193 FERC ¶ 61,217
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Laura V. Swett, Chairman;
David Rosner, Lindsay S. See,
Judy W. Chang, and David LaCerte.

PJM Interconnection, L.L.C. Docket Nos. EL25-49-000
Allegheny Electric Cooperative, Inc. EL25-49-001
American Transmission Systems, Incorporated
Atlantic City Electric Company
Baltimore Gas and Electric Company
Delmarva Power & Light Company
Duke Energy Ohio, Inc.
Duke Energy Kentucky, Inc.
East Kentucky Power Cooperative, Inc.
Essential Power Rock Springs, LLC
Hudson Transmission Partners, LLC
Jersey Central Power & Light Company
Mid-Atlantic Interstate Transmission, LLC
Neptune Regional Transmission System, LLC
Old Dominion Electric Cooperative
PECO Energy Company
PPL Electric Utilities Corporation
Potomac Electric Power Company
Public Service Electric and Gas Company
Rockland Electric Company
Trans-Allegheny Interstate Line Company
Transource West Virginia, LLC
UGI Utilities, Inc.
Monongahela Power Company
The Potomac Edison Company
Commonwealth Edison Company
Commonwealth Edison Company of Indiana, Inc.
The Dayton Power and Light Company
AEP Appalachian Transmission Company, Inc.
AEP Indiana Michigan Transmission Company, Inc.
AEP Kentucky Transmission Company, Inc.
AEP Ohio Transmission Company, Inc.
AEP West Virginia Transmission Company, Inc.
Appalachian Power Company
Indiana Michigan Power Company

Kentucky Power Company
Kingsport Power Company
Ohio Power Company
Wheeling Power Company
Duquesne Light Company
Virginia Electric and Power Company
Linden VFT, LLC
City of Cleveland, Department of Public Utilities,
Division of Cleveland Public Power
City of Hamilton, OH
Southern Maryland Electric Cooperative, Inc.
Ohio Valley Electric Corporation
AMP Transmission, LLC
Silver Run Electric, LLC
NextEra Energy Transmission MidAtlantic Indiana, Inc.
Wabash Valley Power Association, Inc.
Keystone Appalachian Transmission Company

Large Loads Co-Located at Generating Facilities AD24-11-000

Constellation Energy Generation, LLC EL25-20-000
(Consolidated)

v.

PJM Interconnection, L.L.C.

ORDER ON SHOW CAUSE PROCEEDING, DIRECTING COMPLIANCE FILINGS, ESTABLISHING PAPER HEARING, AND GRANTING IN PART AND DENYING IN PART COMPLAINT

(Issued December 18, 2025)

1. On March 24, 2025, PJM Interconnection, L.L.C. (PJM) and the PJM transmission owners filed answers in Docket No. EL25-49-000, to comply with the Commission's February 20, 2025 order establishing a show cause proceeding, under section 206 of the Federal Power Act (FPA).[1] The Show Cause Order directed PJM and the transmission owners to either: (1) show cause as to why the Open Access Transmission Tariff (OATT), the Amended and Restated Operating Agreement of PJM, and the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region (the Tariff) remains just and reasonable and not unduly discriminatory or preferential without

[1] *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,115 (2025) (Show Cause Order).

provisions addressing with sufficient clarity or consistency the rates, terms, and conditions of service that apply to Co-Location Arrangements;[2] or (2) explain what changes to the Tariff would remedy the identified concerns if the Commission were to determine that the Tariff has in fact become unjust and unreasonable or unduly discriminatory or preferential and, therefore, proceeds to establish a replacement Tariff. The Show Cause Order consolidated the new show cause proceeding with a pending complaint proceeding in Docket No. EL25-20 involving Co-Located Load.[3]

2. As discussed below, we find that PJM's Tariff is unjust and unreasonable because it does not contain provisions addressing with sufficient clarity or consistency the rates, terms, and conditions of service that apply to generators serving Co-Located Load and Eligible Customers taking transmission service on behalf of Co-Located Load.[4] Specifically, we find that PJM's Tariff is unjust and unreasonable because it does not include types of transmission service that reflect Eligible Customers taking service on behalf of Co-Located Loads that are willing and able to limit their use of the transmission system under certain conditions. We direct PJM to file, within 60 days of the date of issuance of this order, a compliance filing to revise its Tariff to set forth specific terms and conditions that an Interconnection Customer[5] in PJM seeking to serve

[2] The Show Cause Order defined Co-Location Arrangements as referring to both the Co-Located Load and the associated generator. *Id.* P 3 & n.4.

[3] The Show Cause Order defined Co-Located Load as a "configuration [that] refers to end-use customer load that is physically connected to the facilities of an existing or planned Customer Facility on the Interconnection Customer's side of the Point of Interconnection to the PJM Transmission System." *Id.*

[4] The PJM Tariff defines an Eligible Customer as (1) any electric utility or any person generating electric energy for sale for resale, but with respect to transmission service that the Commission is prohibited from ordering by section 212(h) of the Federal Power Act, such entity is eligible only if the service is provided pursuant to a state requirement that the Transmission Provider or Transmission Owner offer the unbundled transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner or (2) any retail customer taking unbundled transmission service pursuant to a state requirement that the Transmission Provider or a Transmission Owner offer the transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner. PJM, Intra-PJM Tariffs, OATT, § I.1 Definitions – E-F (41.0.0). An Eligible Customer may include but is not limited to electric utilities and power marketers.

[5] PJM defines Interconnection Customer as a Generation Interconnection Customer and/or a Transmission Interconnection Customer. PJM, Intra-PJM Tariffs, OATT, § I.1 Definitions – I – J - K (15.0.0)

Co-Located Load must follow in order to effectuate a Co-Location Arrangement. We also direct PJM to file, within 30 days of the date of issuance of this order, a compliance filing to revise its Tariff to make clear how Interconnection Customers can make use of provisional interconnection service, the ability to request interconnection service below nameplate capacity, the potential to accelerate the interconnection process under certain circumstances, and surplus interconnection service to interconnect new generating facilities seeking to serve Co-Located Load. In addition, we direct PJM to modify its Tariff to require that the Eligible Customer taking transmission service on behalf of the Co-Located Load takes one of three transmission services: (1) Network Integration Transmission Service (NITS), (2) a new Firm Contract Demand transmission service, or (3) a new Non-Firm Contract Demand transmission service.[6] We establish a paper hearing to determine the just and reasonable rates, terms, and conditions for these new transmission services. We further find that the Behind the Meter Generation (BTMG) rules in PJM's Tariff are no longer just and reasonable because loads with BTMG are not fully accounted for in resource adequacy planning and shift costs onto other transmission customers contrary to the Commission's cost causation principles. We therefore direct PJM to revise its Tariff to revise the BTMG rules and to implement a transition process for existing BTMG participants, as described below. We also grant in part and deny in part Constellation Energy Generation, LLC's (Constellation) complaint against PJM in Docket No. EL25-20-000. Finally, we require PJM to submit an informational report within 30 days of the date of issuance of this order.

I. Background

A. Show Cause Order

3. The Show Cause Order defined Co-Located Load as a "'configuration [that] refers to end-use customer load that is physically connected to the facilities of an existing or planned Customer Facility on the Interconnection Customer's side of the Point of Interconnection to the PJM Transmission System.'"[7] As the Commission did in the Show

[6] Capitalized terms used but not otherwise defined in this order have the meanings ascribed to them in the Tariff.

[7] Show Cause Order, 190 FERC ¶ 61,115 at P 3 & n.4. We note that, in the Show Cause Order, the Commission adopted this definition from the Guidance Document that PJM developed on Co-Located Load. *See id.* As noted below, PJM rescinded this document pending Commission guidance in this docket. PJM March 24 Answer at 33. Prior to PJM's transition to its new interconnection process, PJM used the terms Interconnection Customer and Generation Interconnection Customer. PJM's Tariff defines Generation Interconnection Customer as "an entity that submits an Interconnection Request to interconnect a new generation facility or to increase the capacity of an existing generation facility interconnected with the Transmission

Cause Order, when referring to both the Co-Located Load and the associated generator, we will use the term Co-Location Arrangement.

4. As explained in the Show Cause Order, Co-Location Arrangements are becoming increasingly common in PJM and, since the issuance of the Show Cause Order, entities continue to raise issues involving Co-Location Arrangements with the Commission.[8] The Commission instituted the Show Cause Order to determine whether the Tariff remains just and reasonable and not unduly discriminatory or preferential.[9] The Commission set forth, in the Show Cause Order, the principles relating to the Commission's jurisdiction over the matters relevant to Co-Location Arrangements.[10] The Commission also made several preliminary findings about the justness and reasonableness of the Tariff. First, the Commission found that the Tariff appears to be unjust and unreasonable or unduly discriminatory or preferential because it does not contain provisions addressing with sufficient clarity or consistency the rates, terms, and conditions of service that apply to Co-Location Arrangements.[11] In addition, the Commission preliminarily found that this

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System in the PJM Region." PJM, Intra-PJM Tariffs, OATT, § I.1 Definitions – G - H (9.0.1) (defining Generation Interconnection Customer). The Tariff's new rules for generation interconnection, effective January 3, 2023, utilize the terms Project Developer and Generation Project Developer. PJM's Tariff defines Generation Project Developer as "an entity that submits a Generation Interconnection Request to interconnect a new generation facility or to increase the capacity of an existing generation facility interconnected with the Transmission System in the PJM Region." PJM, Intra-PJM Tariffs, OATT, § VIII.A 400 Definitions G (0.1.0) (defining Generation Project Developer). For ease of simplicity in this order, and consistent with the Show Cause Order, the Commission will use the term Interconnection Customer to refer to both the PJM Tariff definitions of Generation Interconnection Customer and Generation Project Developer.

[8] *See, e.g.*, *PJM Interconnection, L.L.C.*, 191 FERC ¶ 61,112 (2025) (accepting necessary studies agreement). The Show Cause Order consolidated the new show cause proceeding with a pending complaint proceeding in Docket No. EL25-20-000 involving Co-Located Load. We address that complaint below. *See* discussion *infra* Part IV.B.7.

[9] Show Cause Order, 190 FERC ¶ 61,115 at P 2.

[10] *Id.* P 66.

[11] *Id.* P 74.

lack of applicable Tariff provisions raises the potential for undue discrimination or preferential treatment.[12]

5. As to specific concerns raised regarding Co-Location Arrangements, the Commission found that the Tariff may be unjust, unreasonable, unduly discriminatory, or preferential as it does not specify the transmission service that Co-Location Arrangements must take, if any, or otherwise provide a process to ensure that Co-Location Arrangements are paying for the benefits they receive from the transmission system consistent with the cost causation principle, which provides that all Commission-jurisdictional rates and charges must "reflect to some degree the costs actually caused by the customer who must pay for them," and that costs must be allocated in a manner that is at least roughly commensurate with the benefits that entity receives.[13] The Commission also found that the absence of rates, terms, and conditions of interconnection service specific to Co-Location Arrangements, and, especially regarding studies of the impacts of those arrangements, may render the Tariff unjust and unreasonable or unduly discriminatory or preferential.[14] Moreover, the Commission found that the absence of rates, terms, and conditions governing the use and sale of ancillary services and black start services by Co-Location Arrangements may render the Tariff unjust and unreasonable or unduly discriminatory or preferential.[15]

6. The Commission also expressed concern about the reliability and resource adequacy implications of Co-Location Arrangements.[16] The Commission stated that it was concerned that the Tariff may be unjust and unreasonable and unduly discriminatory or preferential insofar as it lacks rules necessary to provide PJM with sufficient information to perform appropriate analysis to ensure reliable system operations given the characteristics of Co-Location Arrangements. In response to concerns about the market and price impacts of Co-Location Arrangements, the Commission recognized that these concerns are not necessarily unique to Co-Location Arrangements and that significant load growth more generally may raise many of the same concerns.[17] The

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[12] *Id.* P 75.

[13] *Id.* PP 74-78 (citing *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1368 (D.C. Cir. 2004); *Ill. Com. Comm'n v. FERC*, 576 F.3d 470, 476 (7th Cir. 2009)).

[14] *Id.* P 79.

[15] *Id.* P 82.

[16] *Id.* P 83.

[17] *Id.* PP 84-85.

Commission stated that, while both Co-Located Load and non-co-located load may have similar resource adequacy impacts, the speed at which Co-Located Load can be added to the grid may pose particular resource adequacy challenges, especially if Co-Location Arrangements are not adequately and transparently reflected in existing resource adequacy planning mechanisms, e.g., the PJM capacity market.[18]

B. Behind the Meter Generation

7. Regarding PJM's BTMG rules (which we and commenters sometimes refer to as retail BTMG),[19] the Tariff allows load serving entities (LSEs) that provide service to loads with qualifying BTMG to reduce their costs by netting output from BTMG in the calculation of their peak demand for the purpose of determining NITS charges.[20] The Commission has previously found that BTMG netting is just and reasonable because it would encourage load response during periods when generation or transmission are in short supply and prices are rising.[21] The Commission has also found that "charges for use of PJM's transmission system should be allocated to network customers based on a network customer's actual use of PJM's system, consistent with the principle of cost causation."[22]

8. Transmission rates for NITS and Point-to-Point Service (PTPS) are based on transmission formula rates filed by the transmission owners. Transmission formula rates capture utilities' cost of providing transmission service and include the cost of operating and maintaining the transmission facilities, depreciation expenses, taxes, and a rate of

[18] *Id.* P 85.

[19] PJM defines BTMG as "a generation unit that delivers energy to load without using the Transmission System or any distribution facilities (unless the entity that owns or leases the distribution facilities has consented to such use of the distribution facilities and such consent has been demonstrated to the satisfaction of the Office of the Interconnection); provided, however, that [BTMG] does not include (i) at any time, any portion of such generating unit's capacity that is designated as a Generation Capacity Resource; or (ii) in an hour, any portion of the output of such generating unit that is sold to another entity for consumption at another electrical location or into the PJM Interchange Energy Market." PJM, Intra-PJM Tariffs, OATT, § I.1 Definitions – A-B (21.0.0) (defining BTMG).

[20] *See PJM Interconnection, L.L.C.*, 107 FERC ¶ 61,113, at P 6 (2004); PJM, Intra-PJM Tariffs, OATT, § III.34.2 Netting of Behind the Meter Generation (0.0.0).

[21] *PJM Interconnection, L.L.C.*, 107 FERC ¶ 61,113 at PP 27-28.

[22] *Id.* P 28.

return for the utility. The rates also include the costs of any Network Upgrades needed to ensure ongoing reliability or deliverability of generation to Network Load,[23] including planned regional transmission upgrades. Transmission rates are charged based on demand coincident with the annual peak(s) of the zone.[24] For loads using BTMG, only the net demand is used for billing, but for loads not relying on BTMG, transmission charges are based on their gross use of the transmission system at the time of the coincident peak.[25]

9. Recognizing that Co-Location Arrangements may interact with the transmission system in a similar way to BTMG arrangements, the Show Cause Order sought briefing on how any proposed replacement rate adopted in this proceeding would interact with existing BTMG arrangements.[26]

C. Eligible Customer

10. In Order No. 888 and its progeny, the Commission established specific criteria for potential transmission customers to be eligible to receive non-discriminatory open access transmission service.[27] Consistent with the Commission's findings about who is an

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[23] PJM defines Network Load as the load that a Network Customer designates for NITS, including all load served by the output of any Network Resources designated by the Network Customer. *See* PJM, Intra-PJM Tariffs, OATT, § I.1 Definitions – L-M-N (51.0.1) (defining Network Load).

[24] *See id.* § III.34.1 Monthly Demand Charge (1.0.0). PJM's 22 transmission zones represent the geographical areas served by individual PJM transmission owners. *See id.*, attach. J (8.0.0).

[25] *See id.* § III.34.2 Netting of Behind the Meter Generation (0.0.0).

[26] Show Cause Order, 190 FERC ¶ 61,115 at P 88, pt. a.iv ("parties may also … consider how any proposed replacement rate would interact with [BTMG] arrangements").

[27] *See, e.g.*, *Recovery of Stranded Costs by Pub. Utils. and Transmitting Utils.*, Order No. 888, FERC Stats. & Regs. ¶ 31,036 (1996) (cross-referenced at 75 FERC ¶ 61,080), *order on reh'g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048 at 30,214 (modifying definition of Eligible Customer) (cross-referenced at 78 FERC ¶ 61,220), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Pol'y Study Grp. v. FERC*, 225 F.3d 667 (D.C. Cir. 2000) (*TAPS*), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

eligible customer in the *pro forma* tariff, PJM's Tariff currently defines an Eligible Customer as:

> (i) Any electric utility … or any person generating electric energy for sale for resale … However, with respect to transmission service that the Commission is prohibited from ordering by Section 212(h) of the Federal Power Act, such entity is eligible only if the service is provided pursuant to a state requirement that the Transmission Provider or Transmission Owner offer the unbundled transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner.
>
> (ii) Any retail customer taking unbundled transmission service pursuant to a state requirement that the Transmission Provider or a Transmission Owner offer the transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner, is an Eligible Customer under the Tariff….[28]

11. This definition forms the basis for PJM's existing transmission cost allocation approach, through which each Eligible Customer is billed for the charges associated with the transmission services used to serve its load.

[28] PJM, Intra-PJM Tariffs, OATT, § I.1 Definitions – E-F (41.0.0) (defining Eligible Customer).

II. PJM's Answer to Show Cause Order and Responsive Pleadings[29]

A. PJM's Options for Co-Location Arrangements

12. PJM states that its existing Tariff remains just and reasonable "although improvements and clarifications may be appropriate based on Commission guidance."[30] As further detailed below, PJM discusses eight pathways to facilitating co-location service, three of which exist in the current Tariff and five of which would be new. PJM supports only five of the eight options and identifies problems with the remaining three. PJM requests that, if "the record supports consideration of additional options," the Commission issue detailed guiding principles that PJM can operationalize in an FPA section 205 filing.[31]

13. PJM notes that the options are not mutually exclusive and instead may be used seriatim or concurrently. PJM further clarifies that it does not consider all of the options "equivalent, desirable, or even necessarily workable."[32] For example, PJM argues that state law may limit the availability of various options. PJM also notes that six of its options are premised on large Co-Located Load being Network Load, where the large Co-Located Load would realize significant benefits. PJM also argues that Co-Location Arrangements implicate several different, interrelated study frameworks and cost allocation constructs. PJM further notes that there is a resource adequacy dimension to Co-Location Arrangements and explains that three of its potential new options relate to adding additional supply and operational flexibility.

14. Turning to the eight options, first, PJM states that new loads may interconnect as traditional Network Load that takes NITS in accordance with traditional load

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[29] The appendix lists the entities who intervened and filed responsive pleadings in Docket No. EL25-49-000, along with short names. On March 21, 2025, then-Chairman Christie responded individually to comments filed with the Commission by Pennsylvania Governor Josh Shapiro of Pennsylvania on October 4, 2024, and by Virginia Governor Glenn Youngkin on November 1, 2024, respectively, on data centers and Co-Located Load. On April 2, 2025, then-Chairman Christie responded to a letter filed on February 19, 2025, by United States Senators Chris Van Hollen, Cory A. Booker, Mark Kelly, and Tim Kaine inquiring about a technical conference addressing data centers and other large new loads.

[30] PJM March 24 Response at 4.

[31] *Id.*

[32] *Id.* at 5.

interconnection processes (PJM option 1).[33] PJM states that the load uses and pays for NITS, energy, ancillary services, and capacity. PJM explains that the load has a separate point of interconnection with the grid and thus need not be at the same site as the generator. PJM supports this option.

