pricing Benefits, and provided weights for the components of Energy Market Benefits and Reliability Pricing Benefits.

The "Total Annual Enhancement Benefit" is the Energy Market Benefit plus the Reliability Pricing Benefit. Expanded, this calculation is [.70]*[Change in Total Energy Production Cost] + [.30]*[Change in Load Energy Payment] + [.70]*[Change in Total System Capacity Cost] + [.30]*[Change in Load Capacity Payment]. For Lower Voltage Facilities alone, the terms "Change in Load Energy Payment" and "Change in Load Capacity Payment" only included those zones that showed a decrease in payments. For Regional Facilities, which are allocated

[24] PJM Interconnection LLC, ER06-1474 (Compliance Filing filed October 9, 2007).

according to both Load Ratio Share as well as allocation based on electric flow, those terms also included those zones that showed increases in payments.[25]

The Commission stated that the approach was reasonable because "it would match the project selection process to the existing cost allocation method. That is, it would evaluate the load payment benefits of those loads that will be assigned the costs of the new facilities."[26]

C. PJM 2014 Filing

In 2014, PJM revised the Project Selection cost-benefit methodology. First, PJM changed the weights used for production costs and load payments. But second and more importantly, PJM abandoned the notion that regionally allocated projects should account for cost increases in zones that pay for the project. PJM sought revisions to its economic planning process as set forth in section 1.5.7 of Schedule 6 of the Amended and Restated Operating Agreement of PJM stating, "[e]liminating from the calculation consideration of zones with an increase in net load or capacity payments should increase the number of projects that could

[25] *See* PJM's Second Compliance Filing, PJM Interconnection, L.L.C., Docket No. ER06-1474-004 at 4, 7 and 8 (Oct. 9, 2007). The formulaic approach was further amended by way of compliance. *See* PJM's Third Compliance Filing, PJM Interconnection, L.L.C., Docket No. ER06-1474-006 (Jun. 16, 2008). The reduction in production costs is a standard measure of the economic benefits of an expansion or enhancement. The change in production costs measures the economic benefit of the project to the PJM market, while the load payments measure the extent to which the project will reduce prices to load. Together the evaluation of production cost benefits and direct benefits to load customers were intended as a reasonable formulaic approach to the analysis of the overall benefits of an economic-based enhancement or expansion. *See* October 9 Compliance Filing at 7 and 8.

[26] PJM Interconnection, L.L.C., 123 FERC ¶ 61,051, P 67 (2008).

qualify as a market efficiency project."[27] Without addressing the original justification given by the Commission when approving the 2007 PJM Proposal, PJM instead simply stated that it "believes this modification to the market efficiency benefit calculation will more appropriately align the benefits with the costs of the facilities by placing the cost of such upgrades on the zones where costs are being reduced."[28]

The Commission accepted the filing via a Delegated Letter Order,[29] which stated in pertinent part as follows.

> This acceptance for filing shall not be construed as constituting approval of the referenced filing or of any rate, charge, classification, or any rule, regulation or practice affecting such rate or service contained in your filing; nor shall such acceptance be deemed as recognition of any claimed contractual right or obligation associated therewith; and such acceptance is without prejudice to any findings or orders which have been or may hereafter be made by the Commission in any proceeding now pending or hereafter instituted by or against PJM.[30]

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[27] Docket No. ER14-1394, (Filed February 28, 2014) at page 10. PJM proposed to: (i) revise how the market efficiency benefits are calculated for Regional Facilities, Necessary Lower Voltage and Lower Voltage Facilities; (ii) include generation with an executed Facility Study Agreement ("FSA") in its assumptions; (iii) modify the definition of Production Cost to appropriately account for resources from neighboring RTOs which can be dispatched and are active in PJM's market efficiency models ("dispatchable resources"). In approximately 2018, PJM's market efficiency base case for its RTEP process no longer by default includes generation resources that are in the Facility Study phase or have an executed FSA or suspended Interconnection Service Agreement (ISA).

[28] PJM Interconnection, L.L.C., Intra-PJM Tariffs, OA Schedule 6 Sec 1.5, OA Schedule 6 Sec 1.5 Procedure for Development of the Regional Transmission Expansion Plan, 5.0.0. Docket No. ER14-1394, at 8 (PJM Revisions to Economic Planning Process Filed February 28, 2014).

[29] Delegated Letter Order, Docket No. ER14-1394 (Issued April 23, 2014).

[30] *Id.* at page 2.

Through the Docket No. ER14-1394 proceeding, the benefit was changed to allow the complete exclusion of all zones that are forecasted to see higher Load Energy Payments (LEP) for Lower Voltage Projects.

IV. LEGAL STANDARD

Under the FPA, regulated entities are required to file with FERC "schedules showing all rates and charges … and the classifications, practices, and regulations affecting such rates and charges."[31] Once filed, "no change shall be made … in any such rate, charge, classification, or service, or in any rule, regulation, or contract relating thereto, except after sixty days' notice to the Commission and to the public."[32] "As the statutory terms make clear, the filed rate is not limited to 'rates' *per se*, but also extends to matters directly affecting rates."[33] In addition, under the Commission's "rule of reason," utilities must file "those practices that affect rates and service significantly, that are realistically susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous."[34]

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[31] 16 U.S.C. § 824d(c).
[32] *Id.* § 824d(d).
[33] *Oklahoma Gas and Electric Co. v. Federal Energy Regulatory Commission*, 11 F.4th 821, 829 (D.C. Cir. 2021).
[34] *Keyspan-Ravenswood, LLC v. FERC*, 474 F.3d 804, 811 (D.C. Cir. 2007); *see also Chehaulis Power Generating,L.P.*, 145 FERC ¶ 61,052, at P 11 (2013) ("Section 205 requires that rates, terms, and conditions for jurisdictional services must be filed with the Commission; the statute does not make such a filing optional, or otherwise grant discretion to utilities to decide whether or when they must filed their rates, terms, and conditions.").