15. Second, PJM explains that load could co-locate with generation behind the same point of interconnection (PJM option 2).[34] PJM states that, in this configuration, the load is Network Load and the generator is a Capacity Resource, each separately metered, with no change to the generator's Capacity Interconnection Rights. PJM states that the load uses and pays for NITS, energy, ancillary services, and capacity. PJM also explains that the large load is studied and could be connected to the grid under existing load interconnection processes. PJM supports this option.

16. Third, PJM states that a Network Load could co-locate with generation and then use PJM's BTMG rules under which the load would be charged for its net use of the grid, after deducting BTMG (PJM option 3).[35] PJM states that the load uses NITS, energy, ancillary services, and capacity and pays for these services based on the net peak withdrawal quantity. PJM does not support this option, explaining that historically, BTMG has supported relatively small loads, not on the scale of large data centers. PJM further states that charging load for its net use of the grid under the BTMG rules may not capture the costs caused by co-located data center arrangements because such arrangements could avoid all costs by netting to zero if the entire data center load is supplied by the associated generator.[36]

17. Fourth, turning to new options not currently in the existing Tariff, PJM explains that a possible Co-Located Load configuration could include a load located behind a generator, with system protection facilities in place to prevent the delivery of system energy to serve the load (PJM option 4). PJM states that "in this configuration, load is not Network Load unless designated by the customer subject to applicable state law."[37] PJM explains that the load is located behind the Point of Change of Ownership between the transmission owner and generator, and system protection facilities are installed to prevent delivery of system energy from the grid if the generator goes offline. PJM clarifies that this configuration should not be considered "fully" or "wholly" isolated,

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[33] *Id.* at 10.

[34] *Id.* at 11.

[35] *Id.* at 12-13.

[36] *Id.* at 36.

[37] *Id.* at 14.

arguing that it is inconsistent with engineering and economic principles.[38] PJM argues that the configuration relies on and takes grid services (e.g., ancillary services) and should pay its fair share of those charges. PJM does not support this option, raising concerns that this configuration carries operational risk because it depends on a protection system to support reliability, and, if the protection system fails, the large load would instantly take significant energy from the system. PJM argues that, though a few such configurations may seem tolerable, the risk increases with large quantities of such configurations.

18. Fifth, PJM identifies a new option that is the same configuration as PJM option 4, but the load can receive back-up service from the grid with PJM's advanced authorization (PJM option 5).[39] PJM clarifies that this option requires real-time, bespoke operational decision-making to determine if load can continue to be served. PJM explains that approval for back-up service is subject to condition, including withdrawing or withholding authorization if needed to protect grid reliability or integrity. PJM does not support this option, because, like PJM option 4, the load is not designated as Network Load, which concerns PJM because of the dependence on protection schemes.[40]

19. Sixth, PJM discusses a new option that would allow new large Network Load additions to bring additional generation that could serve as a Capacity Resource (PJM option 6).[41] The additional generation, PJM clarifies, could take different forms, such as new incremental generation, generation that has or is scheduled to deactivate, or existing generation so long as the generator is available to PJM as a Capacity Resource if it clears in the capacity market. PJM indicates that incentives could be explored to offer faster processing of generation that enters the queue under this option, such as (1) accelerating interconnection studies of new generation, (2) enhancing existing provisional interconnection service options at discrete study points to accelerate in a non-discriminatory manner the ability of new generation to achieve commercial operation, and (3) states assuming cost responsibility for transmission upgrades in the Regional Transmission Expansion Plan pursuant to the State Agreement Approach to promote state policies to encourage large load development. PJM clarifies that a physical co-location configuration can be used, but the new generation may additionally enter a bilateral agreement with the load for financial or contractual purposes. PJM states that

[38] *Id.*

[39] *Id.* at 15.

[40] *Id.* at 39.

[41] *Id.* at 16-17.

this option would involve an interconnection study for the new generation resource. PJM supports this option.

20. Seventh, PJM discusses a new option that would allow a new large load to become Network Load at a potentially faster pace subject to the load electing a new transitional non-capacity backed service offering (PJM option 7).[42] PJM states that large loads would have the option to be classified as a non-capacity backed load for a transitional period until any resource adequacy supply/demand imbalances associated with this load addition are addressed. Then, PJM explains, the load could assume full Network Load status. PJM states that, under this offering, the load would avoid capacity costs during the transition period in return for its willingness to curtail. PJM indicates that variations of this option could be explored to enhance resource adequacy and allow large loads to efficiently connect to the system through incentives to be flexible. PJM states that a physical co-location configuration can be used but all load would be in front of the meter. PJM supports this option.

21. Eighth, PJM discusses a new option where Co-Located Load that is Network Load may be able to participate in the PJM wholesale markets as a Demand Response resource (PJM option 8).[43] PJM explains that this option already exists in PJM but there could be an additional review of Demand Response rules or review of emissions restrictions on back-up generation to enhance this option, potentially requiring Tariff revisions. PJM states that back-up generation provides a way to serve the Co-Located Load when asked to curtail for Demand Response. PJM contends that this option may enhance resource adequacy under tight system conditions in the short term. PJM supports this option.

B. General

1. PJM's March 24 Response

22. PJM argues that the Tariff remains just and reasonable.[44] PJM argues that its Tariff is not unjust and unreasonable merely because it does not provide alternative pathways to accommodate a business goal. However, as noted, PJM discusses eight pathways, acknowledging that "clarifications and enhancements could well be in order given this is an evolving area and Tariff provisions did not contemplate the type of arrangements at issue in this docket or their implications."[45] PJM notes that it rescinded

[42] *Id.* at 18-19.

[43] *Id.* at 20.

[44] *Id.* at 32-34.

[45] *Id.* at 32.

its Guidance Document[46] pending Commission guidance in this docket about a Commission-approved path forward.

2. Transmission Owners' March 24 Responses[47]

23. Generally, Indicated Transmission Owners contend that no Tariff changes are needed.[48] Indicated Transmission Owners argue that the Tariff addresses and encompasses Co-Location Arrangements. According to Indicated Transmission Owners, all load in PJM must be designated as Network Load and served by a Network Customer (or take PTPS), thereby ensuring this load pays its fair share of transmission costs. AES Ohio also argues that the PJM Tariff is just and reasonable regarding service to Co-Located Load taken under NITS or Firm PTPS, but acknowledges there may also be alternative reasonable transmission service arrangements.[49]

3. Reply Comments

24. Some parties agree with PJM and transmission owners that the Tariff remains just and reasonable, arguing, for example, that it ensures visibility into Co-Located Loads, that Co-Located Load pays its fair share of costs, and that the grid can continue to rely on existing generation resources.[50] However, a number of parties disagree with PJM and transmission owners, arguing that PJM's Tariff is unjust, unreasonable, and unduly discriminatory and preferential as to Co-Located Load because the Tariff lacks clarity and does not provide for rates, terms, and conditions applicable to Co-Location

[46] PJM developed a Guidance Document on Co-Located Load, first posted in 2024, which includes non-binding guidance for generators and loads seeking to enter into Co-Location Arrangements in PJM. PJM, *PJM Guidance on Co-Located Load* (Mar. 22, 2024) (updated Apr. 17, 2024), https://www.pjm.com/-/media/DotCom/markets-ops/rpm/rpm-auction-info/pjm-guidance-on-co-located-load.pdf.

[47] Apart from the arguments summarized below, several transmission owners submitted responses that took no position on the issues raised in the Show Cause Order, specifically Allegheny Electric Cooperative, Inc., NextEra Energy Transmission MidAtlantic, Inc., and Silver Run Electric, LLC.

[48] Indicated Transmission Owners March 24 Response, attach. A at 2-3.

[49] AES Ohio March 24 Response at 1.

[50] *See* Buckeye April 23 Reply Comments at 3, 5; Glatz/Silverman April 23 Reply Comments at 4; NOVEC April 23 Reply Comments at 8, 10; NREMC April 23 Reply Comments at 4-6.

Arrangements.[51] Other parties allege the Tariff is unclear and/or urge the Commission to provide guidance on Co-Location Arrangements.[52] Indicated Transmission Owners argue no party has shown the existing Tariff is unjust and unreasonable, and recent events indicate that existing types of service can be used.[53]

C. Jurisdiction

1. PJM's March 24 Response

25. PJM contends that different state laws may impact the permissibility of certain potential Co-Location Arrangements.[54] PJM explains that states in the PJM region assessed several decades ago whether to introduce competition for retail service. As to states that did not pursue deregulation, PJM argues that the state's exclusive retail franchise territory law may restrict non-franchised suppliers from serving Co-Located Load. PJM further asserts that state laws in deregulated states may or may not impose limitations on Co-Located Load suppliers, such as requiring load to be designated as Network Load or take a specific transmission service.

26. PJM argues that the Show Cause Order did not capture some nuance regarding the Commission's jurisdiction.[55] PJM asserts that, due to both federal- and state-level deregulation, there could be regulatory gaps with respect to Co-Location Arrangements. PJM cautions against overgeneralizing when characterizing what states may or may not regulate regarding Co-Location Arrangements. PJM asserts that state law does not

[51] *See* SEIA April 23 Reply Comments at 2, 5-6; CATF April 25 Reply Comments at 6; Constellation April 23 Reply Comments at 13-14; Antora April 23 Reply Comment at 2; EPSA/P3 April 23 Reply Comments at 9-12; Enchanted Rock April 23 Reply Comments at 2; Mainspring April 23 Reply Comments at 2, 4; AEU April 23 Reply Comments at 10. *See also* Joint Parties' April 22 Motion to Stay at 3.

[52] *See* Market Monitor April 23 Reply Comments at 2; BrightNight April 23 Reply Comments at 3; Bloom April 23 Reply Comments at 2; DCC April 23 Reply Comments at 7; Industrials April 23 Reply Comments at 14. *See also* National Security Experts April 22 Reply Comments at 1.

[53] Indicated Transmission Owners June 3 Answer at 3; Indicated Transmission Owners June 27 Answer at 2-3 (noting Talen's announcement that the co-location arrangement between Talen and Amazon will transition to a front-of-the-meter arrangement).

[54] PJM March 24 Response at 23, 26-27.

[55] *Id.* at 21, 27-29.

necessarily regulate companies making end-use sales, for example, in the case of industrial customers' self-supply of electricity in Indiana. Moreover, PJM contends that, based on its understanding of Pennsylvania law, a company agreeing to sell electricity to a data center may not be subject to public utility regulation in that state. PJM alleges that New Jersey has similarly declined to exercise its authority to regulate retail sales to large end users.

27. PJM presents several arguments that the Commission has authority over Co-Location Arrangements pursuant to its jurisdiction under the FPA over transmission in interstate commerce.[56] PJM states that, to adequately support a finding based on interstate transmission jurisdiction, one can show that a utility's lines are indirectly connected to the interstate grid. PJM argues that the Commission has jurisdiction regarding the transmission service associated with the ancillary services that Co-Location Arrangements use because the data center in the arrangement will be interconnected to the grid. PJM separately argues that the Commission's transmission jurisdiction is implicated because the Commission has authority over interconnections to the grid, including modifications by the generator to add load. With respect to the Commission's jurisdiction over wholesale sales in interstate commerce, PJM argues that it is increasingly complicated to analyze such sales due to the interconnectivity of the grid, technological advancements, and industry deregulation, but suggests that some Co-Location Arrangements may involve Commission-jurisdictional sales for resale.

2. Transmission Owners' March 24 Responses

28. Indicated Transmission Owners state that they generally agree with the jurisdictional principles outlined in the Show Cause Order.[57] Indicated Transmission Owners argue that the Commission can set a transmission rate that Network Customers serving all Network Load must pay for services and associated charges, but how a state chooses to assign and allocate the recovery of the cost of that charge between individual retail customers or among classes of end-use load may vary, as long as there is no cost-trapping. Indicated Transmission Owners state they would welcome the Commission reaffirming that PJM generation interconnection procedures apply to the interconnection of and service to generation, including generation with Co-Located Load, but not to the load itself, which interconnects under state jurisdiction.

29. AES Ohio argues that no changes are necessary to ensure clarity regarding the aspects of service to Co-Location Arrangements that may be administered through the

[56] *Id.* at 30-31.

[57] Indicated Transmission Owners March 24 Response, attach. A at 1-2; AES Ohio March 24 Response at 1.

Tariff versus state jurisdictional retail tariffs.[58] Indicated Transmission Owners state that the Commission could clarify that generation interconnection agreements do not "confer the right to serve end-use retail load or the right of new load to take retail service at a specific point or under particular rates" as those rights are regulated under state law.[59] AES Ohio and Indicated Transmission Owners state that, in general, the continued obligation, if any, of generation to serve classes of end-use customers to pay for that generation is a matter of state jurisdiction and concern.[60]

3. Reply Comments

a. Requests to Clarify the Scope of Federal Jurisdiction

30. Several parties contest that there is shared responsibility between states and the Commission with respect to service to Co-Located Load and generation[61] and request that the Commission clarify the scope of its jurisdiction. OPSI, NRDC, and Pennsylvania Commission request that the Commission affirm that the sale between a Co-Located Load and a generator is a retail sale subject to state jurisdiction and that states also have power to regulate wholesale sales not in interstate commerce, as well as facilities used for the generation and distribution of electricity.[62] ELCON and Talen request that the Commission use this proceeding to clarify that the Commission generally has jurisdiction over the types of large-scale Co-Location Arrangements discussed in PJM's Answer to the Show Cause Order.[63] Talen also requests that the Commission clarify that the basis of the Commission's jurisdiction will vary based on the specifics of the Co-Location Arrangement and confirm that the Commission's limited role is to ensure that the Co-Location Arrangement does not impair overall system reliability; that interconnections between generators and the grid are safe and reliable; and that the rate

[58] AES Ohio March 24 Response at 12.

[59] Indicated Transmission Owners March 24 Response, attach. A at 20-21.

[60] *Id.*, attach. A at 21-22; AES Ohio March 24 Response at 13.

[61] *See* AEU April 23 Reply Comments at 8; Talen April 23 Reply Comments at 9 (citing *New York v. FERC*, 535 U.S. at 20-24).

[62] OPSI April 23 Reply Comments at 6; NRDC April 23 Reply Comment at 2; Pennsylvania Commission April 22 Reply Comments at 2-3 (citing *Nat'l Ass'n of Regul. Util. Comm'rs v. FERC*, 964 F.3d 1177, 1187 (D.C. Cir. 2020)).

[63] ELCON April 23 Reply Comments at 4-5; Talen April 23 Reply Comments at 3.

for any service is reasonable.[64] Talen argues that the Commission cannot favor one type of Co-Location Arrangement or configuration over another.

31. Many parties commented on the scope of the Commission's authority over Co-Location Arrangements, but several disagree on the components that are subject to Commission oversight. California Utilities, EPSA/P3, AEU, and Talen agree with PJM that the Commission has jurisdiction over the allocation of transmission, ancillary services, and other related costs between customers using or benefiting from the transmission system, but clarify that state or local regulators may choose to reallocate such costs in retail rates.[65] EPSA/P3 qualifies its comments by noting that in states with retail choice, there is no nexus between state regulation and the transmission rates established by the Commission, such that only the Commission-approved transmission rate and interconnection procedures govern.[66]

b. Areas of Commission Jurisdiction

32. Several parties support the Commission's exercise of jurisdiction over the taking of transmission service.[67] Market Monitor and UCS argue that Co-Location Arrangements are interconnected to the transmission grid and receive jurisdictional service from jurisdictional transmission facilities.[68] CATF argues that the Commission has jurisdiction to require transmission tariff provisions for Co-Located Load because all co-located configurations receive essential services from the transmission grid, and therefore, all rates, practices, and procedures involving such facilities must be just, reasonable, and not unduly discriminatory.[69]

33. Talen contends that if the load is not using any transmission network, point-to-point, or ancillary services, then the basis of Commission jurisdiction is not that

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[64] Talen April 23 Reply Comments at 3, 9-10 (citing 16 U.S.C. § 824d).

[65] California Utilities April 23 Reply Comments at 3-4.

[66] EPSA/P3 April 23 Reply Comments at 6-8.

[67] NOVEC April 23 Reply Comments at 8.

[68] Market Monitor April 23 Reply Comments at 13; UCS April 11 Reply Comments at 16 (citing Show Cause Order, 190 FERC ¶ 61,115 at P 76 ("The Commission has defined transmission service as the provision of 'electric transmission, network or point-to-point service, ancillary services or other methods of electric transmission, or the interconnection with jurisdictional transmission facilities.'")).

[69] CATF April 25 Reply Comments at 5.

the Co-Located Load itself takes a Commission-jurisdictional form of transmission service but that the Interconnection Service Agreement (ISA) governing the Co-Location Arrangement is jurisdictional.[70] Talen contends that there may be situations in which Co-Located Load takes Commission-jurisdictional transmission service.

34. Talen also agrees with PJM that "the Commission's jurisdiction over transmission service in interstate commerce" is "necessarily implicated in matters relating to co-located load arrangements where generator interconnections are being modified," or where a generator's ISA contemplates a Co-Location Arrangement.[71] California Utilities disagree, arguing that the Commission has jurisdiction only over the wholesale generator interconnection and cannot "bootstrap such jurisdiction to dictate the terms and conditions of service to retail load."[72] Talen asserts that Co-Location Arrangements may also create different (or supplementary) bases for Commission jurisdiction either because sales are interstate sales or when they constitute sales for resale.[73] Talen concludes that when the load has no grid connection, there can be no jurisdictional service.

35. Talen argues, however, that the Commission should not condition its assertion of jurisdiction on the assumption that Co-Located Loads always take Commission-jurisdictional services from the transmission system. Talen contends that the specifics of Susquehanna's Co-Location Arrangement, in which the Co-Located Load is not a network customer and has no right to take transmission service or backup from the grid, make clear why it would be a mistake for the Commission to assert blanket jurisdiction over Co-Location Arrangements based on that load's supposed receipt of jurisdictional transmission service or ancillary services. Talen contends that the practical effect of such an assertion would be to improperly federalize the entire electric system.

36. PPL argues that the Commission has the jurisdictional authority to ensure that Co-Location Arrangements do not impact the safety or reliability of the bulk electric system and do not create conditions for improper subsidization of Co-Located Loads by

[70] Talen April 23 Reply Comments at 4-5.

[71] *Id.* at 5.

[72] *Id.* at 2; California Utilities April 23 Reply Comments at 4; EPSA/P3 April 23 Reply Comments at 6; AEU April 23 Reply Comments at 8.

[73] Talen April 23 Reply Comments at 4-8.

network customers.[74] Chevron states that the Commission has the right to clarify rules relating to the ongoing sales of essential reliability services by the generator.[75]

c. Areas of Exclusive State Jurisdiction

37. Many parties note that states retain sole jurisdiction over distribution and retail rates and sales, non-bypassable charges, and interconnection of load at distribution voltage levels, whereas the Commission has jurisdiction over the interaction of generators with the PJM markets.[76] Among other retail charges, PIOs argue that states retain authority over whether consumption by a Co-Located Load should count for purposes of allocating transmission and distribution system charges to retail customers.[77] Indicated Transmission Owners note that state-jurisdictional special contracts or rates can provide other financial benefits to the Co-Located Load.[78] Constellation and Talen state that the Commission has no authority to prohibit a generator from selling directly to Co-Located Load.[79] Talen adds that the Commission cannot compel participation in federally regulated energy or capacity markets.[80]

d. Potential Jurisdictional Gap

38. Commenters disagree on whether the FPA's division of jurisdictional authority leaves a regulatory gap with respect to Co-Location Arrangements. PPL agrees with PJM

[74] PPL April 23 Reply Comments at 7.

[75] Chevron April 23 Reply Comments at 4.

[76] *See* Constellation April 23 Reply Comments at 68, 70; EDFR April 23 Reply Comments at 7; Joint Consumer Advocates April 23 Reply Comments at 8; NOVEC April 23 Reply Comments at 8. EPSA/P3 April 23 Reply Comments at 6; AEU April 23 Reply Comments at 8; Talen April 23 Reply Comments at 2; PPL April 23 Reply Comments at 1; Indicated Transmission Owners April 23 Reply Comments at 2; California Utilities April 23 Reply Comments at 2.

[77] PIOs April 23 Reply Comments at 42.

[78] Indicated Transmission Owners April 23 Reply Comments at 14.

[79] Constellation April 23 Reply Comments at 72; Talen April 23 Reply Comments at 10.

[80] Talen April 23 Reply Comments at 10.

that there is a potential jurisdictional gap.[81] PPL states that under prevailing Pennsylvania law, a single generator providing service to a single customer is not a public utility and is not subject to the retail jurisdiction of the Pennsylvania Commission, nor are the terms of that retail sale subject to federal oversight. Pennsylvania Commission rejects this view, however.[82] Pennsylvania Commission argues that when Co-Located Load receives services from the grid, the respective Commission that regulates that portion of the grid has jurisdiction over those services.[83] OPSI also argues that there is no regulatory gap, explaining that sales of electricity from a generator to an end use customer in intrastate commerce are subject to state jurisdiction.[84] OPSI disagrees with PJM's assertion that jurisdiction across the PJM region is unclear, emphasizing that OPSI's member states have processes by which jurisdictional issues can be resolved. Constellation states that differing treatment of direct sales by states is not indicative of a regulatory gap, but a deliberate policy choice.[85]

e. Jurisdiction over Large Load Interconnection

39. Commenters also disagree on whether the Commission should assert jurisdiction over the interconnection of large loads. California Utilities state that the Commission cannot exercise jurisdiction over the interconnection of a Co-Located Load to the transmission system as an element of transmission service in interstate commerce where the purpose of the arrangement is to facilitate a retail sale.[86] PIOs argue, however, that the Commission should assert jurisdiction over Co-Location Arrangements on PJM's transmission system and must not disclaim jurisdiction over interconnection of large loads.[87] PIOs note that the introduction of large loads has potential to disrupt transmission system reliability. PIOs state that the Commission has not historically exercised jurisdiction over "any and all transmission-level interconnections of retail

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[81] PPL April 23 Reply Comments at 7.

[82] Pennsylvania Commission April 22 Reply Comments at 3-4 (citing 66 Pa.C.S. § 102; *Drexelbrook Assocs. v. Penn. Pub. Util. Comm'n*, 212 A.2d 237, 240 (Pa. 1965); *Borough of Ambridge v. Pub. Serv. Comm'n of Penn.*, 165 A. 47, 49 (Pa. Super. Ct. 1933)).

[83] *Id.* at 5.

[84] OPSI April 23 Reply Comments at 5-6.

[85] Constellation April 23 Reply Comments at 73.

[86] California Utilities April 23 Reply Comments at 5.

[87] PIOs April 23 Reply Comments at 34-35, 37.

load."[88] PIOs interpret "any and all" to mean the Commission has not exercised plenary authority over every transmission-level load interconnection, although there are cases where the Commission and its regulated entities have sought to control interconnections of load. PIOs assert that "the Commission's statutory mandate to ensure that transmission users, owners, or operators satisfy reliability criteria provides ample support for regulating the interconnections of large loads that . . . have usage characteristics that can cause unacceptable disruption to the bulk power system."[89] PIOs argue that the Commission must plan for wholesale sales at co-located facilities.

40. Talen asserts that interconnection service is a form of Commission-jurisdictional service, and a generator's interconnection to the interstate transmission system does not stop being Commission-jurisdictional merely because there is Co-Located Load behind the point of interconnection.[90] Talen argues that for that reason, the Commission has for decades approved amendments to ISAs designed to accommodate Co-Located Load, and notes that Order No. 2003 rejected the idea that the Commission loses jurisdiction over interconnections if the generator makes behind-the-meter sales. Talen states that the presence of non-jurisdictional facilities behind the meter does not divest the Commission of jurisdiction over the generator's interconnection, because non-jurisdictional facilities (including the generator itself) always exist behind the meter. Talen contends that the argument that the Commission does not have jurisdiction over the interconnection of end-use load is undermined by the Supreme Court's decision in *EPSA*, which confirmed that the Commission can exercise jurisdiction over matters the FPA charges it with administering, even if the exercise of jurisdiction indirectly affects the states' regulatory powers, so long as Commission's action does not "target" the states' domain.[91]

f. Need for Flexible PJM Tariff Provisions

41. AEU, NOVEC, and PIOs argue that any tariff changes put forward by PJM must be flexible enough to accommodate states' different regulatory frameworks and

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[88] *Id.* at 34 (citing Show Cause Order, 190 FERC ¶ 61,115 at P 72).

[89] *Id.* at 36.

[90] Talen April 23 Reply Comments at 8-9.

[91] *Id.* at 9 (citing *Standardization of Generator Interconnection Agreements & Procs.*, Order No. 2003, 104 FERC ¶ 61,103, at PP 813-14 (2003), *order on reh'g*, Order No. 2003-A, 106 FERC ¶ 61,220, *order on reh'g*, Order No. 2003-B, 109 FERC ¶ 61,287 (2004), *order on reh'g*, Order No. 2003-C, 111 FERC ¶ 61,401 (2005), *aff'd sub nom. Nat'l Ass'n of Regul. Util. Comm'rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007) (*NARUC*)).

acknowledge that not all Co-Location Arrangements will be available in all states.[92] AEU argues that such flexibility will allow states to decide whether changes to state law are needed to either expand or constrain access to Co-Location Arrangements, according to state-specific circumstances and policy goals. NOVEC explains that, under its understanding of relevant state law, the Co-Location Arrangements sought by Constellation in Docket No. EL25-20 would not be permissible in Virginia unless the supplier to the Co-Located Load is authorized under state law to be a retail supplier in the geographic area in which the Co-Located Load is located.[93]

42. NOVEC submits that the Commission should not create a novel contractual arrangement in the PJM Tariff that allows Co-Location Arrangements to bypass transmission service, local distribution utilities, and the capacity market.[94] If it does, NOVEC contends that the Commission risks creating an uneven patchwork of co-location rules across PJM as some jurisdictions permit it and others do not. PIOs argue that PJM must not limit states' authority over the co-located generation mix.[95] PIOs add that the PJM Tariff should treat Co-Located Load as any other consumption.

43. Constellation argues that requiring Co-Located Loads to take NITS unduly limits state jurisdiction and flexibility.[96] Constellation asserts that requiring large loads to take wholesale service, rather than taking service directly from a generator, and requiring the generator to only make wholesale sales, rather than providing service directly to a Co-Located Load, effectively precludes states from regulating transactions that fall squarely within their jurisdiction.

D. Cost Allocation

1. PJM's March 24 Response

44. PJM states that Co-Location Arrangements should pay the costs of any grid services they consume.[97] PJM states that it believes the load and generator must be completely isolated and physically disconnected from the grid to ensure the load never

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[92] AEU April 23 Reply Comments at 8; NOVEC April 23 Reply Comments at 8.

[93] NOVEC April 23 Reply Comments at 8.

[94] *Id*.

[95] PIOs April 23 Reply Comments at 40-43.

[96] Constellation April 23 Reply Comments at 26-28, 73-74.

[97] PJM March 24 Response at 4, 42-45.

takes any form of transmission service. PJM maintains that it is always possible that any protection system in an isolated (but not islanded) Co-Location Arrangement could mis-operate, be disabled, or degrade, and that, in the few instances where such schemes exist on the PJM system, PJM has observed these schemes fail, and the load has taken grid service. Other challenges, PJM notes, include unplanned generator run-backs or reductions in output, generator megawatt (MW) oscillations, and Co-Located Load utilization fluctuations. PJM argues that, when these conditions occur, they result in brief, but routine, imbalances between the load and the generation that would need to rely on the grid to balance.

45. PJM explains that proposed Co-Located Loads are not "wholly isolated from the grid" because the load and generator are connected to and synchronized with the multi-state bulk power system.[98] PJM avers that there are obligations to ensure power to nuclear plants to ensure safe shutdown. PJM explains that synchronized to the grid means the generator matches the voltage, frequency, and phase of the entire grid before connecting to the grid to facilitate safe, stable power transfer. PJM also asserts that Co-Located Load is connected to and synchronized with the multi-state bulk power system and, at minimum, benefits from ancillary services.

46. PJM states that it prefers that Co-Location Arrangements be designated as Network Load in front of the meter.[99] In support of its preference, PJM argues the Network Load designation means: (1) more reliable service for these critical loads; (2) more comprehensive and holistic system planning based on Network Load status; (3) enhanced ability to manage load curtailment priority in emergency conditions; (4) less operating complexity and reduced dependence on protective schemes, which can mis-operate and are designed to address N-1 conditions; (5) greater access to potential Demand Response capabilities of large Co-Located Loads; and (6) fewer negative implications for resource adequacy if accompanied by some of the optional offerings (i.e., Demand Response, incentives to bring generation, or use of a new non-capacity-backed service). PJM suggests that it may be an open question what level of NITS charges, if any, should be assessed to certain Co-Location Arrangements in accordance with cost causation principles.

47. PJM recognizes that Co-Location Arrangements involving large data centers may appear similar to the BTMG configuration in PJM's Tariff but that the rules were not designed for large loads and are not a good fit.[100] PJM explains that its BTMG Tariff provisions were developed in 2004 and that BTMG netting is only available to entities

[98] *Id.* at 42-43.

[99] *Id.* at 38-40.

[100] *Id.* at 34-36.

taking NITS. PJM states that BTMG netting was justified at the time it was proposed because certain market participants "rely to a lesser degree on the PJM integrated transmission system to serve load."[101] However, PJM cautions that "20-years later cost causation principles may dictate a different outcome for co-located data center loads that appear to have different customer profile and load characteristics."[102] PJM contends that co-located data center configurations use the transmission grid to receive service because they "appear to require certain ancillary services (load following) and black start service" and ancillary services "pass through transmission lines, not the air."[103] PJM asserts that "simple netting may not capture the costs 'caused' by co-located data center arrangements" because they would always net to zero where the generator serves the entire data center load.[104] PJM notes that BTMG does not carry reserves, and that PJM's planning and resource adequacy will not account for loads in this configuration. PJM suggests that the record "raise[s] questions about the status" of the BTMG rules.[105]

2. Transmission Owners' March 24 Responses

48. Indicated Transmission Owners and AES Ohio argue that Co-Located Load interconnected to the transmission system is using and benefiting from the transmission system, causes changing flows from second to second, and should pay its costs of essential grid services.[106] Indicated Transmission Owners state that Co-Located Load that is connected to the grid has the potential to draw real or reactive power from the grid at any time and relies on and benefits from its connection to the transmission system at all times. Indicated Transmission Owners state that the presence of on-site backup generation does not exempt load from paying the costs of transmission service because it still benefits from the transmission system.

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[101] *Id.* at 36 (citing *PJM Interconnection, L.L.C.*, 107 FERC ¶ 61,113 at P 7).

[102] *Id.* (citing *Cities of Bethany v. FERC*, 727 F.2d 1131, 1138 (D.C. Cir. 1984) (recognizing different rates could be charged to different customer groups); *Ala. Elec. Coop., Inc. v. FERC*, 684 F.2d 20, 27-28 (D.C. Cir. 1982) (explaining undue discrimination)).

[103] *Id.*

[104] *Id.*

[105] *Id.*

[106] Indicated Transmission Owners March 24 Response at 5, 7, 14; *id.*, attach. A at 5, 19-20; AES Ohio March 24 Response at 2.

49. Indicated Transmission Owners state that the only arrangement where the end-use load does not need to take some form of transmission service is one in which the load is completely islanded and does not connect to, take service from, or rely on the transmission or distribution system in any way, for any grid service, at any time.[107] Indicated Transmission Owners note that such an arrangement would not be within the Commission's jurisdiction. Indicated Transmission Owners further contend that "[e]ven if operational protection and control technologies, such as relay switches, are used with Co-Located Load and generation, the load still benefits from and utilizes grid services when 1) the load and generator are both connected to the system, and 2) the load is connected and the generator is disconnected from the system, even if the load is connected momentarily before it trips." Further, Indicated Transmission Owners argue that, regardless of Co-Located Load using grid services, Co-Location Arrangements rely on the grid and grid facilities without which the generator could not operate and the arrangement could not exist.

50. Indicated Transmission Owners argue that load cannot be "fully isolated" if it remains connected to the transmission and/or distribution grid, even through protection systems.[108] Indicated Transmission Owners note that the definition of a Co-Location Arrangement that the Commission adopted in the Show Cause Order "obscures the engineering and economic truth that the load relies upon the functioning grid and grid services whichever side of the meter it is located on."[109] Indicated Transmission Owners state that PJM's *pro forma* tariffs and interconnection agreements require that all interconnection customers be synchronized to the grid as a condition of service and explain that this is necessary to preserve voltage stability and reliability.[110]

51. Indicated Transmission Owners argue that the transmission system must be planned and built to support any load able to be served by the transmission system to ensure compliance with state requirements that end-use load must be served.[111] Indicated

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[107] Indicated Transmission Owners March 24 Response, attach. A at 9-10.

[108] *Id.* at 7, 9.

[109] *Id.* at 7, n.17.

[110] *Id.* attach. A at 9 (citing *e.g.*, PJM, Intra-PJM Tariffs, OATT, attach. O app. 2, § 1.4 Initial Operation)).

[111] *Id.* at 5, 8, 16, attach. A at 6 (citing PJM, Intra-PJM Tariffs, OATT, § 28.2 Transmission Provider Responsibilities (stating, "[t]he Transmission Provider shall include the Network Customer's Network Load in the Transmission System planning and the Transmission Owners shall, consistent with the terms and conditions of the Tariff, the Operating Agreement, and Good Utility Practice, endeavor to construct and place into service sufficient transfer capability to deliver the Network Customer's Network

Transmission Owners explain that the fact that the load is not constant does not reduce the capital investment or operational and maintenance costs incurred to ensure the system is available to the customer if the customer has the ability to serve their full load from the transmission system.

52. Indicated Transmission Owners argue that Co-Located Load fits within the current Tariff construct and should receive either NITS or PTPS.[112] Indicated Transmission Owners argue that this will ensure Co-Located Loads are appropriately studied, charged, and factored in operationally by PJM and transmission owners. Indicated Transmission Owners therefore conclude that the PJM Tariff is just and reasonable and there is no basis for the Commission to act under FPA section 206. Indicated Transmission Owners clarify that no party has alleged that the current Tariff, which requires load to take either NITS or PTPS, has impaired any load's ability to secure service safely, reliably, and at reasonable cost, or that service had been unobtainable. Indicated Transmission Owners argue that there have been, instead, allegations that efforts to request service outside of the PJM Tariff provisions have been thwarted, but that such allegations do not impact the Tariff. AES Ohio generally agrees, but notes that different configurations of Co-Located Load may result in different forms of service and there may be new approaches that are just and reasonable and incentivize Co-Located Load to provide reliability benefits and cost savings.[113]

53. Indicated Transmission Owners suggest that adding a definition of Co-Located Load to the PJM Tariff specifying that co-located must be either Network Load or served by PTPS and does not meet the definition of BTMG may clarify expectations and obligations associated with such load.[114] Indicated Transmission Owners argue that allowing Co-Located Load to evade existing Tariff charges for grid usage by carving out this load from NITS or PTPS would violate cost causation principles.[115]

54. Indicated Transmission Owners further contend that if Co-Located Loads are not designated as Network Load, it would undercut reliability and exacerbate affordability

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Resources to serve its Network Load on a basis comparable to the delivery of each Transmission Owner's own generating and purchased resources to its Native Load Customers")).

[112] *Id.* at 2-3, 13; *id.*, attach. A at 7, 21.

[113] AES Ohio March 24 Response at 2, 5.

[114] Indicated Transmission Owners March 24 Response, attach. A at 2, 9, 18.

[115] *Id.* at 18 (citing *Pub. Serv. Elec. & Gas Co. v. FERC*, 989 F.3d 10, 13 (D.C. Cir. 2021) (quoting *Midwest ISO Transmission Owners v. FERC*, 373 F.3d at 1368–69)).

concerns because it would allow Co-Located Load to avoid "wires charges," including the fixed costs of the poles, wires, transformers, and substations that comprise the transmission and distribution network that would then be subsidized by other customers.[116] Indicated Transmission Owners allege that "carving a 480 MW Co-Located Load in the Commonwealth Edison territory (which hosts multiple nuclear units) out from Network Service would avoid approximately $121 million in annual charges, leading to a 1.53% increase in representative residential customer bills, or about $25.57 annually, compared to a similar load customer who paid its share of the costs of the grid."[117]

55. Indicated Transmission Owners explain that transmission owners are allowed to recover the embedded costs of the transmission grid from network customers on a postage stamp basis without consideration of the distance between load and generation.[118] Indicated Transmission Owners argue the idea that load is responsible for the embedded costs of the transmission grid based on fairness predates Order No. 888.[119] Indicated Transmission Owners state that the Commission's *pro forma* definition of Network Load does not allow a Network Customer to designate only part of the load at a discrete Point of Delivery as Network Load unless arrangements for PTPS are made. Indicated Transmission Owners explain the Commission found in Order No. 888-A that "all potential transmission customers, including those with generation behind the meter, must choose between [NITS] or [PTPS]."[120]

56. Indicated Transmission Owners argue that the PJM RAA provides that a Load Serving Entity (LSE) is defined as "any entity (or the duly designated agent of such an entity), including a load aggregator or power marketer, (i) serving end-users within the PJM Region and (ii) that has been granted the authority or has an obligation pursuant to state or local law, regulation or franchise to sell electric energy to end-users located

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[116] *Id.* at 3, 18.

[117] *Id.* at 18-19.

[118] *Id.* at 10-12, 17-18.

[119] *Id.* at 10-11 (citing Order No. 888, FERC Stats. & Regs. ¶ 31,036 at 31,707; *Fla. Mun. Power Agency v. Fla. Power & Light Co.*, 67 FERC ¶ 61,167, at 61,482 (1994)).

[120] *Id.* at 11-12 (citing Order No. 888-A, FERC Stats. & Regs. ¶ 31,048 at 30,260). Indicated Transmission Owners argue the Commission has recently rejected requests that some load should be treated as "special third categories." *Id.* at 17-18 (citing *e.g.*, *Nat'l R.R. Passenger Corp. v. PPL Elec. Utils. Corp.*, 171 FERC ¶ 61,237, *order on reh'g*, 173 FERC ¶ 61,043 (2020) (*Amtrak*)).

within the PJM Region."[121] According to Indicated Transmission Owners, the RAA further requires that LSEs shall "provide or arrange for Network Transmission Service or Firm Point-to-Point Transmission Service for service to the projected load of the Party.…"[122] Indicated Transmission Owners contend that, together, these provisions mean that any entity serving an end-use load, including a Co-Located Load, must become an LSE and is responsible for ensuring that its load is taking either NITS or PTPS.

57. Indicated Transmission Owners state that the BTMG rules do not apply to Co-Located Load that is Network Load because such arrangements must deliver energy to load without using the transmission system.[123] Further, Indicated Transmission Owners explain, BTMG adjustments are only available to Network Customers and would not be available to Co-Located Loads served by a contractual intermediary, rather than the generator directly, as the generator would only be an upstream supplier.