The FPA establishes a two-part process to challenge charges demanded by public utilities. *First*, a complainant must establish by a preponderance of the evidence that one of PJM's "rule[s], regulation[s], practice[s], or contract[s] is unjust, unreasonable, unduly discriminatory, or preferential."[35] A rule may be deemed unjust or unreasonable when it "ha[s] not resulted in, and likely would not incentivize, the development of additional supply capable of resolving the problem going forward."[36] *Second*, once this burden is satisfied, the Commission must then promulgate a just and reasonable alternative rule, regulation, practice, or contract.[37] The FPA states that "no public utility shall … make or grant any undue preference or advantage to any person or subject any person to any undue prejudice or disadvantage [or] maintain any unreasonable difference … between localities." [38]

There is no automatic, rebuttable presumption that PJM's Operating Agreement is just and reasonable. The Commission has previously determined certain aspects of the Operating Agreement to be unjust and unreasonable, such as in July 2016 wherein the Commission identified inconsistencies in how PJM handled transmission needs driven solely by individual transmission owner Form No. 715 criteria.[39] In that case, the Commission issued a Rule to Show Cause

[35] 16 U.S.C. § 824e(a).
[36] *Citadel FNGE Ltd. v. FERC*, 77 F.4th 842, 855 (D.C. Cir. 2023).
[37] 16 U.S.C. § 824e(a).
[38] 16 U.S.C. § 824d(b).
[39] *See PJM Interconnection, L.L.C.,* 156 FERC ¶ 61,030, at PP 20-21, 24 (2016) (July 2016 Order), order on reh'g, 157 FERC ¶ 61,193 (December 2016).

under FPA Section 206 requiring PJM to show cause why its Operating Agreement was just and reasonable or make revisions to clarify process and to define "Immediate-need Reliability Projects."[40]

V. ARGUMENT

A. PJM's Market Efficiency Project Selection Is Unjust, Unreasonable, And Unduly Discriminatory And Preferential

PJM's methodology for calculating the benefits of market efficiency transmission projects explicitly only considers the impacts to benefiting consumers in zones that will experience lower energy costs as a result of the project, while ignoring the impacts to consumers in zones that will experience higher energy costs. This unduly discriminatory and preferential treatment is unjust and unreasonable and is inconsistent with the mandates of the FPA.

By discriminating against a subset of loads, PJM has effectively excluded a subset of consumers from their "consumer" benefits metric. Instead of planning transmission in the public interest of all consumers, PJM is effectively acting in the interests of a subset of consumers who would benefit from a particular project, even at the expense of other consumers who may be made worse off. PJM's methodology can yield the unreasonable outcome of market efficiency projects that actually **increase costs for consumers in aggregate in PJM.** In fact, PJM's

[40] *See PJM Interconnection, LLC*, 162 FERC ¶ 61,033, ER16-2401 and EL16-96 (Order issued January 18, 2018).

methodology may actually increase load energy costs across the entire region before even accounting for the cost of the transmission project itself. In other words, PJM consumers can be forced to pay for transmission projects that actually increase aggregate energy costs.

Ignoring cost increases to certain zones is unduly discriminatory and preferential and contrary to caselaw precedent of *El Paso Electric Co. v. FERC,* 76 F.4th 352 (5th Cir. 2023) No. 18 60575 (5th Cir. 2023), wherein the U.S. Court of Appeals for the Fifth Circuit reversed the Commission's cost allocation orders for grid improvements in the WestConnect region, and reaffirmed the cost causation principle as a foundational tenet of ratemaking.[41] Cost allocation in transmission planning pursuant to FERC Order No. 1000 must be tied to actual cost causation, not broad mandates that impose costs on utilities without clear justification.[42]

B. PJM's Market Efficiency Benefits Methodology Over-Procures Transmission To The Detriment Of The Region

We agree with FERC's statement in Order No. 890: "When planning to serve native load customers, a prudent vertically integrated transmission provider will plan not only to maintain reliability, but also consider whether transmission upgrades or other investments can reduce the overall costs of serving native load.

[41] *El Paso Electric Co.* 76 F.4th at 363.
[42] *Id.* at 366.

Such upgrades can, for example, reduce congestion (redispatch) costs or integrate efficient new resources (including demand resources) and new or growing loads."[43]

The purpose of a market efficiency project is to satisfy the Commission-endorsed goal to reduce costs for customers and allow generation to be built at the lowest cost location for the benefit of customers. The appropriate measurement criteria to accomplish that goal is all-in cost for *all* customers. It is inappropriate to count changes in load payments only in those zones that experience a benefit. Changes to PJM's project selection criteria and cost allocation methods have exacerbated the need for reform.

PJM prices reflect a single clearing price system-wide, after line losses, and customers located near generation receive little benefit from this proximity. During those limited hours when congestion exists, congestion may cause lower prices for customers proximate to generation, while eliminating the congestion will lead to greater price parity.

The market response to price increases is to build more generation in the most profitable location. This is accomplished through the balance of locating projects where it is least expensive to build combined with the price of energy that can be earned at that location. When transmission is built to resolve price

[43] *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, ¶542 (47 FR 18569, March 15, 2007) RM05-17-000 and RM05-25-000.

differences between locations, greater consideration is given to locating generation where it is least costly to build as the price differential is reduced or eliminated. Downstream of the congestion, the result is lower energy prices. Upstream of the congestion, however, energy prices often increase.

The price increases from reduced congestion should not be ignored in project selection. Ignoring those costs creates a system that over-procures transmission when building more generation in a congested zone would have been the least cost option. A better result is to maintain the price signal in the few hours of the year when congestion is projected to occur or has occurred. It should be noted that modern technology, such as battery storage, allows temporal energy market arbitrage, without the need to build extremely large capital projects to address occasional system constraints.

C. Reducing Congestion Is Not The Sole Goal Of An Efficient Market

Costs to deliver power represent a significant market friction. Substantially reducing that market friction creates a boon to customers, allowing lower cost power to be built and delivered to consumers. However, reducing congestion has no value beyond the savings provided to the region as a whole and is not a value in itself. When locational constraints arise in any locational market there are essentially three options: 1) increase transfer capacity to address the constraint, 2)

increase production within the constrained pocket, or 3) bear the costs of the constraint.

As described earlier, reducing congestion can result in generation development decisions solely concerned with locating generation in the least cost location. However, international experience with congestion reduction should inform the Commission that congestion reduction is not an end in itself. The transmission system of the Alberta Electric System Operator was a prime example of the approach whereby congestion costs were reduced without accounting for full regional costs and benefits. The Alberta Electric System Operator recently decided to move away from the then current zero-congestion transmission planning standard to an optimally planned transmission planning standard. Alberta policy requires effectively zero congestion, instead of evaluating whether reduced congestion produces a net benefit for the region wholistically.