58. PSE&G states that transmission charges, if imposed, must apply cost causation principles that are based on a party's actual usage of the transmission system, which PSE&G argues should include netting consistent with BTMG rules.[124] PSE&G and AES Ohio state that both Co-Located Load and BTMG employ similar configurations and should pay for transmission services based on their actual system usage, i.e., net use.[125] PSE&G argues that Co-Located Load is not using or impacting the transmission system any differently than BTMG customers and urges the Commission to ensure that there is no undue discrimination in the treatment of Co-Location Arrangements.[126] PSE&G adds that any replacement rate must not adversely impact existing customers with BTMG.

59. The transmission owners also argue that Co-Located Load that is physically interconnected with and synchronized to the grid uses ancillary services and black start

[121] *Id.* at 15-16 (citing PJM, Intra-PJM Tariffs, RAA, ARTICLE 1 - DEFINITIONS (53.0.0) (Definition of Load Serving Entity)).

[122] *Id.* (citing PJM, Intra-PJM Tariffs, RAA, Article 9 Sec 1 - Overall Coordination (2.0.0)).

[123] *Id.*, attach. A at 4.

[124] PSE&G March 24 Response at 5-6, 11-13.

[125] *Id.* at 15; AES Ohio March 24 Response at 4.

[126] PSE&G March 24 Response at 2, 13-14, 18.

service.[127] Indicated Transmission Owners state that Co-Located Load that is connected to the grid has the potential to draw real or reactive power from the grid and change power flows at any time, even if connected to the distribution system.[128] Indicated Transmission Owners note load co-located with nuclear units depends on the grid for load following, voltage support, black start, and other ancillary services. PSE&G argues that the Commission should establish ancillary services charges for Co-Located Load configurations based on actual use consistent with cost causation principles.[129]

3. Reply Comments

a. General

60. Several commenters urge the Commission to ensure any cost allocation to Co-Location Arrangements is consistent with the Commission's cost causation and beneficiary pays principes.[130] California Utilities argue that cost allocation will depend on whether a state or local regulator allows a generator to serve Co-Located Load and whether the regulator requires the Co-Located Load to pay for retail transmission service.[131] Data Center Coalition argues that large loads, particularly data center operators, must retain the ability to pursue behind-the-meter and other innovative configurations.[132] United States Senators argue that the Show Cause Order is an important start to address a crisis affecting ratepayers, and the Commission should ensure

[127] Indicated Transmission Owners March 24 Response, attach. A at 5; AES Ohio March 24 Response at 7-8.

[128] Indicated Transmission Owners March 24 Response, attach. A at 5.

[129] PSE&G March 24 Response at 9-13.

[130] *See* AEU April 23 Reply Comments at 17-19; ACEG April 23 Reply Comments at 2; BrightNight April 23 Reply Comments at 7; Consumers' Research April 23 Reply Comments at 1-2; EEI April 23 Reply Comments at 7; ELCON April 23 Reply Comments at 6-7; PIOs April 23 Reply Comments at 25-26; Vistra April 23 Reply Comments at 24 (citing *Midwest ISO Transmission Owners v. FERC,* 373 F.3d at 1368; *Ill. Com. Comm'n v. FERC,* 576 F.3d 470, 476 (7th Cir. 2009) (*ICC v. FERC I*)).

[131] California Utilities April 23 Reply Comments at 2, 8.

[132] Data Center Coalition April 23 Reply Comments at 4.

that data center owners and operators do not burden households with more than their fair share of power infrastructure costs.[133]

61. Several commenters argue that Co-Located Load should be assessed charges based on services it uses.[134] OPSI states that the Commission must determine the extent to which Co-Location Arrangements rely on the bulk power system and impact rates for other customers in determining cost allocation.[135] Several commenters argue that Co-Located Load uses and benefits from its connection to the transmission system.[136] NREMC states that the intermittent nature of Co-Located Load does not lessen the need for ongoing investment in infrastructure or the operational costs to ensure reliability.[137] CATF similarly argues that Co-Located Load creates the need for additional new investment in transmission infrastructure and grid services. Pennsylvania Commission states that the grid must be planned to accommodate the Co-Located Load should any protection schemes fail. Several parties warn of potential cost shifts to consumers if costs are not appropriately allocated to Co-Located Load.[138] NOVEC argues that co-location proposals that exempt Co-Located Load from the costs of transmission service effectively give them free use of the transmission system and cause other load to subsidize that use.

62. Several parties argue Co-Located Load cannot be fully isolated because Co-Located Load and generators are physically interconnected to and rely on the

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[133] United States Senators November 25 Letter at 2.

[134] *See* SEIA April 23 Reply Comments at 3-4; EDFR April 23 Reply Comments at 10; Glatz/Silverman April 23 Reply Comments at 5; AEU April 23 Reply Comments at 18; EPSA/P3 April 23 Reply Comments at 13; BrightNight April 23 Reply Comments at 7; Ohio FEA April 23 Reply Comments at 5.

[135] OPSI April 23 Reply Comments at 4.

[136] *See* CATF April 25 Reply Comments at 4; NREMC April 23 Reply Comments at 7; NOVEC April 23 Reply Comments at 10; Pennsylvania Commission April 22 Reply Comments at 4-5; UCS April 11 Reply Comments at 1-2.

[137] NREMC April 23 Reply Comments at 7.

[138] *See id.* at 5-6; CATF April 25 Reply Comments at 12; Consumers' Research April 23 Reply Comment at 1-2; ELCON April 23 Reply Comments at 7; PIOs April 23 Reply Comments at 26-28; ACEG April 23 Reply Comments at 2; Market Monitor April 23 Reply Comments at 4, 7; NOVEC April 23 Reply Comments at 11; Pennsylvania Commission April 22 Reply Comments at 4.

transmission system.[139] CATF states Co-Location Arrangements routinely include unplanned generator run-backs, MW output oscillations, and load utilization fluctuations, resulting in brief imbalances that rely on the grid for support. Parties also argue that protection systems could fail and the generator may go offline.[140] NOVEC contends that "fully isolated" Co-Located Load is not fully isolated if there is any physical tie to the transmission system. NOVEC asserts that the benefits of, and the need for, the transmission system is why Co-Located Loads do not seek islanded arrangements. California Utilities similarly argue for Co-Located Load to be fully isolated, neither the generator nor the load may be electrically connected to the transmission system. UCS argues that the Co-Located Load would require system generation reserves and transmission capacity when the output of the generator does not match their consumption and may impact load ramp rates.[141] OPSI discourages the Commission from accepting the premise that load can be wholly isolated from the grid without a comprehensive showing that it is impossible for the load to ever receive grid services or impact transmission rates for existing customers.[142]

63. ELCON states that large loads that do not take any grid services should not be allocated any grid costs unless there is a demonstration that such configuration has a direct cost impact on other grid consumers.[143]

b. Network Service

64. Several commenters argue that Co-Location Arrangements should be required to take either NITS or PTPS.[144] NOVEC notes that PJM charges transmission customers on

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[139] *See* CATF April 25 Reply Comments at 4; Pennsylvania Commission April 22 Reply Comments at 4; Joint Consumer Advocates at 5; UCS April 11 Reply Comments at 4-5; PIOs April 23 Reply Comments at 25; Buckeye April 23 Reply Comments at 8; NOVEC April 23 Reply Comments at 9; California Utilities April 23 Reply Comments at 8.

[140] UCS April 11 Reply Comments at 4-5; Buckeye April 23 Reply Comments at 8.

[141] UCS April 11 Reply Comments at 4-5, 8-9.

[142] OPSI April 23 Reply Comments at 4-5.

[143] ELCON April 23 Reply Comments at 7.

[144] UCS April 11 Reply Comments at 16; NREMC April 23 Reply Comments at 4; NOVEC April 23 Reply Comments at 9-10; AMP April 23 Reply Comments at 3; PIOs April 23 Reply Comments at 8 (Network Load); CATF April 25 Reply Comments at 4;

a formulary basis without regard for the distance between load and generation and thus distance does not relieve one of the need to procure transmission service. Pennsylvania Commission states that if a retail customer is served by a generator connected to the transmission system that is *prima facie* evidence the Co-Located Load is Network Load. Buckeye notes non-Network Load, "behind-the-generator" Co-Location Arrangements may not be permissible in all states and argues that treating Co-Located Load as Network Load respects state laws while providing for consistent application of the Tariff across the PJM footprint. AMP states that it is important that Co-Located Load should take NITS or PTPS to avoid unjust and unreasonable cost-shifting and to promote reliable transmission planning and resource adequacy. PIOs argue that it would violate cost causation and beneficiary pays principles to allow Co-Location Arrangements that rely on ancillary services to avoid paying transmission rates because transmission service is required to receive these services.[145]

65. Buckeye states that ensuring Co-Located Load is Network Load will ensure visibility to the grid operator, allow PJM to conduct appropriate planning to ensure grid reliability, ensure the load pays for its share of grid costs, and ensure generation resources remain available for the entire grid.[146] Buckeye states that, conversely, co-located large load arrangements where the load is behind the meter of the generator, and is not Network Load, may create significant impacts to the grid, increase costs, and decrease reliability for those that rely on the grid for affordable and reliable electricity. Buckeye states that, while certain parties have advocated that these "fully isolated" arrangements will avoid transmission investments, those potential cost savings are outweighed by significant concerns about impacts to reliability, resource adequacy, and just and reasonable rates.

66. Other commenters disagree that Co-Located Load should be required to take NITS or PTPS.[147] Industrials state that requiring all Co-Located Load be Network Load would be a departure from precedent that actual use of the transmission system is the appropriate way to measure cost causation. Constellation states that Co-Located Load should not be required to pay for transmission service where there are physical protections to prevent the delivery of system energy from the grid. EDFR asserts that

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Buckeye April 23 Reply Comments at 5, 7-8; Pennsylvania Commission April 22 Reply Comments at 5.

[145] PIOs April 23 Reply Comments at 26.

[146] Buckeye April 23 Reply Comments at 5-6.

[147] Industrials April 23 Reply Comments at 3; Constellation April 23 Reply Comments at 82-83; EDFR April 23 Reply Comments at 11, 13; EPSA/P3 April 23 Reply Comment at 13.

Co-Located Load that places minimum demands on the transmission system should pay less in grid costs. EPSA/P3 argues that Co-Located Load that is behind the meter does not require full Network Services for gross load. SEIA urges the Commission not to mandate one approach.[148]

67. Data Center Coalition argues that requiring all load to be classified as Network Load risks undermining commercial arrangements, misaligning cost allocation, and chilling innovation.[149] BrightNight states that Co-Located Load should not have to subsidize other customers.[150] Constellation asserts that requiring all large Co-Located Loads to take NITS is unjust and unreasonable because it: (1) would delay service to data centers due to system studies and the need for new upgrades; (2) would impose unnecessary transmission upgrade costs on all existing customers; (3) does not respect state jurisdictional authority; and (4) violates fundamental ratemaking principles and is unduly discriminatory by imposing a one-size-fits-all solution on loads that are not similarly situated.[151] Constellation states that the expected integration cost of a 1,000 MW large load is about $126 million, which would be socialized across all transmission customers under a NITS-only approach. Antora argues that requiring Co-Located Load to be Network Load would overcharge both the interconnecting load customer and other customers on the system for transmission service or upgrades to the extent PJM assumes it must serve the customer's full peak demand even if the load is flexible or curtailable.[152]

68. ELCON states that the Commission should ensure that there are no regulatory barriers to islanded configurations with no connection to the larger grid if allowed by state law.[153] ELCON states that forcing all large loads into either NITS or PTPS and limiting flexibility risks driving significant increased overall system costs and limits the ability of customers, state regulators, and utilities to find creative and cost-effective solutions based on individual needs and circumstances.

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[148] SEIA April 23 Reply Comments at 4.

[149] Data Center Coalition April 23 Reply Comments at 7.

[150] BrightNight April 23 Reply Comments at 7.

[151] Constellation April 23 Reply Comments at 15, 20.

[152] Antora April 23 Reply Comments at 11.

[153] ELCON April 23 Reply Comments at 6.

c. Netting

69. Several commenters argue that Co-Located Load should be charged for any wholesale services it uses on a net demand basis.[154] Industrials state that a gross load metering approach is analogous to the gross load outcome that the Commission rejected in prior cases.[155] Industrials assert that this approach would cause significant rate increases and disincentivize customers from taking steps to manage use of the grid which could otherwise lead to the avoidance of network upgrades.

70. Constellation argues that requiring Co-Located Loads to be charged NITS on a gross basis is unduly discriminatory because it would charge the same rates to customers who impose different costs on the system.[156] Constellation states that Co-Located Load should have the choice to be Network Load and pay gross NITS or to pay net NITS if the portion of the generator serving the load delists and PJM procures capacity for the load based on net load during the coincident peaks. Constellation states that since Co-Located Load is unlikely to be withdrawing energy during coincident peak hours, it is appropriate to charge the higher of NITS or a 'standby charge' to reflect that the system must be built to a certain extent to serve the load on a firm basis.

71. Constellation further argues that charging all large Co-Located Loads NITS based on gross demand would be unduly discriminatory because it is inconsistent with treatment of BTMG.[157] Constellation argues that there are no physical, technical, or economic reasons why netting rules applied to existing retail BTMG customers should not apply to co-located. Constellation states that size is not a rationale for discriminatory rate treatment. In response to concerns that PJM is not required to carry reserves for BTMG, Constellation states that BTMG rules could be modified to require the Co-Located Load to carry or pay for reserves and ancillary services or, if needed, a minimum demand charge for NITS for any non-volumetric costs the BTMG load imposes on the system.

72. On the other hand, Indicated Transmission Owners argue that to afford Co-Located Load similar treatment to BTMG load would be to grant an undue preference

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[154] Vistra April 23 Reply Comments at 25; Constellation April 23 Reply Comments at 31; Industrials April 23 Reply Comments at 4.

[155] Industrials April 23 Reply Comments at 4-5 (citing *Occidental Chem. Corp. v. PJM Interconnection, L.L.C.*, 102 FERC ¶ 61,275 (2003)).

[156] Constellation April 23 Reply Comments at 31-33, 40-41.

[157] *Id.* at 32-33, 39, 41-45, 77, 80-81.

to such configurations over others that also rely upon Network Service.[158] Indicated Transmission Owners and AMP argue that because Co-Location Arrangements use the transmission system, they cannot qualify as BTMG. PPL states that behind-the-meter generation at an existing load differs both in kind and degree from load appearing behind the meter of an existing generator. Indicated Transmission Owners and NREMC argue that allowing large Co-Located Load to utilize the BTMG model of netting generation against load could allow these facilities to avoid most, if not all, costs, unfairly shifting costs to other grid users since Co-Located Loads rely on and benefit from the grid.

73. AMP and NREMC agree with PJM that BTMG was not designed to accommodate large loads.[159] NOVEC argues that BTMG loads had or developed generation to supply the load, but Co-Located Load as contemplated in this record would instead repurpose existing generation from the supply stack.[160] NOVEC contends that the additional generation provides greater flexibility to customers and PJM, not less, and that Co-Located Loads are on a significantly larger scale than existing BTMG and may have larger impacts on the PJM system. NREMC argues that large Co-Located Loads paired with BTMG present significantly greater operational risks than traditional BTMG arrangements because they lack adequate reserves.[161]

74. AMP states that regardless of what the Commission decides with respect to Co-Located Load, the Commission should preserve the current BTMG netting provisions in the PJM Tariff.[162] AMP contends that PJM does not provide any citations to discussion in the record regarding PJM's BTMG rules that call the existing netting provisions into question, nor does it identify any reason why the practice of netting loads served by BTMG might no longer be consistent with cost causation principles. AMP states that the longstanding nature of the netting provisions is a reason to retain, not

[158] Indicated Transmission Owners April 23 Reply Comments at 6-7 (citing 16 U.S.C. § 824d(b)). *See also* AMP April 23 Reply Comments at 12 (citing PSE&G March 24 Response at 15); PPL April 23 Reply Comments at 8; NREMC April 23 Reply Comments at 5.

[159] NREMC April 23 Reply Comments at 5; AMP April 23 Reply Comments at 11-12 (citing PJM March 24 Response at 35).

[160] NOVEC April 23 Reply Comments at 18.

[161] NREMC April 23 Reply Comments at 5.

[162] AMP April 23 Reply Comments at 13.

revisit them, given the reliance interests of PJM market participants in the existing rules.[163]

d. Replacement Rates

i. PJM Options

75. AEU contends that all eight PJM co-location options should be accommodated, although each also requires additional development.[164] Vistra argues that if PJM option 3 (BTMG where load is Network Load) left the BTMG rules unchanged, it would be unduly discriminatory to prohibit behind-the-meter loads from engaging in the same type of netting.[165] Vistra also argues that PJM option 4 configurations (Co-Located Load connected to the grid with protection facilities) would use the transmission system less than a retail BTMG configuration because protective systems ensure that the load never draws energy from the grid, whereas retail BTMG arrangements may do so. Antora argues that PJM option 4 is the only pathway that allows for the fully coordinated study of co-located generation and load.[166] Antora states that the risks PJM identifies with this option would be mitigated for low-load factor loads that only charge when energy is abundant and low cost.

76. Vistra argues that when option 5 configurations (Co-Located Load connected to the grid with protection facilities, but with back-up service from the grid) draw power from the grid, PJM should apply netting provisions consistent with the BTMG program.[167] Vistra states that, during those periods when the configuration is drawing power from the grid, it may make sense to require such configurations to pay for PTPS, NITS, or a new conditional, non-firm transmission service. PPL states that under this option, PJM must modify its Tariff to facilitate the type of "real-time, bespoke operational decision-making to determine whether load can continue to be served" that

[163] *Id.* at 10-11 (citing *Dep't of Homeland Sec. v. Regents of the Univ. of Cal.,* 591 U.S. 1, 30 (2020)).

[164] AEU April 23 Reply Comments at 11-17.

[165] Vistra April 23 Reply Comments at 14.

[166] Antora April 23 Reply Comments at 6, 13-14-15.

[167] Vistra April 23 Reply Comments at 8, 28.

PJM contemplates.[168] PPL notes that under Pennsylvania law, PPL cannot deny backup service properly requested under its General Tariff.[169]

77. Antora argues that the Commission should direct PJM to build out option 7 by developing a new non-capacity backed service offering that is available on both a permanent and transitional basis (as PJM's option 7 is only transitional) to facilitate the integration of highly flexible, low load factor Co-Located Loads.[170] Antora argues that offering non-capacity backed transmission service on a permanent basis would allow PJM to capture the benefits of co-located facilities, serving the same amount of total load at lower cost, with less transmission infrastructure and fewer capacity resources.

78. Constellation states it supports an interruptible transmission service assessed on net load to promote a more efficient use of the system's existing headroom, resource adequacy benefits, and lower costs for customers.[171] Constellation argues that allowing load to temporarily curtail consumption during peak periods would limit needed upgrades, arguing a study showed that a new load curtailment rate of just 0.5% annually would result in nearly 18 GW of potential new load integration in PJM without capacity expansion. Constellation states that an interruptible service should cease to be available once the upgrades are complete—not based on PJM's assessment of resource adequacy as PJM suggests. NRDC states that it has concerns that the proposed no-capacity backup service could lead to unduly preferential results and argues it would be preferable to use existing demand products than invent new ones.[172] Indicated Transmission Owners argue that if Co-Located Load wishes to be compensated for being interruptible, at the transmission level, such load must show why that outcome is the correct rate design and

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[168] PPL April 23 Reply Comments at 11.