No ISO or utility currently plans transmission to eliminate or reduce congestion for its own sake. Rather, ISOs and utilities only seek to eliminate or reduce congestion when the cost of the transmission project is less than the cost of congestion. When the cost of congestion is less than the cost of the transmission project required to relieve it, bearing the cost of congestion is economic. According to the Fraser Institute, "it is economically beneficial that transmission policy address the location of electricity generating facilities in order to ensure that

the delivered cost of electricity is as low as possible."[44] That is, the project selection cost-benefit analysis should evaluate the cost effects on all zones because transmission and generation are substitutes. The option of locating production within the load pocket must be evaluated if that option is less expensive than raising prices system wide plus the cost of the transmission line itself.

Some congestion may be acceptable under certain conditions. It may be less expensive to simply bear occasional high prices than to build a transmission line to eliminate price differences. Project selection for market efficiency solutions should seek to minimize the combined system-wide costs of electricity production and transmission. The Commission itself has recognized that generation and transmission compete, and that the goal of good system planning is to select and build the overall most cost-effective portfolio of solutions, both transmission and non-transmission.[45]

[44] https://www.fraserinstitute.org/sites/default/files/AlbertaElectricityTransmission.pdf.
[45] *See*, *Bld'g for the Future Through Elec. Reg 'I Transmission Planning & Cost Allocation,* Order No. 1920, 187 FERC ~ 61,068, at PP 1625-48, *order on reh* 'g & *clarification,* Order No. 1920-A, 189 FERC ~ 61,126 (2024), *order on reh* 'g & *clarification,* Order No. 1920-B, 191 FERC ~ 61,026 (2025). *See also*, *Ensuring the Timely and Orderly Interconnection of Large Loads, Advance Notice of Proposed Rulemaking,* Docket No. RM26-4-000 (Oct. 27, 2025).

D. Other Regions Do Not Calculate Benefits In This Way Or Provide Other Mechanisms To Ensure All Zones Benefit

i. MISO

The PJM Project Selection Methodology was originally modeled upon Midcontinent Independent System Operator's (MISO) weighted gain-no loss metric, with modifications.[46] A detailed review of the MISO tariff shows that it includes zones where costs increase in the determination of total benefits for the purpose of project selection. Attachment FF provides that for the purpose of Market Efficiency Projects, "[t]he Transmission Provider shall apply the benefits metrics outlined in Attachment FF-7 and sum the results of each of the benefit metrics together to determine the economic benefits of a Market Efficiency Project to the Transmission Provider region."[47] Attachment FF-7 of the MISO *Open Access Transmission, Energy and Operating Reserve Markets Tariff* provides that Adjusted Production Cost Savings and Avoided Reliability Project Savings are used to determine the benefits used to qualify a market efficiency project for selection. There is no limitation contained in the MISO tariff which limits the sum of benefits to only include zones that benefit. Instead, "[u]nder its "Weighted Gain-No Loss" proposal, the MISO seeks to ensure that proposed economic projects will have a **regional benefit.**"[48] Further, benefits are "determined in aggregate for all generation and load nodes."[49]

After project selection, MISO, along with other RTOs, allocates costs among zones so that "the cost of any such projects are borne only by those entities that benefit from the proposed upgrade," but that allocation occurs only after project selection. Critically, MISO is considering the total costs and benefits of the project regionwide at the project selection phase, not only when determining cost allocation.

ii. SPP

Southwest Power Pool's (SPP) "Balanced Portfolio" project selection methodology does not exclude zones that receive a negative benefit in determining project selection. As approved by FERC, SPP portfolios are treated as meeting the cost-benefit test "when the sum of the net present value of the benefits of the upgrades equals or exceeds the net present value of the costs of the upgrades."[50] SPP even includes a further check. In the words of the Commission when approving SPP's methods: "no zone will be worse off as a result of the adoption of a balanced portfolio."[51] When a zone's production costs do increase as a result of

[46] Compliance filing, PJM Interconnection, LLC, Docket No. ER06-1474-004 (Filed October 9, 2007).
[47] Attachment FF Section B.1.a.
[48] Midwest Independent Transmission System Operator, Inc., ER06-18-004, ER06-18-005, 118 FERC ¶ 61,209 (Issued March 15, 2007) (emphasis added).
[49] Midwest Independent Transmission System Operator, Inc., ER06-18-004, ER06-18-005, 118 FERC ¶ 61,209 (Issued March 15, 2007).
[50] Initial Order on Compliance, 125 FERC ¶ 61,054.
[51] Initial Order on Compliance, 125 FERC ¶ 61,054, P 21.

trapped generation becoming "untrapped" SPP requires rebalancing of costs to ensure the increased zones don't pay.[52] Unlike PJM, SPP still treats those zonal cost increases as a reduction in net benefits at the project selection phase.[53] There is no tariff provision that excludes zonal cost increases from its production cost benefits calculation.

iii. NYISO

New York ISO (NYISO) uses a societal benefit metric to evaluate whether a candidate RETP is in the public interest. The primary measure is a region-wide production cost test that asks whether the project reduces total dispatch costs across New York State as a whole. This captures the net change in total dispatch costs across all zones, including zones whose costs increase because of the project. NYISO does not identify capacity cost savings or other non-energy benefits as separate benefit categories in its economic project evaluation framework. Only after a project passes the region-wide production cost test does NYISO proceed to identify which specific zones experience price decreases for the purposes of cost allocation and the opt-in vote.

[52] Initial Order on Compliance, 125 FERC ¶ 61,054, P 31.

[53] Attachment O (Transmission Planning Process) of its Open Access Transmission Tariff (OATT), Section IV.4(d)(iii) ("The adjusted production cost benefit for each Zone shall equal the difference between the adjusted production cost with the potential Balanced Portfolio modeled and without the potential Balanced Portfolio modeled.").

All zones are included in the region-wide production cost test, including those that experience cost increases. Zones harmed by a project are not excluded from the benefit calculation; their negative impacts reduce the measured net benefit and can cause a project to fail the test. Harmed zones are not held financially whole under cost allocation, but their welfare is reflected in the selection decision.

iv. ISO-NE

ISO New England's (ISO-NE) Tariff contains no provision limiting the calculation of benefits for project selection purposes to those zones that benefit. ISO-NE's website describes the purpose of its project selection methodology succinctly. "System Efficiency Transmission Upgrades" (SETUs) are "designed to reduce *overall system production costs*."[54] ISO-NE uses a societal benefit metric. The primary benefit measure is production cost savings across the full New England system and the surrounding NPCC region. In addition to production cost savings, ISO-NE includes two supplemental benefit categories: avoided transmission losses (the reduction in energy wasted in transmission as a result of the upgrade) and avoided future transmission investment (the cost of other planned transmission upgrades that are no longer needed because of the candidate project). Capacity cost savings are not a separate benefit category in ISO-NE's economic project evaluation framework.