[169] *Id.* (citing PPL Electric Utilities Corporation General Tariff, Rule 6, https://www.pplelectric.com/-/media/PPLElectric/At-Your-Service/Docs/Current-Electric-Tariff/rule6.pdf (providing for "[s]ervice to customers who have another source of power which can be substituted for Company's service for any of customer's operations"); PPL Electric Utilities Corporation General Tariff, Rule 7, https://www.pplelectric.com/-/media/PPLElectric/At-Your-Service/Docs/Current-Electric-Tariff/rule7.pdf (providing for "[t]emporary service . . . for less than one year or for a year or more when Company must install facilities that will be used solely for a service that is known to be limited in duration.")).

[170] Antora April 23 Reply Comments at 6-7, 13, 16-18.

[171] Constellation April 23 Reply Comments at 23-26, 56-57.

[172] NRDC April 23 Reply Comments at 5-6.

why the current demand response rules fail to adequately compensate load appropriately.[173]

ii. Other

79. Vistra states that it would be reasonable to create a penalty regime to address any unintended grid use by Co-Located Loads with protective schemes.[174] Vistra explains that such a penalty would be conceptually similar to the unreserved use penalties that the Commission created in Order No. 890 that subject transmission customers to penalties for using transmission service that they did not reserve. Buckeye raises concerns with an annual single coincident peak (1 CP) transmission cost allocation, arguing that reduction in the load during a single hour after building the transmission infrastructure to serve that load will not reduce overall costs.[175] Buckeye suggests a potential mechanism that should be considered to help mitigate unreasonable cost shifts is changing the 1 CP billing determinant to 12 coincident peaks (12 CP) or to one or more non-coincident peaks (NCP). Buckeye argues that moving to 12 CP may make it more difficult for large loads to shift costs to other wholesale customers and their retail members, but notes this would not address stranded costs.

80. Glatz and Silverman recommend the Commission explore the potential to develop a new level of non-firm or interruptible transmission service that prioritizes connection of new flexible loads, regardless of whether they are co-located with generation.[176] Enchanted Rock supports a transitional non-firm service where the load relies on PJM to provide energy, but where the load is under a commitment to dispatch co-located generation during PJM curtailments.[177] Under this option, Enchanted Rock maintains that the co-located facilities could be quickly interconnected and would only require curtailment in a small number of hours of a year, allowing more efficient use of generation resources and transmission capacity, lowering costs to customers, and buying time for new infrastructure to be built.

81. Constellation states Co-Located Loads should have three options: (1) a firm NITS option with the load paying based on either gross load or net load, depending on its configuration; (2) a generator-contingent option where Co-Located Load does not pay

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[173] Indicated Transmission Owners April 23 Reply Comments at 12.

[174] Vistra April 23 Reply Comments at 13, 25-26.

[175] Buckeye April 23 Reply Comments at 12.

[176] Glatz/Silverman April 23 Reply Comments at 12-13.

[177] Enchanted Rock April 23 Comments at 10-12.

NITS but pays for any necessary upgrades and could pay a discounted transmission charge for as-available energy purchases, if any; and (3) an interruptible transmission option—lasting until network upgrades are completed—where Co-Located Load pays a discounted transmission charge reflecting its inferior service.[178] Constellation proposes that, regarding the generator-contingent option, it would be reasonable to provide as-available energy at the locational marginal price plus a discounted transmission charge because, while energy would be drawn from the grid, it would only be "as-available" when it is not adding any burden to the transmission system and the load would not need to be planned for reliability or resource adequacy.

82. Indicated Transmission Owners oppose Constellation's proposal, arguing that a discounted transmission rate for Co-Located Load only taking energy from the transmission system on an as-available basis would be unduly discriminatory because transmission rates are charged to all other customers based on full embedded costs, regardless of whether they take energy during peak times.[179] Indicated Transmission Owners also argue that allowing certain customers with bundled load and generation to choose their own level of transmission service outside of NITS would be a departure from NERC Reliability Standards FAC-002-2 and TPL-001-5. Finally, Indicated Transmission Owners' affiant argues a flexible bundled interconnection framework is a new concept. Constellation opposes Indicated Transmission Owners' claims about NERC violations and Constellation emphasizes that it does not oppose studies of Co-Located Load, consistent with Reliability Standard FAC-002-2.[180]

83. California Utilities state that, if PJM permits netting of load for transmission service, one option for cost allocation would be to require the Co-Located Load to pay for retail stand-by transmission service.[181] Joint Consumer Advocates argue that forms of service tailored to specific Co-Located Load will lead to litigation that will further muddy the regulatory waters.[182] Invenergy asserts that while new comprehensive rules are developed, PJM should implement a transition process so that large loads customers can move forward with Co-Location Arrangements in the short-term.[183] Specifically,

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[178] Constellation April 23 Reply Comments at 37-38, 51.

[179] Indicated Transmission Owners June 3 Answer at 20-21 (citing Powers Declaration at PP 7, 25-29).

[180] Constellation June 12 Answer at 6.

[181] California Utilities April 23 Reply Comments at 9.

[182] Joint Consumer Advocates April 23 Reply Comments at 7.

[183] Invenergy April 23 Reply Comments at 7.

Invenergy suggests that large-load customers should be allowed to pursue behind-the-meter configurations with new generating facilities without being considered Network Load.

e. Ancillary Services

84. Several parties argue that any ancillary services charges assessed to Co-Located Load must be based on the extent to which Co-Located Loads use ancillary services.[184] Market Monitor argues that co-location allows large loads to avoid ancillary service charges.[185] Several commenters argue that Co-Located Load configurations either benefit from the provision of or contribute to the need for certain ancillary services and other services, including load balancing, reactive compensation, frequency response, voltage control, regulation, and black start service.[186]

85. NREMC argues that Co-Located Load benefits from the full range of ancillary services since both transmission and distribution operators depend on ancillary services to maintain grid reliability, stability, and power quality.[187] California Utilities argue that generators synchronized to the grid serving Co-Located Load should pay ancillary service costs because they are not fully isolated, use ancillary services, and benefit from reliability and recovery services such as spinning reserve.[188] UCS states that load variability from data centers can create imbalances more quickly than generators can correct them, resulting in voltage disturbances, thermal overloads, and stability issues,

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[184] *See* OPSI April 23 Reply Comments at 4; Pennsylvania Commission April 22 Reply Comments at 5; Talen April 23 Reply Comments at 13; ACEG April 23 Reply Comments at 2.

[185] Market Monitor April 23 Reply Comments at 4.

[186] *See* Pennsylvania Commission April 22 Reply Comments at 4-5; California Utilities Reply Comments at 8-9; UCS April 11 Reply Comments at 14, 15 n.42 (citing Kyle Hannah of Dominion Energy Inc., Pre-Conference Statement, Docket No. AD24-11-000 (filed Nov. 1, 2024)); ENGIE April 23 Reply Comments at 7; NREMC April 23 Reply Comments at 7; NOVEC April 23 Reply Comments at 9-10; PIOs April 23 Reply Comments at 25; ACEG April 23 Reply Comments at 2; California Utilities April 23 Reply Comments at 8-9; Buckeye April 23 Reply Comments at 8; AEU April 23 Reply Comments at 19; ELCON April 23 Reply Comments at 7.

[187] NREMC April 23 Reply Comments at 7.

[188] California Utilities April 23 Reply Comments at 8.

which can be mitigated by ancillary services.[189] UCS states that Co-Location Arrangements benefit from essential reliability services including short-circuit fault current and system inertia. ACEG contends that if Co-Located Loads avoid their share of system costs while relying on that system in emergencies, or even just for stability, such reliance would undermine cost causation principles and unfairly shift costs onto other ratepayers.[190] Mainspring argues that black start and ancillary service cost allocation will vary by technology type as some generators can provide ancillary services others cannot.[191]

86. NOVEC argues that the grid necessarily responds to all power-quality issues, including but not limited to frequency response, reactive needs, transient issues, and voltage control.[192] NOVEC contends that Co-Located Load is akin to "parasitic load" because the transmission grid cannot differentiate between energy that is injected into the market and energy that is injected to serve Co-Located Load. Additionally, NOVEC argues that nuclear powered generation units are not operated as flexible or partially loaded assets but instead operate at full load between fueling cycles to maximize the value of their fuel rods and therefore, nuclear powered generation assets depend upon other generators on the grid to provide all ancillary service and other power-quality needs.

87. California Utilities argue it is up to the generator to decide how or whether to pass ancillary and black start service costs onto Co-Located Load.[193] Talen states that while it continues to believe Co-Located Load should not pay for services it is not using, in the interest of compromise, Talen supports the load paying for certain ancillary services.[194]

88. Constellation argues that, while there may be some benefit to Co-Located Load for some ancillary services provided to the interconnected generator, a universal requirement for every Co-Located Load to pay for all ancillary services is unjust and unreasonable and unduly discriminatory and preferential.[195] Constellation acknowledges, for example,

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[189] UCS April 11 Reply Comments at 13-15.

[190] ACEG April 23 Reply Comments at 2.

[191] Mainspring April 23 Reply Comments at 9.

[192] NOVEC April 23 Reply Comments at 9-10.

[193] California Utilities April 23 Reply Comments at 8-9.

[194] Talen April 23 Reply Comments at 13.

[195] Constellation April 23 Reply Comments at 34, 48, 85-86.

that Co-Location Arrangements drawing energy from the system benefit from ancillary services and black start, but argues the generator relies on the service, not the load, and current Commission policy does not support charging generators for ancillary services.

89. Vistra requests that the Commission create a new rate design to ensure that Co-Located Load that is not Network Load pays only for ancillary services that they use.[196] However, Vistra argues that PJM has not provided analysis of which ancillary services benefit Co-Located Load. As an example, Vistra offers that variances in the Co-Located Load could be viewed as related to the need for regulation service.

90. Vistra argues that ongoing charges for reactive power supply and black start service should not be assessed to Co-Located Load, however.[197] Vistra argues that "the ability to isolate large loads so they cannot draw power from the system would act to sectionalize the grid and make black start more manageable."[198] AEU argues Co-Located Loads should be compensated for any ancillary services their connections provide.[199]

E. Interconnection Procedures and Cost Allocation

1. PJM's March 24 Response

91. PJM states that the necessary study process is among several studies it may employ to evaluate Co-Location Arrangements, depending upon the type of co-location arrangement.[200] PJM explains that it does not have a tariffed study process for non-Network Load located behind a generator's point of interconnection. PJM explains that its necessary studies process is designed to evaluate the potential reliability impact of a proposed addition or reduction of a Co-Located Load configuration on the PJM Transmission System.[201] PJM explains that the scope of the study addresses generation deliverability, N-1 and N-1-1 thermal and voltage studies, special protection systems review, baseline stability, and, if applicable, a nuclear plant interface requirements voltage analysis.

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[196] Vistra April 23 Reply Comments at 8, 26-27.

[197] *Id.* at 27-28.

[198] *Id.* at 28 (quoting Shanker Aff. ¶ 66).

[199] AEU April 23 Reply Comments at 19.

[200] PJM March 24 Response at 47-49.

[201] *Id.* at 48-50.

92. PJM explains that load studies currently are performed only through the traditional retail load integration processes. PJM commits, however, to exploring opportunities to enhance the visibility of the necessary study process and results where Co-Located Load is not Network Load. PJM notes that a deactivation study, unlike the necessary study, would not be appropriate for Co-Location Arrangements because deactivation studies are designed for the complete cessation of operations by a generator.

93. PJM states that its current necessary study process allows a co-location arrangement to demonstrate its capability to flexibly adjust its withdrawals from or injections to the transmission system.[202] PJM clarifies that Co-Located Load configurations usually are modeled as if they never take power from the grid -that this "always on" load is modeled as offsetting the net output of a generator. PJM adds that if the result of this study indicates a thermal or voltage violation, the generator must mitigate the violation before the load can be added.

94. PJM states that, under certain Co-Location Arrangements, it is possible that the generation owner could propose a special protection scheme or Remedial Action Scheme to reduce the load under certain conditions.[203] PJM states that, if such a configuration were permitted by the Commission, PJM would require language similar to the protection facilities language proposed in the most-recently filed Susquehanna ISA. PJM asserts that, if and where such facilities might misoperate, additional new language should be developed to require the generator to take immediate steps to stop the flow of energy from the grid to any co-located load or risk breach and non-compliance (given the absence of contractual privity between and among PJM, the Transmission Owner, and the Co-Located Load in certain situations).

95. PJM states that it conducts dynamic studies for Co-Located Load projects, which evaluate all applicable NERC, PJM, and transmission owner-specific contingencies and criteria.[204] PJM notes that it also assesses the impact of the ramping behaviors of large loads, generally, and the stability impact of large Co-Located Loads, specifically.

96. PJM states that it would not support creating an additional interconnection queue for Co-Located Load because the necessary study process is capable of incorporating and evaluating the impact of Co-Location Arrangements.[205]

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[202] *Id.* at 51-52.

[203] *Id.* at 52.

[204] *Id.* at 53.

[205] *Id.* at 56.

2. Transmission Owners' March 24 Responses

97. Indicated Transmission Owners state that the necessary study process, together with other studies, including the individual transmission owners' studies, "are designed to ensure appropriate evaluation of, among other things, generator interconnections, modifications, and retirements and load additions."[206] Indicated Transmission Owners explain that these studies are typically compatible with retail load addition studies and can be coordinated. Indicated Transmission Owners argue that these studies are collectively sufficient and that a separate study process for Co-Located Load is not necessary or appropriate.

98. Indicated Transmission Owners explain that it would not be appropriate for the necessary study process to include a "flexibility" analysis because whether a Co-Location Arrangement is capable of being flexible does not guarantee how the end-use load or generator will operate in real time.[207] Indicated Transmission Owners state that, "[i]n the absence of a state law or retail tariff allowing for a more durable commitment, any contractual commitment by end-use load to interrupt its operations or its use of retail electric service will at best be limited to the current contracting party."[208] However, Indicated Transmission Owners note, known flexibility should be captured in PJM's large load forecast.

99. Indicated Transmission Owners state that the existing queue process is sufficient to study the interconnection of generation and that all load and generation seeking to interconnect should go through the established processes, as they can operate independently.[209]

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[206] Indicated Transmission Owners March 24 Response, attach. A at 12-13.

[207] *Id.*

[208] *Id.*

[209] *Id.*, attach. A at 16.

3. Reply Comments

a. Interconnection Procedures

i. Expedited Process & Joint Queue

100. Several parties generally support creating a separate process in PJM for expediting the interconnection of new generation to serve Co-Located Load,[210] such as a joint review process for large load and generation.[211] ENGIE and Enchanted Rock note challenges with having different studies for generation and load, including potential mismatching of the time when the load and the generation come online, mismatches in the lifetime of the load versus the lifetime of the generation, and variances of operational characteristics.[212] Enchanted Rock also argues that generation interconnection study processes and queues do not adequately recognize the benefits Co-Location Arrangements can provide.[213] BrightNight, Invenergy, EDFR, and ENGIE recommend that the Commission and PJM explore studying Co-Location Arrangements based on the net impact on the grid.[214]

101. Invenergy proposes studying large loads over 50 MW or interconnecting to facilities at voltages greater than 115 kV along with generation and argues that this would more efficiently use the transmission system, decrease ratepayer costs, promote transparency, ensure that network upgrades reflect the expected topology of the system, and address a number of concerns raised in the Show Cause Order.[215]

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[210] *See* SEIA April 23 Reply Comments at 2; BrightNight April 23 Reply Comments at 9; Chevron April 23 Reply Comments at 7; AEU April 23 Reply Comments at 19-21.

[211] *See* ENGIE April 23 Reply Comments 8; Invenergy April 23 Reply Comments at 3; EDFR April 23 Reply Comments at 7.

[212] ENGIE April 23 Reply Comments at 8; Enchanted Rock April 23 Reply Comments at 14.

[213] Enchanted Rock April 23 Reply Comments at 15.

[214] *See* ENGIE April 23 Reply Comments at 8; BrightNight April 23 Reply Comments at 9; Invenergy April 23 Reply Comments at 5-6; EDFR April 23 Reply Comments at 7, 9.

[215] Invenergy April 23 Reply Comments at 3-5.

102. BrightNight states that an expedited process for generation serving Co-Located Load would incentivize Co-Located Load to bring its own generation.[216] BrightNight suggests using the surplus interconnection process to screen for material impacts and, if found, shifting the request into the normal interconnection process. Chevron argues that a separate expedited interconnection process for Co-Located Load is required to support AI data centers as part of the declared emergency processes and national security policy of the United States.[217] Consumers' Research states that if Co-Located Load uses dispatchable fossil fuels, it should be moved ahead in the interconnection queue because it can increase grid reliability.[218] EDFR states that the Commission should encourage PJM and other Independent System Operators to develop an expedited process for controllable load to interconnect and economically dispatch in the wholesale market, or to participate as voluntary load shed resources.

103. Several parties support PJM's option 6 specifically.[219] Market Monitor states that it supports an expedited interconnection process for load and matching new generation that is consistent with PJM's queue process so long as the load is connected to the grid directly and the new generation resource becomes a Capacity Resource. Ohio FEA explains this could mitigate both local grid impacts and regional resource adequacy concerns. AEU argues that allowing large loads to bring their own new generation would address the root causes of co-location while reducing the new load's impact on resource adequacy.

104. PPL generally supports PJM's option 6, but notes that the option appears to be independent from questions around Co-Located Load.[220] Enchanted Rock argues that, to the extent that the Commission directs PJM to implement option 6, load co-located with dispatchable generation projects should also be permitted to participate.[221] SEIA asks the Commission to direct PJM to modify option 6 to implement an expedited co-located interconnection process, separate from the queue, to determine whether the

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[216] BrightNight April 23 Reply Comments at 9.

[217] Chevron April 23 Reply Comments at 7.

[218] Consumers' Research April 23 Reply Comment at 4.

[219] *See* Mainspring April 23 Reply Comments at 11; Market Monitor April 23 Reply Comments at 11; PPL April 23 Reply Comments at 13; Buckeye April 23 Reply Comments at 9; Ohio FEA April 23 Reply Comments at 4-5; Exus May 15 Reply Comments at 1; AEU April 23 Reply Comments at 14.

[220] PPL April 23 Reply Comments at 13.

[221] Enchanted Rock April 23 Comments at 15.

interconnection request for the co-located generation would require new network upgrades.[222] SEIA suggests that this process would be analogous to surplus interconnection service and that there would be no queue jumping because the co-located resources would not be competing for network upgrades. SEIA argues that such service is beneficial as it may help prevent transmission system overbuild and would help address issues of supply and demand.

105. Other parties oppose PJM's option 6.[223] Bloom argues that PJM's proposal to offer incentives for faster interconnection when the load is Network Load is too narrow. Bloom also asserts that a requirement that a generator with Co-Located Load be a Capacity Resource appears to mandate that the generator enter into a financial contract with Co-Located Load and may undermine resource adequacy goals by disincentivizing load seeking only physical arrangements. Bloom proposes an alternative to PJM's option 6 to adopt reforms to interconnect generation and Co-Located Load (both new) as a composite facility called an "energy park," instead of studying the load in one process and the generation in another.[224]

106. Constellation asserts that PJM's option 6 is discriminatory against existing generation because it is functionally equivalent to an out-of-market payment or subsidy that depresses market economics for all other resources.[225] Glatz and Silverman also question why PJM's option 6 should provide a preference to large load customers over customers aiming to meet other objectives, like clean energy commitments.[226] Invenergy asserts that Co-Location Arrangements should not get priority access to available transmission system headroom, or deprive PJM of the resources needed to process the interconnection queue, in keeping with the Commission's long-standing policy against queue jumping.[227] Constellation also argues it will lead to reduced new entry outside of the large load contract path and restrict the right to integrate with the system to only those

[222] SEIA April 23 Reply Comments at 10-11.