[54] https://www.iso-ne.com/system-planning/transmission-planning/setu.

Production cost savings are calculated on a system-wide basis across all New England load zones. No zone is excluded from the analysis on the basis that it experiences a cost increase as a result of the candidate project. Cost allocation for approved SETUs follows a load-ratio basis across the full region, consistent with ISO-NE's principle that all consumers benefit from improvements to the interconnected regional network.

v. CAISO

Although the California ISO (CAISO) does not conduct market efficiency windows in the same way as many of the other RTOs, it does have its Transmission Economic Enhancement Methodology. CAISO has made its position on this issue clear: "[f]undamentally, net benefits should be the summation of the benefits for all market participants who pay for the project less their costs. Since most projects will enhance the welfare of some market participants while diminishing the welfare of others, a project's acceptability should be judged based on the impact in aggregate."[55] Although CAISO uses a consumer benefit metric rather than a societal one, it does not discriminate among ratepayers based on whether they benefit from a project. The ratepayer benefit calculation reflects the net change in consumer costs across all pricing zones in the

[55] https://www.caiso.com/documents/transmissioneconomicassessmentmethodology-nov2_2017.pdf.

CAISO footprint, including zones that experience higher costs. No zone is excluded from the calculation because it experiences a cost increase.[56]

E. PJM's Project Selection Methodology Has Increased All-In Costs For Regionwide Customers

An enhancement proposed by Transource Energy LLC (what PJM referred to as "Project 9A"), yielded the following results as described by the PJM Independent Market Monitor ("IMM"):

> Project 9A was considered a subregional project based on its voltage level, meaning that changes in forecasted system costs were not considered for purposes of estimating the benefit/cost ratios. Instead, only reductions in zonal load costs were considered as a benefit of the project. Any increases in zonal load costs were ignored in the analysis. The initial study had a benefit to cost ratio of 2.48, with a capital cost of $340.6 million. The sum of the positive (energy cost reductions) effects was $1,188.07 million. The sum of negative effects (energy cost increases) was $851.67 million. The net actual benefit of the project in the study was therefore $336.40 million, not the $1,188.07 used in the study. Using the total benefits (positive and negative) to compare to the net present value of costs, the benefit to cost ratio was 0.70, not 2.48. The project should have been rejected on those grounds.[57]

Another example is the 644+908 Multi-Driver project in the COMED-NIPSCO-AEP Area, which was proposed as part of the 2022 Regional Transmission Expansion Plan. The IMM once again showed how the results

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[56] Direct Testimony of Zachary Ming Appendix: Jurisdictional Review of Select Transmission Project Economic Evaluation Frameworks in North America.

[57] https://www.monitoringanalytics.com/filings/2020/IMM_Comments_Docket_No_ER21-162_20201110.pdf, p. 2.

would have drastically changed if PJM accounted for the impact to all consumers rather than just the beneficiaries of the transmission:

> The benefit/cost analysis used in the multi driver review is the same flawed benefit/cost analysis that PJM uses for evaluating Market Efficiency projects. PJM's assumed benefit of the combined project was calculated as the sum of the present value of positive (energy cost reductions to some loads) effects of $169.8 million. The sum of the present value of negative effects (energy cost increases to other loads), which was ignored in the PJM calculation of benefits, was $149.1 million. The total benefit of the proposed multi driver project is therefore only $20.7 million, not the $169.8 asserted by PJM, even ignoring the use of changes in congestion rather than changes in production costs. Using the total positive and negative effects to compare to the net present value of costs in the PJM's analysis, the benefit/cost ratio is 0.24, not 1.99. All $149.1 million of the increases in energy costs (negative benefits) would be paid by load in the ComEd Zone. Based on the requirement of benefit/cost ratio of 1.25, the energy efficiency portion of the multi driver project should have been rejected.[58]

The IMM, has repeatedly raised this issue in State of the Market and FERC filings. For example, the IMM has stated that:

> [t]he current rules governing the benefit/cost analysis of competing transmission projects do not accurately measure the relative costs and benefits of transmission projects. The current rules explicitly ignore the increased zonal load costs that a project may create ... These flaws have contributed to PJM approving market efficiency

[58] Monitoring Analytics, "2024 State of the Market Report for PJM", 2024 State of the Market Report for PJM, page 715.

projects with forecasted, and realized, costs that are higher than the forecasted benefits.[59]

Since then, the IMM has repeatedly remarked on the "significant issues with PJM's benefit/cost analysis that should be addressed prior to approval of additional projects," reiterating in its annual reports that "PJM's benefit/cost analysis includes only the decreases in costs to load and ignores the increases in costs to load associated with market efficiency projects."[60]

F. PJM's 2014 Update To The Economic Project Selection Methodology Undermined And Conflicted With The Commission's Reason For Approving The Methodology

As described earlier, the Commission accepted PJM's 2007 Proposal due to the alignment of the project selection criteria with the cost allocation methodology: "[w]e find this approach reasonable because it would match the project selection process to the existing cost allocation method. That is, it would evaluate the load payment benefits of those loads that will be assigned the costs of the new facilities."[61] At the time, PJM only ignored zones with energy cost increases if the zone would not be allocated any costs. For regional facilities that would be cost allocated to all zones, PJM did not ignore cost increases for any zones.

[59] https://www.monitoringanalytics.com/filings/2020/IMM_Comments_Docket_No_ER21-162_20201110.pdf , page 2.
[60] https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2025/2025-som-pjm-sec12.pdf, page 715.
[61] PJM Interconnection, L.L.C., 123 FERC ¶ 61,051, P 67 (2008).

PJM's 2014 changes undermined the reasoning which supported the approval in the Commission's 2008 Order. Instead of only ignoring energy cost increases in zones if those zones would see no cost allocation, the present rules allocate cost to zones even if they would see cost increases. PJM simply removed the distinction in the definitions of "Load Energy Payment" and "Load Capacity Payment" that formerly had distinguished between the project selection criteria used by each cost allocation methodology. PJM addresses this change by claiming "this modification to the market efficiency benefit calculation will more appropriately align the benefits with the costs of the facilities by placing the cost of such upgrades on the zones where costs are being reduced."[62] In practice, PJM's 2014 change only served to select more projects, and would then cost allocate those projects to zones if they saw no economic benefit through the load ratio share method, rather than placing the cost of the projects on zones that saw cost decreases.