[223] *See e.g.*, Bloom April 23 Reply Comments at 8; Constellation April 23 Reply Comments at 52; NRDC April 23 Reply Comments at 3-4.

[224] Bloom April 23 Reply Comments at 2, 10.

[225] Constellation April 23 Reply Comments at 52 (citing Patterson Aff. ¶ 40).

[226] Glatz/Silverman April 23 Reply Comments at 8-9.

[227] Invenergy April 23 Reply Comments at 6.

loads that bring their own generation. In addition, Constellation states that this option may create perverse incentives for existing generators to retire.[228]

107. CATF states that the Commission must require large loads with co-located generation (such as data centers) to follow the same interconnection requirements of Order No. 2023 and Order No. 1920.[229] PIOs argue that the Commission should reject proposals to allow generators seeking Co-Location Arrangements to access special, expedited interconnection pathways, because this would run counter to Order No. 2023 and Commission precedent, offer unduly preferential terms and conditions to a select set of entities, and come at the expense of the significantly backlogged interconnection process.[230] NRDC states that PJM's proposal could erode open access principles as this would be dividing what types of load can get this qualified access.[231] Glatz and Silverman argue it is unclear whether option 6 would interconnect generation faster than the current interconnection queue.[232] United States Senators argue that the Commission should not support arguments that large fossil fuel generators can jump the interconnection queue because of data center demand projections.[233]

ii. Study Processes

108. Some parties argue that PJM's necessary study process remains just and reasonable. Constellation asserts that the necessary study process evaluates system-wide reinforcements and provides transparency and predictability into the development of Co-Location Arrangements.[234] Constellation and Vistra support adding clarifying

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[228] Glatz/Silverman April 23 Reply Comments at 8-9.

[229] CATF April 25 Reply Comments at 16.

[230] PIOs April 23 Reply Comments at 28-30 (citing *Midcontinent Indep. Sys. Operator*, Inc., 186 FERC ¶ 61,054, at P 17 (2024); Order No. 2003, 104 FERC 61,103 at P 12; *Improvements to Generator Interconnection Procs. & Agreements*, Order No. 2023, 184 FERC ¶ 61,054, at PP 4, 5, 177, *order on reh'g*, 185 FERC ¶ 61,063 (2023), *order on reh'g*, Order No. 2023-A, 186 FERC ¶ 61,199, *errata notice*, 188 FERC ¶ 61,134 (2024)).

[231] NRDC April 23 Reply Comments at 3-4.

[232] Glatz/Silverman April 23 Reply Comments at 8.

[233] United States Senators November 25 Letter at 2.

[234] Constellation April 23 Reply Comments at 47, 62-63, 94-95.

language to the Tariff of the obligation of transmission owners to cooperate and provide timely feedback on the necessary studies.[235]

109. On the other hand, several parties express concern that the necessary study process is not adequate or appropriate to study Co-Location Arrangements.[236] Antora argues that studying co-location using PJM's necessary study process offers a significant efficiency advantage over studying load separately from the co-located generation, as it assesses the electrical impacts of proposed new generation and load in a single interconnection process. However, Antora argues that the existing process is inadequate, because the Tariff's study procedures lack the necessary detail to inform customers such as Antora how their charging loads will be studied and confirm that the loads' flexibility will be accounted for. PIOs argue that the necessary study "may not be fully capturing the transmission system impacts of co-locating load," and thus could result in Co-Location Arrangements with already-operational generators, "not paying the costs of network upgrades that would be caused by the co-location."[237] Similarly, Market Monitor also argues that necessary study agreements miss the most fundamental issues associated with co-location. PIOs argue that the necessary studies process was designed for studying potential impacts from more minor, routine changes to the electrical characteristics of existing generating units previously studied by PJM and is a poor fit for the more significant nature of an existing generator entering into a Co-Location Arrangement for all or most of its energy production. PIOs argue that PJM has not allowed the addition of battery storage to existing generation to go through the necessary study process, in large part because batteries can act as load. PIOs argue that PJM offers no explanation for why Co-Located Load is thus offered preferential treatment.

110. PIOs state that PJM defends the necessary study process for studying co-location with an existing generator by explaining that other study processes are also used; however, PIOs argue that each of the other studies that PJM identifies pass costs to broader sections of load, not the large load customer(s) causing the need for the upgrades.[238] PIOs argue that the necessary study process is the only process that PJM uses to identify the direct interconnection-related cost responsibility of co-locating large

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[235] *Id.* at 89; Vistra April 23 Reply Comments at 33-34.

[236] Glatz/Silverman April 23 Reply Comments at 7; PIOs April 23 Reply Comments at 9-10, 14; OPSI April 23 Reply Comments at 3; RMI April 23 Reply Comments at 3-4; Market Monitor April 23 Reply Comments at 9; Antora April 23 Reply Comments at 7-8.

[237] PIOs April 23 Reply Comments at 9 (citing Show Cause Order, 190 FERC ¶ 61,115 at P 79).

[238] *Id.* at 10-11.

load with an existing generator, and it fails to do so with appropriate accuracy. RMI states that PJM's necessary study process is not adequate because it does not assess the protection system that would prevent the load from using the transmission system.[239]

111. Glatz and Silverman argue that a generator's reduction in Capacity Interconnection Rights (CIR) is effectively a partial deactivation and that evaluating such changes without a deactivation study appears to be a means to avoid review by the Market Monitor, as such CIR reductions can affect market outcomes.[240] Glatz and Silverman also maintain that, when CIRs are removed from the system, the existing load must still be served and the generation to serve that load may require new network upgrades. Glatz and Silverman also charge that any system capacity potentially available due to a reduction in CIRs becomes unavailable if studied in concert with a behind-the-meter load addition.

112. Ohio FEA also notes that Co-Location Arrangements that propose to take existing generation off the system have broad implications because they would change the power flow across the transmission system and affect the mix of resources available to participate in PJM's energy and capacity markets and should be subject to a robust analysis before they are allowed to proceed.[241]

113. Several parties argue that the necessary study process lacks transparency.[242] OPSI emphasizes that modifications are privately negotiated and under non-disclosure agreements.[243] OPSI also states that these arrangements avoid a comprehensive reliability analysis because the necessary study process was developed to study modifications to existing generating units, not the addition of large Co-Located Loads that are sometimes as large as metropolitan areas. PIOs argue the opaque process prevents ratepayer advocates from effectively challenging the prudence of transmission investments and cost allocation at either the federal or the state level.

114. Pennsylvania Commission states that PJM's necessary study process must be revised to provide more information to regulators at the initial stage of the generation

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[239] RMI April 24 Reply Comments at 3-4.

[240] Glatz/Silverman April 23 Reply Comments at 8.

[241] Ohio FEA April 23 Reply Comments at 4.

[242] Glatz/Silverman April 23 Reply Comments at 7; OPSI April 23 Reply Comments at 3; PIOs April 23 Reply Comments at 9, 14; Pennsylvania Commission April 22 Reply Comments at 7.

[243] OPSI April 23 Reply Comments at 3; PIOs April 23 Comments at 11, 15.

interconnection process because, sometimes when Co-Located Load comes online, the first time a state regulator hears about it is when the arrangement is filed with the Commission, unlike with generation retirement, even though they can have the same effects.[244] Glatz and Silverman note that Indicated Transmission Owners mentioned that the necessary study process is conducted "together with other studies and analysis" but these other studies and analyses are not spelled out, nor is there transparency for consumers.[245]

115. Several parties ask the Commission for further clarity on how Co-Location Arrangements will be studied and how those studies will be evaluated.[246] AEU contends there must be a level of uniformity and detail outlining study requirements to ensure regulatory certainty for large loads and new generation and storage resources seeking to serve large loads.[247] Glatz and Silverman recommend the Commission adopt a principle of "comparability" to ensure that new Co-Location Arrangements go through a study process comparable in terms of timing and cost responsibility to a new load locating in front of the meter.[248]

116. Regarding PJM's current load interconnection process, Invenergy asserts that Attachment M-3 was designed for supplemental transmission projects, not load interconnection, and is not suitable for large load interconnection.[249] EDFR asks the Commission to provide guidance to PJM and other Regional Transmission Organization or Independent System Operator (RTO/ISO) and non-RTO/ISO regions for developing a standardized and transparent load interconnection process at the federal level.[250]

117. Vistra explains that transmission owner load integration studies "live in a regulatory gap," because the studies, processes, and facilities associated with those interconnections are not currently subject to Commission regulation or oversight, despite

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[244] Pennsylvania Commission April 22 Reply Comments at 7.

[245] Glatz/Silverman April 23 Reply Comments at 7 (citing Indicated Transmission Owners March 24 Response, attach. A at 12).

[246] AEU April 23 Reply Comments at 19; Glatz/Silverman April 23 Reply Comments at 6.

[247] AEU April 23 Reply Comments at 19.

[248] Glatz/Silverman April 23 Reply Comments at 6.

[249] Invenergy April 23 Reply Comments at 3-4.

[250] EDFR April 23 Reply Comments at 6.

the fact that these configurations involve interconnections directly to the transmission system.[251] Vistra argues that the Commission has jurisdiction to close this regulatory gap because the Commission has jurisdiction when load interconnects to the transmission system in interstate commerce based on its exclusive authority over interstate transmission, just as the Commission regulates the terms of generation interconnections to the transmission system. Vistra states that the Commission should consider commencing a separate proceeding to explore the issue of front-of-the-meter load interconnection practices. Vistra argues that the Commission should exercise its authority over load interconnection to the transmission system to prevent undue discrimination and ensure that interconnection service is provided in a just and reasonable manner, perhaps by issuing a notice of inquiry on this issue.

118. Data Center Coalition recommends that the Commission direct PJM to enhance visibility into the relationship between new large loads and the transmission upgrades that support them by requiring: (1) disclosure of load linkages for Supplemental Projects, and (2) confirmation that loads driving Supplemental Projects have already been incorporated into PJM's load forecast.[252]

119. Market Monitor argues for complete transparency in PJM's planning on the load side.[253] Market Monitor requests that the PJM planning process be modified to integrate transmission planning with markets planning to eliminate major gaps. Market Monitor argues that PJM must have the authority to plan to meet large load additions as it does for generation additions.

iii. Changes to *Pro Forma* Interconnection Procedures

120. Several parties request that the Commission modify the *pro forma* generator interconnection procedures and ISA. BrightNight states that at a minimum the *pro forma* process and agreement should allow for three configurations: (1) load and generation fully islanded from the electric grid, with no services from the grid; (2) flexible loads or demand response loads; and (3) loads that require backup service (e.g., behind-the-meter generation).[254] Glatz and Silverman propose a new *pro forma* process for co-location.[255] Vistra requests that the Commission modify the *pro forma* ISA to include a co-location

[251] Vistra April 23 Reply Comments at 14-15, 36-39.

[252] Data Center Coalition April 23 Reply Comments at 11-12.

[253] Market Monitor April 23 Reply Comments at 7-9.

[254] BrightNight April 23 Reply Comments at 7.

[255] Glatz/Silverman April 23 Reply Comments at 9.

section that will govern the applicable data exchange and coordination requirements and formalize any requirements regarding applicable protective schemes.[256] Vistra argues that, in addition to the items highlighted by PJM in its response, the *pro forma* ISA must include (1) details about coordinating the use of a secondary backup generator and (2) a process relating to the treatment of the generator's CIRs.

b. Cost Allocation

121. Center refers to a Harvard Law School report stating that utilities are socializing the costs of data center booms by: (1) entering into special contracts; (2) taking advantage of discrepancies between federal and state regulations over cost allocation; and (3) relying on co-location agreements.[257] Center points out that quick moves to accommodate this load growth may result in residential customers shouldering infrastructure costs that are not ultimately needed. ELCON states that the Commission should ensure that regulatory authorities consider the long-term impacts of new large load projects in allocating network upgrade costs to protect non-large load ratepayers from paying the generation and transmission costs to serve large load even after initial electric service agreement terms expire.[258]

122. Glatz and Silverman argue that the Commission should address the risk of stranded transmission investment associated with co-location where load does not materialize, particularly as all of PJM's proposed solutions socialize transmission costs, often spreading costs over multiple jurisdictions.[259] Glatz and Silverman urge the Commission to ensure that any tariff changes account for the potential that data center load does not materialize and collaborate with states to manage this risk. Glatz and Silverman suggest that the Commission consider imposing "take-or-pay" structures for new large loads triggering transmission upgrades and backed by financial security postings.[260] Consumers' Research states that retail customers should not bear any of the

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[256] Vistra April 23 Reply Comments at 8, 29.

[257] Center April 23 Reply Comments at 22 (citing Eliza Martin and Ari Peskoe, *Extracting Profits from the Public: How Utility Ratepayers Are paying for Big Tech's Power*, Environmental & Energy Law Program, Harvard Law School, (Mar. 2025), https://eelp.law.harvard.edu/extracting-profits-from-the-public-how-utility-ratepayers-are-paying-for-big-techspower); *id.* at 25-26.

[258] ELCON April 23 Reply Comments at 7.

[259] Glatz/Silverman April 23 Reply Comments at 11-12.

[260] *Id.* (indicating such structures are comparable to those debated in a proceeding before the Ohio Public Utilities Commission).

risks of co-location, e.g., the costs for the infrastructure not being recovered or the ability to access reliable power, and suggest long-term financial commitments, take-or-pay clauses, and paying for the development of additional reliable generation as a way to mitigate this risk.[261] Consumers' Research also states that Co-Location Arrangements should be transparent to the public to protect and inform customers.

123. Buckeye argues that the Commission should consider requiring the LSE that is driving the transmission investment (i.e., the LSE in whose service territory the retail large load is locating) to be responsible for any cost-shifting caused by large loads that do not show up as expected, thereby covering the costs of transmission investments caused by their retail load.[262] Buckeye states that the LSE with the large new load should be the entity that receives this price signal, because it has a retail relationship with the large load that creates the potential for stranded transmission investment and is therefore able to pass the stranded cost responsibility to that retail load. Buckeye argues that any costs collected under such retail arrangements should be credited to the wholesale transmission revenue requirement to ensure that any stranded transmission costs associated with such large loads are not shifted to other LSEs in the zone.

124. Parties advocate that costs assigned for network upgrades required to accommodate Co-Located Load should be consistent with cost causation principles.[263] For example, ELCON states that, according to cost causation, if a large consumer in any co-location configuration impacts electricity flows on the grid either through adding to congestion, creating voltage or frequency instability, or impacting access to generation, and such impacts require upgrades to the distribution or transmission system, those costs should be allocated to that large consumer.[264] Vistra requests that the Commission ensure that Co-Location Arrangements pay their fair share, including by allocating the costs of upgrades identified in the necessary study process to the generator.[265] Consumers'

[261] Consumers' Research April 23 Reply Comments at 2-3, 5.

[262] Buckeye April 23 Reply Comments at 12.

[263] Data Center Coalition April 23 Reply Comments at 4; ELCON April 23 Reply Comments at 7; Vistra April 23 Reply Comments at 8; PIOs April 23 Reply Comments at 12.

[264] ELCON April 23 Reply Comments at 7.

[265] Vistra April 23 Reply Comments at 8.

Research states that to avoid improper subsidization the direct and indirect costs of Co-Located Load need to be considered, including any needed infrastructure upgrades.[266]

125. Pennsylvania Commission states that PJM should revisit the potential direct cost allocation of transmission network upgrade costs for large load and should consider how zonal disparities in congestion and resource adequacy impact network upgrade costs.[267] PIOs similarly argue that PJM's existing Tariff fails to ensure that Co-Location Arrangements pay their fair share of upgrade costs, which is unjust and unreasonable.[268] PIOs note that when a Transmission Owner Load Integration Study identifies Supplemental Projects that resolve local transmission reliability needs, the costs are allocated not just to the large load customer that triggered the local transmission reliability need, but to the transmission owner's entire local utility footprint in that zone. PIOs argue that despite this cost allocation, there is no guarantee that these projects provide greater system benefits. PIOs argue that the transmission upgrades required to reliably integrate Co-Location Arrangements are differently situated from transmission upgrades required to reliably deactivate uneconomic generation (the costs of which are also socialized to load) and thus should be treated differently. PIOs state that while only the remaining load—not the deactivating generator—would utilize the transmission upgrades associated with retirements, Co-Located Load will continue to rely on, and benefit greatly from, such upgrades. PIOs argue that many early examples of transmission upgrades driven by data center loads have not led to system benefits, but rather, only provide the benefit of allowing the large load to operate—disproportionately benefiting the Co-Location Arrangement.

F. PJM Capacity Market, Reliability, and Resource Adequacy

1. PJM's March 24 Response

126. PJM states that it does not believe that any changes to capacity market rules are necessary to accommodate Co-Location Arrangements.[269] PJM explains that three of its proposed co-location options (PJM options 6, 7, and 8) address resource adequacy considerations. PJM adds that it is exploring with regulators and generators opportunities

[266] Consumers' Research April 23 Reply Comments at 2.

[267] For example, Pennsylvania Commission notes that the retirement of a generation resource to serve a single co-located customer may necessitate vastly different transmission upgrade plans with significant cost implications for customers to whom those costs may be allocated.

[268] PIOs April 23 Reply Comments at 8, 12-13.

[269] PJM March 24 Response at 57, 62-63.

to leverage at least 50 hours (or more) of diesel back-up generator service to enhance the available demand response portfolio. PJM also points to other ongoing efforts, including the transition to a new interconnection process and implementation of the Reliability Resource Initiative.

127. PJM notes that, to the extent resources request removal from Capacity Resource status to serve non-PJM load, such requests will only be granted if Market Monitor approves it and PJM agrees, or if the Commission issues an order as such.[270] PJM adds that, to the extent PJM determines that a Co-Location Arrangement would result in transmission reliability issues, upgrades would have to be funded and constructed.

128. PJM states that there may be opportunities to clarify or enhance existing planning processes.[271] PJM states that one such opportunity includes addressing risks that arise based on the existing load forecasting process since, given the potential size of these large load additions in the forecasts, uncertainty with respect to whether the large loads are actually added to the system could cause either overbuild or under-build to occur based on a single customer addition. PJM states that if Co-Located Load is not Network Load, questions arise as to how requirements for visibility and control of the Co-Located Load configuration are applied since the third-party load would not be a signatory to interconnection agreements. PJM states that the ISA and other governing documents may need to be revised to ensure that the overall system will continue to operate reliably as designed or as imposed by any temporary operational conditions on the system, including, for example, the non-conforming provisions included in the Susquehanna ISA.

2. Transmission Owners' March 24 Responses

129. Indicated Transmission Owners state that if Co-Located Load is required to take either NITS or PTPS, no changes to the capacity market rules, energy market rules, or planning and load forecasting processes are necessary.[272] Indicated Transmission Owners note that if a Co-Located Load is not metered, it can create an emergency if it appears on the system unexpectedly. AES Ohio urges PJM to consider whether the forecast frequency and load addition certainty are adequate given the pace of large load additions.[273] AES Ohio argues that PJM should be required to advise stakeholders if it

[270] *Id.* at 58-59, 63-65.

[271] *Id.* at 60-62, 65-66.

[272] Indicated Transmission Owners March 24 Response, attach. A at 17-19; *see also* AES Ohio March 24 Response at 12-13.

[273] AES Ohio March 24 Response at 13.

reasonably expects to serve all load, including Co-Located Load, reliably, particularly in periods of rapid load growth.