Therefore, although the PJM economic project selection methodology is flawed in general, the 2014 changes exacerbate the flaw by "increas[ing] the number of projects that could qualify as a market efficiency project."[63]

[62] PJM Interconnection, L.L.C., Docket No. ER14-1394, at 8 (Filed February 28, 2014).
[63] *Id.*

G. PJM's Project Selection Methodology Is Inconsistent With The Purpose Of Economic Project Selection

PJM seems to have deviated from the original filings creating the market efficiency planning process. In 2005, Congress made its intentions clear in the Energy Policy Act of the same year.[64] In the Energy Policy Act, Congress directed the Commission to create incentives inducing increased transmission "for the purpose of benefitting consumers by ensuring reliability and **reducing the cost of delivered power** by reducing transmission congestion."[65] Further, it created the National Interest Electric Transmission Corridor (NIETC) program to reduce "congestion that adversely affects consumers."[66] In both of these Congressional charges, Congress was concerned with congestion that actually harmed customers, namely, market inefficient congestion that could improve regional customer experience. PJM recognized this Congressional purpose in originally justifying its market efficiency planning process to the Commission.[67]

PJM also recognized that, at the time, "the proposal does not 'favor' transmission solutions over generation solutions."[68] In fact, PJM stated that the proposal would:

> provide substantial information to market participants, including the amount of generation and demand response

[64] Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005) ("EPAct").
[65] 16 U.S.C. § 824s(a).
[66] 16 U.S.C. § 824p(a)(2).
[67] Answer of PJM Interconnection LLC, ER06-1474-000, at 6 (Filed October 18, 2006).
[68] *Id*. at 3.

> that would alleviate constraints without the need for transmission upgrades. This will enable market participants to evaluate whether to provide market solutions to relieve congestion. If other market solutions come forward, alleviating congestion, then PJM will take them into account in developing and modifying its regional transmission plans accordingly.[69]

The original recognition that generation and demand response are substitutes for transmission illustrates that if PJM does not account for zonal energy and capacity cost increases, it is not accurately reflecting the cost that could be avoid with that same local generation. By the same token, the exclusion of costs for zones that see price increases defeats the purpose of economic transmission planning in the first instance. When a utility's practice would defeat the purpose of the core reason behind the practice, it is unreasonable and should be rejected by the Commission.[70]

PJM no longer provides information to the Transmission Enhancement Advisory Committee (TEAC) that would allow the replacement of rate-based transmission with local generation or demand response. PJM no longer allocates costs only to zones that receive benefits. With these carve outs, combined with the original failure to account for all costs, PJM has defeated the purpose of its economic planning regime. The Commission should remedy these deficiencies by

[69] *Id*. at 3-4.
[70] *See e.g. Calpine Corp.*, *et al*., 169 FERC ¶ 61,239, P 141 (2019) (rejecting as "unreasonable" arguments that would "defeat the purpose" of a utility rule).

ordering PJM to include an evaluation of all zonal costs in the project selection criteria. Once this change is implemented, PJM's method will reasonably select only those projects that are truly market efficient.

H. Alignment Of Benefits With Cost Allocation Is Not Sufficient Reason To Ignore Costs

The PA PUC does not dispute that the cost allocation of projects must be aligned with benefits. However, the costs to non-beneficiaries should not be entirely ignored. Regardless of who is paying for the transmission project, it is unjust and unreasonable for PJM to facilitate an unduly discriminatory race-to-the-bottom framework that allows for projects that increase aggregate consumer costs just so a subset of consumers can benefit.

In Zachary Ming's illustrative two-zone example that he created in his testimony titled *Table 2: Illustrative Two-Zone Example – Transmission Project Cost-Benefit Analysis,* attached to this Complaint, benefitting zones in PJM experience a net benefit of $591 million (before the cost of the transmission itself) while non-benefitting zones experience a net cost of $788 million.

PJM Method	**Lower Voltage**	*ratio*		**1.97**	Zone 2 Load Energy Payments NPV net benefit ($591M) ÷ Transmission Project NPV cost ($300M); project passes PJM 1.25 B/C threshold
	Regional	*ratio*		**1.44**	(50% × Zone 2 Load Energy Payments NPV net benefit ($591M) + 50% × Production Cost NPV net benefit ($276M)) ÷ Transmission Project NPV cost ($410M); project passes PJM 1.25 B/C threshold
E3 Method	**Lower Voltage**	*ratio*		**(0.66)**	System Load Energy Payments NPV net benefit (-$197M) ÷ Transmission Project NPV cost ($300M); project does not pass
	Regional	*ratio*		**0.13**	(50% × System Load Energy Payments NPV net benefit (-$197M) + 50% × Production Cost NPV net benefit ($276M)) ÷ Transmission Project NPV cost ($410M); project does not pass PJM 1.25 B/C threshold

As Mr. Ming observes:

> Why not just skip the transmission project altogether simply take $600 million from the non-benefitting zone and give it directly to the benefiting zone? Both zones would be better off than building the transmission. Clearly such a proposition is nonsensical, but the mere possibility that it exists demonstrates that the *status quo* can yield wasteful transmission investment.[71]

Second, under PJM's current methodology, "regional" market efficiency projects allocate half of transmission costs to all zones, not just beneficiaries. This result shows that the cost allocation is not "aligned" with benefit determination. Forcing zones that experience higher energy costs from market efficiency projects to pay for the transmission lines themselves is unjust and unreasonable.

[71] Direct Testimony of Zachary Ming at 26-27 A30.

VI. REMEDY

A. The Commission Should Order PJM To Revise Its Project Selection Methodology To Consider All Costs To All Zones

To rectify the unjustness, unreasonableness and unduly discriminatory nature of PJM's current framework, PJM should include the impact on all (benefitting and non-benefitting) zones when calculating consumer benefits. This approach will ensure non-discriminatory treatment between all PJM consumers.

The outcome of this change (aside from rectifying the inherent discrimination) will ensure that PJM does not approve projects that increase aggregate consumer costs in PJM. When the impacts to all consumers are considered, only projects that yield a net benefit to all consumers in aggregate will pass PJM's market efficiency test.

PJM should keep the existing formulas for Lower Voltage and Regional Projects and revise only the definitions of "Change in Load Energy Payment" and "Change in Load Capacity Payment" in Schedule 6, section 1.5.7 of the Operating Agreement.[72] Specifically, PJM should delete the following sentence from the definition of Change in Load Energy Payment:

> The Change in the Load Energy Payment shall be the sum of the Change in the Load Energy Payment only of the Zones that show a decrease in the Load Energy Payment.[73]

[72] https://www.pjm.com/pjmfiles/directory/merged-tariffs/oa.pdf.
[73] https://www.pjm.com/pjmfiles/directory/merged-tariffs/oa.pdf, pp. 597-599.

PJM should also delete the following sentence from the definition of Change in Load Capacity Payment:

> The Change in the Load Capacity Payment shall be the sum of the change in the Load Capacity Payment only of the Zones that show a decrease in the Load Capacity Payment.[74]

With these deletions, PJM's existing benefit formulas would remain the same as they are currently, shown again in **Error! Reference source not found.** below. The only difference is that the benefit formulas will consider the *overall* benefit to PJM customers rather than only focusing on the subset of zones that benefit from the proposed transmission.

Table 1: Current PJM Market Efficiency Benefit Formulas

Project Type	Benefits Formula
Lower Voltage	Change in Load Energy Payment + Change Load Capacity Payment
Regional	(0.5 * Change in Total Energy Production Cost) + (0.5 * Change in Load Energy Payment) + (0.5 * Change in Total System Capacity Cost) + (0.5 * Change in Load Capacity Payment),

This proposed replacement rate would result in a just and reasonable market efficiency selection framework by eliminating the discriminatory treatment that makes PJM's current methodology unjust, unreasonable and unduly discriminatory. As discussed above, PJM's current methodology is unjust, unreasonable and unduly discriminatory because it excludes zones that experience a cost increase

[74] *Ibid.*

from the consumer benefit calculation while including zones that experience a cost decrease. This asymmetric treatment discriminates between PJM consumers based solely on whether they benefit from a proposed project. Removing the two sentences identified above eliminates this undue discrimination by requiring PJM to calculate consumer benefits on a system-wide basis, treating all zones the same regardless of whether they benefit or are harmed. This is also consistent with the practice of every other North American ISO and RTO reviewed in the Appendix: no other jurisdiction excludes zones with cost increases from its benefit calculation, regardless of the benefit metric—whether societal or consumer—utilized.

This remedy will not eliminate market efficiency projects in PJM. For lower voltage projects, where the benefit formula is based entirely on consumer costs, the PA PUC proposed remedy will only impede projects that would increase aggregate consumer costs across all PJM zones. For regional projects, where the formula weights consumer benefits at 50% alongside a 50% societal component, this remedy reduces the likelihood that a project passes on the strength of consumer benefits to a subset of zones alone. In both cases, the remedy ensures that the consumer component of PJM's benefit calculation reflects the actual impact on all PJM consumers.[75]

[75] *See* Attachment A, Direct Testimony of Zachary Ming at pp. 8-13.

PA PUC expert witness Zachary Ming analyzed the Goalders Creek substation expansion, Museville-Smith Mountain upgrade, and the Multi-Driver project in the COMED-NIPSCO-AEP area. These are RTEP proposals 525, 733, and 644+908, respectively.[76] Of these three, the only impacted proposal would be 644+908, because it has non-benefitting zones measured over the course of the 15-year planning horizon. In fact, it only has one non-benefitting zone, which is COMED. However, to call it non-benefitting is an understatement: PJM estimates it would experience a significant increase in Gross Load Payment for each of the test years it modelled, as shown in Table 1.[77]

Table 2: Change in Net Load Payment across All Zones for RTEP proposal 644+908

Year	Change in Net Load Payment ($ millions)
2023	+$15.78
2027	+$14.33
2030	+$22.72
2033	+$17.30

[76] https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2023/20230110/item-05---2022-multi-driver-proposal-window-no-1-update.pdfhttps://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20251208/20251208-item-03---market-efficiency-update.pdf. PJM Transmission Expansion Advisory Committee, 2022 Multi-Driver Proposal Window No. 1 Update (Jan. 10, 2023), available at https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2023/20230110/item-05---2022-multi-driver-proposal-window-no-1-update.pdf; PJM Transmission Expansion Advisory Committee, Market Efficiency Update (Dec. 8, 2025), available at https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20251208/20251208-item-03---market-efficiency-update.pdf.

[77] *See*: appendix---2022-multi-driver-window-1-recommended-solution-644-908-market-efficiency-zonal-summaries.pdf.

When extrapolated over the entire planning horizon, this increase in payments reaches almost $150 million dollars, as estimated by the IMM. Consequently, taking this harm into account would drastically change the cost-benefit analysis for this project, such that it would no longer pass the 1.25 ratio threshold.[78]

The current discriminatory methodology in selecting market efficiency projects can be solved by simple deletions to PJM's Operating Agreement. In Schedule 6, Section 1.5.7 of the Operating Agreement, PJM should delete the following language from the definitions of "Change in Load Energy Payment" and "Change in Load Capacity payment:"

> Change in Load Energy Payment = [the annual sum of (the hourly estimated zonal load megawatts for each Zone) * (the hourly estimated zonal Locational Marginal Price for each Zone without the Economic-based Enhancement or Expansion)] – [the annual sum of (the hourly estimated zonal load megawatts for each Zone) * (the hourly estimated zonal Locational Marginal Price for each Zone with the Economic-based Enhancement or Expansion)] .... ~~The Change in the Load Energy Payment shall be the sum of the Change in the Load Energy Payment only of the Zones that show a decrease in the Load Energy Payment.~~
>
> Change in Load Capacity Payment = [the sum of (the estimated zonal load megawatts in each Zone) * (the estimated Final Zonal Capacity Prices under the Tariff, Attachment DD without the Economic-based Enhancement or Expansion) * (the number of days in the

[78] *See* Attachment A, Direct Testimony of Zachary Ming at pp. 23-24.

> study year)] – [the sum of (the estimated zonal load megawatts in each Zone) * (the estimated Final Zonal Capacity Prices under the Tariff, Attachment DD with the Economic-based Enhancement or Expansion) * (the number of days in the study year)]. … ~~The Change in the Load Capacity Payment shall be the sum of the change in the Load Capacity Payment only of the Zones that show a decrease in the Load Capacity Payment.~~

The proposed deletions result in a reduction in the "Total Annual Enhancement Benefit" as part of PJM's Benefit-Cost Ratio, effectively treating the increase in Load Energy Payment and Load Capacity Payment as a negative benefit to be included in the sum.