3. Reply Comments

130. Market Monitor argues that there should be no artificial incentives or changes to fundamental capacity market rules that allow preferential treatment of large loads.[274] OPSI states that Capacity Resources cannot prioritize serving non-PJM load, even as backup, without undermining system reliability and that sellers should not be allowed to choose between fulfilling PJM obligations or facing penalties.[275] Vistra similarly states that resources that are committed to providing primary service to a Co-Located Load should not also sell that same capacity to PJM.[276] NOVEC states that the lack of supply arising from congestion in the interconnection queue, failures to act on existing interconnection approvals, and retiring thermal generation are the collective impetus for the interest in Co-Located Load, but those supply problems affect all load, and it is discriminatory to afford some load a lifeboat in the form of co-location while the remaining load must address the consequences made worse by that lifeboat.[277]

131. Pennsylvania Commission states that PJM's Tariff may not provide sufficient visibility into Co-Located Load's potential impacts on reliability and resource adequacy when generation is removed from the grid.[278] Delaware Commission states that the existing Tariff will likely not maintain resource adequacy and reliability.[279] Delaware Commission adds that the failure to adequately plan for and address resource adequacy shortages will result in system load curtailments and extreme shortage prices.

132. Some parties argue that Co-Located Load should be Network Load to ensure reliability and resource adequacy.[280] Indicated Transmission Owners contend that when

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[274] Market Monitor April 23 Reply Comments at 6-7.

[275] OPSI April 23 Reply Comments at 3.

[276] Vistra April 23 Reply Comments at 30.

[277] NOVEC April 23 Reply Comments at 14.

[278] Pennsylvania Commission April 22 Reply Comments at 6.

[279] Delaware Commission April 23 Reply Comments at 1-2, 5.

[280] *See* Buckeye April 23 Reply Comments at 6 (citing PJM March 24 Response at 16-20); Indicated Transmission Owners April 23 Reply Comments at 13; Joint Consumer Advocates April 23 Reply Comments at 3.

Co-Located Load is hidden and not appropriately accounted for, there is not only a cost allocation problem, but the study process is undermined and, consequently, PJM may be unable to adequately procure enough capacity to serve the load because the full load will not be accounted for in the capacity market, transmission planning, or operations processes and protocols. Buckeye states that Co-Located Load as Network Load provides significant reliability benefits by avoiding reliance on protective relays and enhances PJM's visibility and control over the Co-Located Load. Buckeye asserts that, "[i]f these large loads have the potential to appear on the system, even for a short time, this could have a significant impact on the grid."[281]

133. Constellation argues that interruptible Co-Located Load and co-location configurations with protection schemes to prevent energy withdrawals should not be assessed capacity charges.[282] Vistra also argues that special protection schemes are commonly used and reliable technologies, also referred to as "remedial action schemes," and that a NERC standard governs these technologies.[283] On the other hand, NRDC states that if Co-Located Load is not Network Load, existing rules would not allocate the load any capacity costs if the on-site generation was running during PJM's peak hours, which would shift capacity costs to other customers.[284] California Utilities argue that traditional customers could be forced to subsidize Co-Located Load or suffer impaired reliability without proper cost allocation of reliability services and resource adequacy costs.[285] California Utilities acknowledge that the Commission cannot prevent a generator from making retail sales, even if those sales erode reliability, but argues the Commission can require wholesale customers to procure adequate capacity. California Utilities argue that the entity directly selling at retail to the Co-Located Load should pay its capacity costs because the Co-Located Load can impact grid reliability, but notes that how such costs are passed on to the load is a retail issue.

134. Vistra requests that the Commission clarify that a secondary generator that provides occasional, interruptible backup service to a Co-Located Load can also serve as a Capacity Resource because the generator will be available to PJM when needed.[286] Vistra notes that existing retail BTMG provisions allow a generator that designates a

[281] Buckeye April 23 Reply Comments at 8.

[282] Constellation April 23 Reply Comments at 66.

[283] Vistra April 23 Reply Comments at 18-19.

[284] NRDC April 23 Reply Comments at 7-8.

[285] California Utilities April 23 Reply Comments at 2, 6-7.

[286] Vistra April 23 Reply Comments at 8, 30-31.

portion of its resource as BTMG to sell the rest of its resource as a Capacity Resource. Vistra argues that allowing secondary backup resources to participate in the capacity market ensures that the market gets the greatest reliability benefit from these resources because ratepayers would enjoy access to additional capacity that would otherwise be underutilized, while the generation resource's owner would put its resource to use and increase its contribution to the market. Comparing these secondary units to reliability must run (RMR) units, Vistra notes that the Commission currently allows RMR resources to participate in the capacity market because they "can be reasonably expected to perform" and argues that a secondary unit that occasionally serves Co-Located Load on an interruptible basis can also be expected to perform when needed because PJM can recall it. Vistra states that these secondary units also could be held subject to capacity market non-performance penalties and do not distort dynamic efficiency in the capacity market. Vistra adds that, if PJM deems it necessary, it could also create a mechanism to address how the secondary unit complies with its capacity must offer obligation when it is serving the Co-Located Load.

135. Several commenters argue that existing generators moving to Co-Located Load configurations could threaten grid reliability and worsen the affordability crisis.[287] Joint Consumer Advocates note this shift may degrade resource adequacy at an accelerated pace relative to connecting such load in traditional ways. Buckeye states that, although the balance of demand and supply is arguably the same regardless of whether the load is co-located with the generation, a non-Network Load Co-Location Arrangement has the potential to accelerate the pace with which the incremental demand arrives on the system, potentially without sufficient additional incremental supply, thereby exacerbating resource adequacy concerns. Glatz and Silverman suggest requiring PJM to manage the rate at which co-location is allowed to ensure reliability and affordability and avoid shortage conditions. Buckeye states that removing generation that is associated with a "fully isolated" Co-Location Arrangement from the rest of the grid is inconsistent with the grid's planning and operational foundations and thus threatens to alter flows in a manner that could require additional transmission upgrades and impair the operational flexibility that is essential to reliability.[288]

136. NERC states that co-location of large loads with generation facilities can have substantial reliability impacts due to interconnection timelines and loss of load incidents, while also presenting unique challenges and opportunities for grid transformation that

[287] *See* Glatz/Silverman April 23 Reply Comments at 10-11; Joint Consumer Advocates April 23 Reply Comments at 5; NOVEC April 23 Reply Comments at 14; Buckeye April 23 Reply Comments at 6-7.

[288] Buckeye April 23 Reply Comments at 7.

require special consideration.[289] NOVEC argues Co-Located Loads can impact reliability and resource adequacy since, for example, protection systems may fail and place the full burden of the Co-Located Load onto the grid.[290] PPL similarly states that because the Commission denied the amended Susquehanna ISA on unrelated grounds, the PJM Tariff does not include sufficient protections against this reliability risk.[291] On the other hand, Constellation argues that it would be discriminatory to suggest that protective relaying cannot be used in the context of Co-Location Arrangements or that Co-Located Load must be designed to a different standard. [292] Constellation states that each element of the protective scheme is redundant, and the system is not planned for nor does PJM require upgrades to address subsequent "third contingency events."[293]

137. Glatz and Silverman also express concern that, when load directly connects to another customer's facilities, the connection may not be subject to PJM's Consolidated Transmission Owners Agreement, which ensures not only that each PJM Transmission Owner maintain its system reliably, but also any connections to other systems, including load customers and other transmission systems as well.[294] UCS states new variability in load resulting from data centers may require new Transmission Reliability Margin levels in some or all of PJM.[295]

138. On the other hand, Vistra states that the development of Co-Located Load configurations "provides ample time for the PJM capacity market to calibrate to respond to changes in the balance of supply and demand."[296] Vistra concludes that neither resource adequacy nor reliability concerns justify the failure to accommodate behind-the-meter Co-Located Load. Constellation argues that new load is no different than existing load with respect to resource adequacy planning, and the Commission should determine whether there are additional tools to address near-term capacity needs

[289] NERC April 23 Reply Comments at 3.

[290] NOVEC April 23 Reply Comments at 11-12.

[291] PPL April 23 Reply Comments at 10-11.

[292] Constellation April 23 Reply Comments at 49.

[293] *Id.*

[294] Glatz/Silverman April 23 Reply Comments at 13-14.

[295] UCS April 11 Reply Comments at 16-17.

[296] Vistra April 23 Reply Comments at 17-18.

in separate proceedings.[297] Antora also contends that if properly incorporated into PJM's operations, fully flexible load need not impose any new resource adequacy burden.[298]

139. Some commenters argue that Co-Location Arrangements can provide reliability benefits.[299] ENGIE contends that Co-Location Arrangements can offer improved grid reliability and stability. Data Center Coalition states that flexible, efficient service arrangements like co-location can help alleviate pressure on the broader system, which can serve both reliability and affordability objectives. Constellation argues that co-location provides reliability benefits by minimizing grid operational risks because fewer grid infrastructure facilities and potential failure points are implicated in serving the load.

140. Several commenters recommend enhancements, such as additional clarity and transparency, to PJM's resource adequacy planning to account for the addition of large Co-Located Loads.[300] Glatz and Silverman express concern that neither PJM's nor Indicated Transmission Owners' studies would evaluate resource adequacy, and contend that requiring such a study would ensure system reliability. Pennsylvania Commission states that the Tariff must be revised to require PJM to conduct long-term scenario analysis on the potential reliability and cost impacts of Co-Location Arrangements.

141. Several parties urge reforms to PJM's load forecasting process.[301] PIOs, AEU, and ELCON argue for standard, transparent terminology and comparable parameters across planners, operators, and users. Data Center Coalition and PIOs argue that PJM's

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[297] Constellation April 23 Reply Comments at 11, 60-61 (citing Patterson Aff. ¶ 15).

[298] Antora April 23 Reply Comments at 12.

[299] *See* ENGIE April 23 Reply Comments at 7; Data Center Coalition April 23 Reply Comments at 5; Constellation April 23 Reply Comments at 22-23 (citing Kormos Aff. ¶ 4).

[300] *See* CATF April 25 Reply Comments at 7, 8; California Utilities April 23 Reply Comments at 2; Glatz/Silverman April 23 Reply Comments at 10; NRDC April 23 Reply Comments at 8-9; PIOs April 23 Reply Comments at 22; Pennsylvania Commission April 22 Reply Comments at 7; OPSI April 23 Reply Comments at 3.

[301] ELCON April 23 Reply Comments at 9; PIOs April 23 Reply Comments at 16-18, 20, 23; AEU April 23 Reply Comments at 22; Data Center Coalition April 23 Reply Comments at 9-10; Ohio FEA April 23 Reply Comments at 4; Constellation April 23 Reply Comments at 47; ACEG April 23 Reply Comments at 5, 7; Buckeye April 23 Reply Comments at 11.

current load forecasting methodology often reflects inconsistent assumptions. Ohio FEA states that installing large off-system loads behind existing generators adds complexity, including that the load would not be captured in the annual load forecasting and planning processes conducted by LSEs and PJM. Constellation and Data Center Coalition support increased transparency in forecasting. PIOs, Data Center Coalition, and ACEG argue for reforms to the load forecasting process to ensure that forecasted data center load is commitment-backed. PIOs state that PJM's load forecasting process does not include sufficient controls or standards to prevent speculative additions of large load from entering PJM's load forecast. ELCON, PIOs, and Buckeye argue that overestimating load growth could lead to substantial overbuilding of infrastructure, which increases costs for consumers. PIOs also argue that inaccurate load forecasting can artificially inflate the reserve margin in PJM's capacity market, which could result in unnecessary price increases.

142. At the same time, ELCON states that underestimating load growth could cause reliability challenges.[302] ELCON states that enhanced transparency regarding both front-of-the-meter and behind-the-meter loads is necessary to enable operators to ascertain real-time load behavior, including the potential for excess power injection and reliance on back-up services during on-site interruptions.

143. PIOs argue that consistent with the Commission's Rule of Reason doctrine, PJM's Large Load Forecast Process should be in its Tariff.[303] ELCON states that the Commission should convene a dialogue addressing load forecasting methodologies and how to facilitate communication among state and federal regulators, transmission operators, generators, and customers to ensure all parties are positioned to serve all customers reliably and affordably.[304] United States Senators maintain that the Commission should consider broader proceedings that would standardize load forecasting and other practices relevant to addressing data center demand growth.[305]

144. In its response to then-Chairman Rosner's letter to the RTOs/ISOs asking about large load forecasting, PJM explains that it currently relies on Electric Distribution Companies (EDCs) and LSEs within the PJM footprint to provide relevant data on large load requests because PJM does not presently have a load interconnection process.[306]

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[302] ELCON April 23 Reply Comments at 9.

[303] PIOs April 23 Reply Comments at 19.

[304] ELCON April 23 Reply Comments at 8.

[305] United States Senators November 25 Letter at 3.

[306] PJM Response to Then-Chairman Rosner at 4.

PJM states that load interconnection processes are generally administered through retail tariffs. PJM states that, based on its survey of certain EDCs and LSEs, there are a wide range of approaches to load adjustment processes, from requiring financial commitments based on a minimum demand to using less stringent approaches. PJM also discusses how it recently enhanced transparency in its load adjustment request submission process by publishing the Load Adjustment Request Implementation Document that addresses load forecasting methods and PJM's need for certain information from forecast submitters.[307] PJM explains that it relies on historical data when available for forecasting purposes, but when utilities have no historical data, utilities rely on milestone tracking and customer representations about expected demand.[308] Lastly, PJM notes that utilities share best practices on load adjustment at the Load Analysis Subcommittee.[309]

G. Other Arguments

145. Several commenters highlight the importance of data centers and AI to national security, particularly defense operations.[310] Several commenters also urge the Commission to act quickly, given that data centers seeking to connect and take service from the grid may face delays of seven to ten years before they can receive power. Several commenters argue that certainty is critical to foster national security goals associated with AI development. Indicated Transmission Owners contend that any attempt to change the PJM Tariff would likely stymie data-center development, as new terms would require development through the PJM stakeholder process, followed by Commission consideration and acceptance.

146. NOVEC and Market Monitor argue that national security is broader than AI and that other customers are vital to national security, such as existing large industrial customers and commercial and residential load.[311] Market Monitor also argues that any national security issues relate not to co-location but to serving data center load. NOVEC also notes the Commission should consider whether the price increases that Co-Located

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[307] *Id.* at 2, 6.

[308] *Id.* at 6.

[309] *Id.* at 7.

[310] *See* National Security Experts April 22 Reply Comments at 1; Constellation April 23 Reply Comments at 15-17; AEU April 23 Reply Comments at 25; PSE&G March 24 Response at 1, 20; BCSE April 23 Reply Comments at 2.

[311] NOVEC April 23 Reply Comments at 19; Market Monitor April 23 Reply Comments at 7.

Load could cause may threaten national security by harming existing data centers and the general prosperity of the United States.

147. Parties argue that co-location offers a number of benefits to the grid that lower costs for customers. Several parties argue that Co-Location Arrangements can make efficient use of existing transmission infrastructure and forestall the need for new infrastructure investments.[312] For example, California Utilities and Constellation argue that Co-Location Arrangements decrease line losses. In addition, Constellation argues that the benefits of co-location include speed to market, increased interconnection availability, and extended facility utilization. ENGIE contends Co-Location Arrangements can offer environmental benefits by encouraging the use of renewable energy sources and energy-efficient technologies.[313] ENGIE also argues Co-Location Arrangements that provide benefits to the grid such as back-up service should be compensated for those benefits.[314] Enchanted Rock argues that in regions with centralized transmission, but insufficient local generation, co-location can help reduce congestion and backfill any required transmission contingencies in the short-term.[315] Indicated Transmission Owners note that the addition of end-use load typically benefits other customers with respect to transmission costs because it spreads the shared costs more broadly.[316] However, Indicated Transmission Owners also argue that many loads provide benefits to the grid but are still required to pay their share of grid services.[317]

148. Several parties argue that Co-Location Arrangements may encourage the development of new generating resources that can contribute to increased capacity and grid reliability.[318] CATF states Co-Located Loads can provide demand response, access

[312] ENGIE April 23 Reply Comments at 7; Constellation April 23 Reply Comments at 100-103; EDFR April 23 Reply Comments at 7; Enchanted Rock April 23 Reply Comments at 17-18; PSE&G March 24 Response at 7, 20; AES Ohio March 24 Response at 14; Enchanted Rock April 23 Reply Comments at 17; CATF April 25 Reply Comments at 12; California Utilities April 23 Reply Comments at 2.

[313] ENGIE April 23 Reply Comments at 7.

[314] *Id.*

[315] Enchanted Rock April 23 Reply Comments at 12.

[316] Indicated Transmission Owners March 24 Response, attach. A at 22.

[317] Indicated Transmission Owners June 3 Reply Comments at 11.

[318] ENGIE April 23 Reply Comments at 7; Chevron April 23 Reply Comments at 6.

to lower cost power, or black start and other ancillary services, and can help states to meet their clean energy obligations.[319] EDFR states that large loads can also benefit: (1) existing generators by locating in areas with surplus energy that would otherwise be curtailed; (2) American industries looking for access to affordable, carbon-free energy; and (3) local communities through tax revenue, construction jobs, and employment.[320]

149. Constellation states that consumers bear no risk related to owning and operating merchant generating resources originally paid for in base rates.[321] Further, Constellation argues that consumers only paid for service, not for assets. On the other hand, NOVEC argues that given the historical cost-of-service arrangements for nuclear power plants that now, in part, make them attractive for these bilateral contracts, it would be unfair to dedicate such legacy generation to a single private customer after customers at large paid for such facilities and took the risks of construction since the time such resources were built.[322] NOVEC urges the Commission to consider the legacy costs that retail customers bore before allowing private parties to dedicate the remaining benefits of existing generation to Co-Located Load and argues that the Commission should not permit any co-location paradigm that removes nuclear generation from the capacity market. NOVEC contends that nuclear units serve an important role in PJM's energy and capacity market, and notes that Market Monitor has described them as "baseload power." Although NOVEC agrees in principle that owners of generation assets should be able to seek to maximize the beneficial ownership of those assets, NOVEC argues that the Commission has the responsibility to reject proposals that are not just and reasonable because the Federal Power Act is a consumer protection statute.[323] NOVEC notes that the Commission has periodically observed how the legacy of the pre-restructuring period has created inequities and the possibility of unjust and unreasonable results.[324]

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[319] CATF April 25 Reply Comments at 12.

[320] EDFR April 23 Reply Comments at 8.

[321] Constellation April 23 Reply Comments at 107-108.

[322] NOVEC April 23 Reply Comments at 7, 15-17.

[323] *Id.* at 16 (citing *Xcel Energy Services, Inc. v. FERC*, 815 F.3d 947, 952 (D.C. Cir. 2016) ("It is long-established that the 'primary aim [of the FPA] is the protection of consumers from excessive rates and charges.'" (quoting *Mun. Light Bds. of Reading & Wakefield v. FPC*, 450 F.2d 1341, 1348 (D.C. Cir. 1971))).

[324] *Id.* at 17. For example, NOVEC states that in Opinion No. 494, the Commission found that the costs of legacy transmission facilities which were built to serve the transmission systems of individual companies and their customers could not be allocated to the entire PJM region under the Commission's cost causation principles.