B. Alternatively, The Commission Could Order PJM To Treat Cost Increases For Zones In The Cost Side Of The Benefit-Cost Ratio

Instead of addressing the remedy by deleting the above-referenced language, the Commission could also order PJM to revise its Operating Agreement to add the increase in Load Energy Payment and Load Capacity Payment to the denominator of the Benefit-Cost Ratio, in the definition of Total Enhancement Cost. The resultant definition would be:

> Total Enhancement Cost (except for accelerations of planned reliability-based enhancements or expansions) = the estimated annual revenue requirement for the Economic-based Enhancement or Expansion plus the Change in Load Energy Payment for the Zones that show an increase in the Load Energy Payment and Change in Load Capacity Payment for the Zones that show an increase in the Load Capacity Payment.

> Total Enhancement Cost (for accelerations of planned reliability-based enhancements or expansions) = the estimated change in annual revenue requirement resulting from the acceleration of the planned reliability-based enhancement or expansion, taking account of all of the costs incurred that would not have been incurred but for the acceleration of the planned reliability-based enhancement or expansion plus the Change in Load Energy Payment for the Zones that show an increase in the Load Energy Payment and Change in Load Capacity Payment for the Zones that show an increase in the Load Capacity Payment.

So long as energy and capacity cost changes in all zones are accounted for in the project selection methodology, either treating the changes as a cost or as a negative net benefit are both just and reasonable and should not have a substantial outcome determinative effect. However, by treating the negative benefit on the cost side of the equation, the Economic Project selection criteria would procure marginally fewer projects. This is the case because a marginal transmission project would necessarily have a denominator that is smaller than the numerator. Decreasing the numerator by a marginal amount necessarily decreases the ratio by a smaller amount than if the denominator is increased by the same amount.

VII. FORMAL REQUIREMENTS

A. Section 206(b)(1) – Clearly Identify The Action Or Inaction Which Is Alleged To Violate Applicable Standards Or Regulatory Requirements

B. Section 206(b)(2) – Explain How The Action Or Inaction Violates Applicable Statutory Standards Or Regulatory Requirements

C. Section 206(b)(3) – Set Forth The Business, Commercial, Economic Or Other Issues Presented By The Action Or Inaction As Such Relate To Or Affect The Complainant

As detailed above, the project selection methodology used by PJM is unjust, unreasonable and unduly discriminatory because it selects transmission projects for construction even when they are not cost effective. PJM's Transmission Expansion Advisory Committee's 2025 reevaluation of Transource Project 9A selected from the 2014/2015 RTEP long term window, shows that the combined net cost of the project for the region including both positive and negative Energy Market and Reliability Pricing Benefits as well as the cost of the project itself was $2.94 Billion. This figure represents the total capital investment required to build the transmission lines and facilities, factoring in 2024 RTEP Window 1 reliability solutions and other cost assumptions.[79] In other words, the combined net cost of the full project (Original + Alternate or Original + West Only) comes to

[79] *See* PJM's Transmission Expansion Advisory Committee's *Market Efficiency Transource Project 9A Update* dated June 4, 2025, at https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20250708/20250708-informational-only---transource-project-9a-update.pdf. Last checked July 30, 2026.

$2.94 billion, reflecting the sum of these capital expenditures. The cost breakdown of the 2025 reevaluation includes: (1) Original 9A: Benefit/Cost ratio 3.74, cost $430.41 M; (2) Alternate 9A: Benefit/Cost ratio 3.42, cost $584.57 M; and (3) 9A West Only: Benefit/Cost ratio 3.85, cost $264.61 M.[80]

D. Section 206(b)(4) – Make A Good Faith Effort To Quantify The Financial Impact Or Burden (If Any) Created For The Complainant As A Result Of The Action Or Inaction

In efforts to reduce congestion costs in the AP South area, Load Serving Entities in Pennsylvania located in several PJM zones including APS (Allegheny and West Penn Power), DUQ, FE-ATSI (Pennsylvania Power Co.), METED, PECO, PENELEC, PLGRP (PPL and UGI-Electric) in aggregate may through selected market efficiency projects be negatively affected by increases in Net Load Payments (NLP). Such increases in pricing in these zones located in Pennsylvania, will lead to increased rates for some Pennsylvania ratepayers. According to the Independent Market Monitor, those negative net benefits totaled $851.67 million. Inclusion of those increased costs would have reduced the benefit cost ratio of the project from 2.48 to 0.70, meaning the project would not have passed PJM's selection criteria.[81] As congestion costs fluctuate due to other factors including, for example, transmission upgrades, generation buildout, and load growth on either

[80] *Id.*
[81] https://www.monitoringanalytics.com/filings/2020/IMM_Comments_Docket_No_ER21-162_20201110.pdf, p. 2.

side of the constraint, congestion is merely a market signal to address the siting of new generation, and load growth issues. Currently, the market efficiency selection criteria is unjust, unreasonable and unduly discriminatory. PJM's Operating Agreement should be amended to consider costs on both sides of the constraint in determining the inputs to the benefit/cost ratio. [82]

E. Section 206(b)(5) – Indicate The Practical, Operational, Or Other Nonfinancial Impacts Imposed As A Result Of The Action Or Inaction

PJM's current methodology creates perverse incentives that compound the financial injury. By socializing data center-driven transmission costs to all ratepayers, it insulates states and utilities that attract speculative load growth from overbuilding and stranding asset risk while shifting those risks to neighboring states' ratepayers. It also distorts planning incentives: utilities are incentivized to build for speculative load because stranded asset risk falls on ratepayers, not shareholders, and phantom or duplicative load requests inflate forecasts further. Absent regional reform, state-level remedies like large load tariffs may worsen the problem by magnifying the incentive to overbuild while shifting costs to customers elsewhere in PJM. PA PUC is not aware of any practical, operational, or other nonfinancial impacts should its Complaint be granted. Although PJM's project selection criteria may select marginally more transmission projects than if it used a

[82] *See* Attachment A, Zachary Ming's Direct Testimony at pp. 11-12.

full accounting of costs and benefits, because the Complaint would not affect Reliability Projects, there should be no material deleterious effect on reliability.

F. Section 206(b)(6) – State Whether The Issues Presented Are Pending In An Existing Commission Proceeding Or A Proceeding In Any Other Forum In Which The Complainant Is A Party, And If So, Provide An Explanation Why Timely Resolution Cannot Be Achieved In That Forum

The PA PUC is not aware of any existing Commission proceeding in which the issues in the Complaint are pending.

G. Section 206(b)(7) – State The Specific Relief Or Remedy Requested, Including Any Request For Stay Or Extension Of Time, And The Basis For That Relief

The Complaint describes the specific relief requested.

H. Section 206(b)(8) – Include All Documents That Support The Facts In The Complaint In Possession Of, Or Otherwise Attainable By, The Complainant, Including, But Not Limited To, Contracts And Affidavits

The PA PUC submits the Direct Testimony of Mr. Zachary Ming, Partner of E3 as Attachment A and his Curriculum Vitae as Attachment B.

I. Section 206(b)(9) – State (e) Whether The Enforcement Hotline, Dispute Resolution Service, Tariff-Based Dispute Resolution Mechanisms, Or Other Informal Dispute Resolution Procedures Were Used, Or Why These Procedures Were Not Used; (ii) Whether The Complainant Believes That Alternative Dispute Resolution (ADR) Under The Commission's Supervision Could Successfully Resolve The Complaint; (iii) What Types Of ADR Procedures Could Be Used; And (iv) Any Process That Has Been Agreed On For Resolving The Complaint

The PA PUC communicated its concerns directly with PJM, which declined to introduce the proposed Operating Agreement, Schedule 6 revisions in the PJM stakeholder process though a Problem Statement and Issue Charge.

The PA PUC has not used other dispute resolution mechanisms as these would be unlikely to resolve the dispute. The PA PUC has not contacted the Enforcement Hotline or Dispute Resolution Service or made use of the tariff-based dispute resolution mechanisms. The PA PUC does not view these mechanisms to likely be productive in this dispute, as the issues involved in the Complaint are related to the unjustness, unreasonableness and unduly discriminatory nature of Schedule 6 in an Operating Agreement that is not in a Commission-approved tariff. It would take a supermajority vote of stakeholders to amend Schedule 6 of the Operating Agreement. Further, as PJM has declined to initiate a stakeholder proceeding on this issue and the current language may benefit some voting stakeholders, it is doubtful that a PA PUC initiated Issue Charge or Problem

Statement would be addressed by PJM stakeholders in a timely fashion with a favorable outcome as PJM is focused on other issues currently. [83]

J. Section 206(b)(10) – Include A Form Of Notice Of The Complaint Suitable For Publication In The Federal Register In Accordance With The Specifications In § 385.203(d) Of This Part. The Form Of Notice Shall Be On Electronic Media As Specified By The Secretary

Attached to this complaint is a form of notice of Complaint that is suitable for publication in the *Federal Register* in accordance with Section 385.203 of the Commission's Rules of Practice and Procedure.

K. Fast Track Processing (Rule 206(b)(11))

Fast Track processing is not required for this Complaint. Nevertheless, PJM conducts Market Efficiency project selections on a yearly basis. The PAPUC requests that the Complaint be addressed expeditiously in order to avoid unnecessary and unreasonable costs being imposed on ratepayers through future transmission projects selected under PJM's current Market Efficiency methodology.

[83] *See Comments from PJM Interconnection, LLC,* Docket No. AD26-7-000 (July 14, 2026); *Notice Requesting Post-Conference Comment*, Docket No. AD26-7-000 (July 30, 2026).

L. Communications (Rule 203(b))

Pursuant to Rule 206(c), concurrent with its filing with the Commission, the PA PUC has served copies of this complaint by email on the contacts for PJM as listed on the Commission's list of Corporate Officials:

Christopher O'Hara
Senior Vice President,
General Counsel, Secretary and Chief Compliance Officer
PJM Interconnection, LLC
2750 Monroe Boulevard
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Mark J. Stanisz
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M. Section 206(h) – Fast Track processing.

PA PUC is not requesting fast track processing.

N. Submitted documents

1. Complaint

2. Attachment A: Direct Testimony of Mr. Zachary Ming

3. Attachment B: Curriculum Vitae of Mr. Zachary Ming

4. Certificate of Service

5. Notice of Complaint

O. Correspondence and Communications

All correspondence and communications in this docket should be addressed to the following individuals, whose names should be entered on the official service list maintained by the Secretary in connection with this proceeding:

Kriss E. Brown, Executive Deputy Chief Counsel
Tiffany Tran, Assistant Counsel
Law Bureau
Pennsylvania Public Utility Commission
400 North St., 3rd Floor
(717)787-5000
kribrown@pa.gov
tiftran@pa.gov

VI. Conclusion And Request For Relief

For these aforementioned reasons, the Pennsylvania Public Utility Commission requests that the Federal Energy Regulatory Commission declare PJM's Operating Agreement as unjust, unreasonable and unduly discriminatory and order PJM Interconnection, LLC to modify its Operating Agreement in accordance with the remedies requested herein.

Respectfully submitted,

/s/ Kriss E. Brown
Kriss E. Brown
Executive Deputy Chief Counsel
Pennsylvania Public Utility Commission
(717) 787-4518
kribrown@pa.gov

Dated: August 17, 2026

NOTICE OF COMPLAINT
(August 17, 2026)

Take notice that on August 17, 2026 pursuant to sections 206 and 306 of the Federal Power Act (FPA), 16 U.S.C. 824e and 825e, and Rule 206 of the Federal Energy Regulatory Commission's (Commission) Rules of Practice and Procedure, 18 CFR 385.206, Pennsylvania Public Utility Commission (Complainant) filed a formal complaint against PJM Interconnection, LLC (PJM or Respondent) alleging that Schedule 6, Section 1.5.7 of the PJM's Operating Agreement produces unjust, unreasonable and discriminatory results, which the Commission must modify under FPA Section 206.

Complainant certifies that copies of the complaint were served on the contacts for PJM as listed on the Commission's list of Corporate Officials.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. The Respondent's answer and all interventions, or protests must be filed on or before the comment date. The Respondent's answer, motions to intervene, and protests must be served on the Complainants. The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at https://www.ferc.gov/.

This filing is accessible on-line at http://www.ferc.gov, using the "eLibrary" link and is available for electronic review in the Commission's Public Reference Room in Washington, DC. There is an "eSubscription" link on the Web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Dated: August 17, 2026.

CERTIFICATE OF SERVICE

Pursuant to Commission Rules of Practice and Procedure Nos. 206(c) and 2010, I hereby certify that I have this 12th day of August, 2026, caused the foregoing document to be served upon the Corporate Officials of Respondent PJM Interconnection, LLC that are identified on the Commission's list maintained pursuant to 18 C.F.R. § 385.2010(k).

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Chief Compliance Officer
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