150. A number of parties urge that any Commission action in this proceeding provide flexibility for different regions[325] and/or different co-location configurations.[326] California Utilities request that the Commission recognize that approaches to co-located facilities must be tailored to account for different state regulators, self-regulated non-jurisdictional entities, and regions.[327] ENGIE contends that flexibility can enhance system reliability as configuration design can provide multiple pathways for power delivery.[328]

151. Enchanted Rock and CATF oppose PJM's suggestion in option 8 to ease air pollution standards for co-located generation.[329] Relatedly, Center argues that the Commission should consider the environmental implications of rules that encourage the growth of data centers or other large load facilities, including the climate change threats they pose, and should encourage renewable power to these facilities.[330]

III. Notice of Show Cause Proceeding and Responsive Pleadings

152. Notice of the Show Cause Order was published in the *Federal Register*, 90 Fed. Reg. 10818 (Feb. 27, 2025), with interventions due on or before March 13, 2025. The Appendix identifies entities that submitted notices of intervention and motions to intervene, as well as abbreviations for those entities. Numerous entities submitted comments and protests, as summarized in this order. Answers were submitted by Constellation, Vistra, Buckeye, PSE&G, PPL, and Indicated Transmission Owners.

NOVEC explains that the instant situation is the inverse, but claims that it implicates the same principle. *Id.* (citing *PJM Interconnection, L.L.C.*, Opinion No. 494, 119 FERC ¶ 61,063, at P 42 (2007)).

[325] EDFR April 23 Reply Comments at 7.

[326] Data Center Coalition April 23 Reply Comments at 4; ENGIE April 23 Reply Comments at 5-6; EDFR April 23 Reply Comments at 9; AEU April 23 Reply Comments at 10.

[327] California Utilities April 23 Reply Comments at 9.

[328] ENGIE April 23 Reply Comments at 6.

[329] CATF April 25 Reply Comments at 13, 14; Enchanted Rock April 23 Comments at 16-17.

[330] Center April 23 Reply Comments at 3-20.

153. On April 4, 2025, Vistra filed a motion for clarification and request for expedited treatment.[331] On April 9, 2025, Talen filed an answer to Vistra's motion. On April 22, 2025, EPSA, P3, Calpine, Cogentrix, Constellation, and LS Power (together, Joint Parties), pursuant to Rules 212 and 603 of the Commission's Rules of Practice and Procedure, filed Joint Comments, a Motion to Stay Proceedings, and a Request to Establish Settlement Judge Procedures (Motion to Stay).[332] AMP, Indicated Transmission Owners, PJM, NREMC, NOVEC, and Talen filed answers to the Motion to Stay.

154. On September 19, 2025, a letter from then-Chairman Rosner to PJM was filed in this proceeding; then-Chairman Rosner's letter requests information on load forecasting. On October 20, 2025, PJM's response to then-Chairman Rosner's letter was filed in this proceeding.

155. On November 21, 2025, Constellation filed a motion for expedited action. Constellation contends that the Secretary of Energy's October 23, 2025 proposal to the Commission of an Advanced Notice of Proposed Rulemaking (ANOPR) on large load interconnection to the transmission system underscores the urgent need for clarity regarding Co-Location Arrangements.[333] PJM timely answered and AEP, Exelon, Indicated Transmission Owners, ODEC, and Virginia Commission filed late answers to or comments on Constellation's motion for expedited action. Indicated Transmission Owners, ODEC, PJM, and Virginia Commission argue that Constellation's motion asks the Commission to prejudge issues raised in the ANOPR proceeding. PJM alleges that granting the motion would not only preempt the PJM stakeholder process concerning the integration of large loads, but also violate the principle that agencies should defer taking

[331] Vistra requests clarification regarding the Commission's interpretation of the November 1, 2024 Order in Docket No. ER24-2172 regarding whether it: (1) prejudged the permissibility of any particular co-location configuration; (2) indicated that the Commission generally opposes fully isolated behind the meter co-located load; or (3) prohibits parties from following the currently effective tariff rules and negotiating the terms of non-conforming ISAs pursuant to existing tariff provisions while this proceeding is underway.

[332] Joint Parties request that the Commission stay the show cause proceeding for a limited period of 90 days and establish settlement judge proceedings as expeditiously as possible to allow the parties to develop a new replacement rate.

[333] Motion at 3-4 (citing U.S. Department of Energy, Secretary of Energy, Direction that the 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 (Oct. 23, 2025)).

action in specific adjudicatory matters where such action would supplant ongoing generic rulemakings.[334] The Indicated Transmission Owners contend that granting the motion would cause confusion and unwarranted expense if it modified the PJM Tariff on an interim basis before addressing issues nationwide in the ANOPR proceeding.[335] The Indicated Transmission Owners further allege that granting the motion would result in a premature, improper jurisdictional determination in this proceeding.[336]

IV. Discussion

A. Procedural Matters

156. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2025), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

157. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d), we grant the late-filed motions to intervene given these entities' interests in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

158. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2), prohibits an answer to a protest or answer unless otherwise ordered by the decisional authority. We accept the answers because they have provided information that assisted us in our decision-making process.

B. Substantive Matters

159. As discussed further below, we find that the PJM Tariff is unjust and unreasonable because it does not contain provisions addressing with sufficient clarity or consistency the rates, terms, and conditions of service that apply to Interconnection Customers serving Co-Located Load and Eligible Customers taking transmission service on behalf of Co-Located Load. We find that the absence of such provisions leaves entities unable to determine what steps they must take to effectuate Co-Location Arrangements, which creates uncertainty that has resulted in disparate treatment in PJM, where transmission owners have taken different approaches to performing the necessary steps that apply to Interconnection Customers seeking to serve Co-Located Load through a Co-Location

[334] PJM Answer at 2 (citing *Cities of Anaheim v. FERC*, 723 F.2d 656, 659 (9th Cir. 1984).

[335] Indicated Transmission Owners Answer at 3.

[336] *Id.* at 5.

Arrangement, leading to no consistent understanding of entities' responsibilities with respect to their planned Co-Location Arrangements. We also find that PJM's Tariff is unjust and unreasonable because it does not include transmission services that reflect an Eligible Customer taking service on behalf of a Co-Located Load that is willing and able to limit its energy withdrawals from the transmission system under certain conditions. Further, we find that PJM's Tariff is unjust and unreasonable because it does not address charges related to Co-Located Loads' use of regulation and black start services, which introduces the risk that Co-Located Loads may benefit from regulation and black start services without contributing to cost recovery for such services and, thereby, the risk that costs may be allocated entirely to other transmission customers and passed through to residential customers, among others.

160. As a replacement rate, we direct PJM to revise its Tariff to require that an Interconnection Customer who will use its generating facility to serve Co-Located Load specify an Eligible Customer who will take transmission service on behalf of the Co-Located Load. We also direct PJM to establish three new transmission services that reflect that Eligible Customers taking service on behalf of Co-Located Load are willing and able to limit their energy withdrawals from the transmission system under certain conditions. Specifically, we direct PJM to revise its Tariff to allow Eligible Customers seeking to take NITS on behalf of Co-Located Load to, at their option, take a new interim, non-firm transmission service until all Network Upgrades necessary to provide NITS are complete. We further direct PJM to offer two other new transmission services—a Firm Contract Demand transmission service and a Non-Firm Contract Demand transmission service—that an Eligible Customer can choose to take on behalf of a Co-Located Load instead of taking NITS. These new transmission service options reflect a Co-Located Load's ability to limit withdrawals from the transmission system and potentially avoid costly and inefficient transmission system buildout that may not be necessary. Eligible Customers serving Co-Located Load that seek to rely on the transmission system to the same extent as Network Load customers will continue to be eligible to take NITS, billed on a gross demand basis. All Eligible Customers taking NITS or one of the new transmission services on behalf of Co-Located Load must be assessed charges for regulation and black start services on a gross demand basis, regardless of which transmission service they select, to ensure Co-Located Load contributes to cost recovery for such services. As noted below, a Co-Location Arrangement is synchronized to the transmission system.[337] We also seek briefing as to whether the rate paid by an Eligible Customer on behalf of a Co-Located Load taking only the new Non-Firm Contract Demand transmission service that elects to not reserve any amount of that service for a period of time (e.g., one month) reflect not only charges

[337] *See also* PJM March 24 Response at 42-43.

for regulation and black start services, but also an additional charge given that regulation and black start services could not be provided without the transmission system.

161. Next, we direct PJM to clarify its interconnection procedures and agreements to ensure that it is clear to both new and existing Interconnection Customers how to interconnect in a Co-Location Arrangement. Specifically, we direct PJM to revise its Tariff to make clear how Interconnection Customers can make use of provisional interconnection service, the ability to request interconnection service below nameplate capacity, the potential to accelerate the interconnection process under certain circumstances (e.g., where the request has no Network Upgrade costs and does not require further studies), and Surplus Interconnection Service to interconnect new generating facilities seeking to serve Co-Located Load. We also direct PJM to revise its Tariff to clarify the procedures for the study necessary to determine any modifications to interconnection facilities or Network Upgrades to the transmission system PJM finds are needed to maintain transmission system reliability as a result of the Interconnection Customer's request to modify its interconnection service level for an existing generating facility to serve Co-Located Load. These clarifications also require existing Interconnection Customers to pay the full cost of any such modifications to interconnection facilities or Network Upgrades to the transmission system and specify that an existing generating facility cannot withdraw its capacity from the system to begin serving a Co-Located Load until all such modifications and Network Upgrades necessary to maintain reliability for existing customers are in service.

162. In furtherance of the Commission's mandate to ensure just and reasonable rates for consumers, the replacement rate will ensure that Eligible Customers on behalf of Co-Located Load take transmission service and incur transmission costs in a way that is at least roughly commensurate with their derived benefits. The replacement rate will also ensure that Eligible Customers on behalf of Co-Located Load are able to take transmission services that reflect their actual impact on the transmission system, which in many cases may be more limited relative to conventional front-of-meter load and generation. Collectively, the replacement rate provides pathways that recognize Co-Located Loads that limit their energy withdrawals from the transmission system, which may require fewer Network Upgrades, and therefore may result in lower Network Upgrade costs as compared to requiring all Eligible Customers taking service on behalf of Co-Located Load to take NITS.

163. The remainder of this determination is organized as follows. Part IV.B.1 establishes the definition of Co-Located Load and directs PJM to incorporate this definition into its Tariff. Part IV.B.2 addresses the Commission's and the states' jurisdiction over Co-Location Arrangements. Part IV.B.3 explains why PJM's Tariff is not just and reasonable absent provisions addressing the rates, terms, and conditions of service that apply to Interconnection Customers seeking to serve Co-Located Load and Eligible Customers taking transmission service on behalf of Co-Located Load.

Part IV.B.4 directs a replacement rate that establishes just and reasonable rates, terms, and conditions of service for Eligible Customers taking transmission service on behalf of Co-Located Load and for Interconnection Customers that serve Co-Located Load. Part IV.B.4 also establishes paper hearing procedures to gather additional record evidence to set the appropriate replacement rate. The remaining sections address other issues raised in the record.

1. Definition

164. The Show Cause Order used the following definition of Co-Located Load: a "'configuration [that] refers to end-use customer load that is physically connected to the facilities of an existing or planned Customer Facility on the Interconnection Customer's side of the Point of Interconnection to the PJM Transmission System.'"[338] We adopt that definition in this order as well. Indicated Transmission Owners object to this definition, arguing that this definition obscures that Co-Located Loads rely on the transmission system to receive service.[339] We disagree. This definition reflects the fact that the Co-Location Arrangement is physically connected to and synchronized to the transmission system. This relationship, and specifically the interconnection of the generator to the transmission system, is critical to the determinations we make below. We thus direct PJM to incorporate this definition into its Tariff on compliance as part of the replacement rate detailed below.

2. Jurisdiction

165. As the Commission explained at length in the Show Cause Order, the issues presented in this proceeding implicate both federal and state interests, and their resolution will require the involvement of both federal and state actors, including the Commission, state public utility commissions, and other state and local entities.[340] Recognizing the careful balance that the FPA strikes between federal and state regulation, we make several findings below, including that: (1) states retain exclusive authority over the specific terms of retail sales, generator siting, the generation mix, and transmissions in intrastate commerce; (2) the Commission retains the authority to oversee the terms and conditions of generator interconnection to any Commission-jurisdictional distribution facility or transmission facility,[341] including for generators that serve or plan to serve

[338] Show Cause Order, 190 FERC ¶ 61,115 at P 3 & n.4 (citation omitted).

[339] Indicated Transmission Owners March 24 Response at 7 n.17.

[340] *See* Show Cause Order, 190 FERC ¶ 61,115 at P 66.

[341] *See infra* P 172.

Co-Located Load; and (3) the Commission has the authority to ensure that the rates for transmission service in interstate commerce are just and reasonable.

166. Because the Commission is a creature of statute, it has jurisdiction only over those matters that Congress has given it the authority to regulate.[342] Section 201(b)(1) of the FPA gives the Commission jurisdiction over the transmission of electric energy in interstate commerce, the sale of electric energy at wholesale in interstate commerce, and all facilities for such transmission or sale of electric energy.[343] The FPA reserves to the states authority over any matters not expressly conveyed to the Commission,[344] which includes retail sales and wholesale sales not in interstate commerce, as well as the facilities used for the generation and distribution of electricity, except as where otherwise provided.[345] The Supreme Court has long held regulation of these matters to be within the states' historical police powers,[346] and the Court has observed that the FPA's jurisdictional divide "was drawn with meticulous regard for the continued exercise of state power, not to handicap or dilute it in any way."[347] We adhere to those principles here.

a. Areas of Exclusive State Authority

167. We find that several aspects of Co-Location Arrangements fall squarely within the jurisdiction of the states. First, states retain exclusive authority over the specific terms of retail sales and retail rate design, including how the costs of interstate wholesale sales and transmission of electricity assigned to a wholesale customer are allocated among that wholesale customer's retail customers. Although "a State may not conclude in setting

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[342] *Atl. City Elec. Co. v. FERC*, 295 F.3d 1, 8 (D.C. Cir. 2002).

[343] 16 U.S.C. § 824(b)(1).

[344] *Nat'l Ass'n of Regul. Util. Comm'rs v. FERC*, 964 F.3d at 1187 (citing *N. Nat. Gas Co. v. State Corp. Comm'n of the State of Kan.*, 372 U.S. 84, 91-93 (1963)).

[345] 16 U.S.C. § 824(b)(1); *see Dayton Power & Light Co. v. FERC*, 126 F.4th 1107, 1129 (6th Cir. 2025).

[346] *See, e.g.*, *Munn v. People of State of Ill.*, 94 U.S. 113 (1876).

[347] *Oneok, Inc. v. Learjet, Inc.*, 575 U.S. 373, 384-85 (2015) (discussing the analogous provisions in the Natural Gas Act) (quoting *Panhandle E. Pipe Line Co. v. Pub. Serv. Comm'n of Ind.*, 332 U.S. 507, 517-18 (1947)); *see also Nw. Cent. Pipeline Corp. v. State Corp. Comm'n of Kan.*, 489 U.S. 493, 511 (1989)).

retail rates that the FERC-approved wholesale rates are unreasonable,"[348] it is within a state's exclusive jurisdiction to determine how those FERC-approved rates are collected among the relevant retail consumers, including retail consumers that are Co-Located Load.[349] Therefore, states have exclusive jurisdiction over how the costs assigned to Eligible Customers on behalf of Co-Located Load taking Commission-jurisdictional transmission services — including the new transmission services directed below — are allocated to individual retail consumers that are Co-Located Load, just as states have exclusive jurisdiction over how to allocate the costs of all Commission-jurisdictional rates (including for energy, capacity, and transmission) among retail customers, including allocating costs among different classes of retail customers.[350] Regulation of wholesale sales that are not in interstate commerce also falls to the states; we agree with commenters who note this distinction.[351] We disagree with some parties' claim that there could be a regulatory gap under state law,[352] as Co-Located Load that is not served by an islanded generator[353] may receive some services from the distribution and transmission systems. We also agree with Pennsylvania Commission and OPSI that the commission that regulates each portion of the respective systems has jurisdiction over those services.[354]

168. Second, we affirm the Commission's statement from the Show Cause Order that states retain the exclusive authority through state franchise laws to regulate which entities may make retail sales within their borders, and thus the states determine which entities

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[348] *Nantahala Power & Light Co. v. Thornburg*, 476 U.S. 953, 966 (1986).

[349] *See, e.g.*, PIOs April 23 Reply Comments at 42.

[350] Order to Show Cause, 190 FERC ¶ 61,115 at P 68.

[351] *See, e.g.*, OPSI April 23 Reply Comments at 5.

[352] Those parties specifically note concerns where, for example, a single generator provides service to a single customer or one large industrial end-use customer sells electricity to another large industrial end-user within the same complex. *See* PJM March 24 Response at 27; PPL April 23 Reply Comments at 7.

[353] A fully islanded generator is one that is engaged in a self-sufficient arrangement with its load where the load and generation together are *both* fully electrically isolated from the transmission system. *See* Farhan Noor et al., *Unintentional Islanding and Comparison of Prevention Techniques* at 90 (2005), https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=1560507&tag=1.

[354] *See* Pennsylvania Commission April 22 Reply Comments at 4-5; OPSI April 23 Reply Comments at 5-6.

are legally permitted to provide electricity to retail customers in Co-Location Arrangements.[355] Nothing in this order changes who may provide, and bill for, retail service to a Co-Located Load. Furthermore, as OPSI explains, that parties seeking clarification of the extent to which a generator's retail sale of energy to Co-Located Load is state jurisdictional may file a petition for declaratory order with the relevant state commission.[356]

169. Third, we confirm that states have authority over their generation resource mix, including through their siting authority.[357] This authority means that which generating facilities are sited and allowed to serve Co-Located Load is also a question of state law.[358] That is true notwithstanding the fact that PJM's markets might indirectly influence the resource mix through, for example, capacity market price signals that affect resource entry and exit.[359]

170. Finally, we decline in this proceeding to comprehensively address jurisdictional matters regarding the interconnection of retail loads served through a Co-Location Arrangement to the interstate transmission system. As discussed below, we conclude that the Commission has jurisdiction to oversee the interconnection of generating facilities, including the generators that are used to serve Co-Located Load, to the interstate transmission system, as well as jurisdiction over the provision of transmission service in interstate commerce used by an Eligible Customer to serve Co-Located Load. We find that these determinations are sufficient to resolve the issues in this proceeding. Therefore, we establish requirements below that apply to Interconnection Customers

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[355] Show Cause Order, 190 FERC ¶ 61,115 at PP 68-69.

[356] OPSI April 23 Reply Comments at 5-6.

[357] *See, e.g.*, *Citizens Action Coal. of Ind., Inc. v. FERC*, 125 F.4th 229, 238 (D.C. Cir. 2025) (citing 16 U.S.C. § 824(b)(1)).

[358] *See FERC v. Elec. Power Supply Ass'n*, 577 U.S. 260, 267 (2016) (*EPSA*) ("the Commission may not regulate . . . retail sales of electricity (i.e., sales directly to users)"); Show Cause Order, 190 FERC ¶ 61,115 at P 69 ("under the FPA, the states get to determine which entities are legally permitted to provide electricity to retail customers in co-location arrangements").

[359] *Accord EPSA*, 577 U.S. at 281 ("It is a fact of economic life that the wholesale and retail markets in electricity, as in every other known product, are not hermetically sealed from each other. To the contrary, transactions that occur on the wholesale market have natural consequences at the retail level. And so too, of necessity, will FERC's regulation of those wholesale matters.").

seeking to serve Co-Located Load as well as Eligible Customers taking interstate transmission service on behalf of Co-Located Load.

b. The Commission Has Jurisdiction over Generation Interconnection

171. The Commission retains exclusive jurisdictional authority to ensure that the rates, charges, and classifications for the interstate wholesale sale and transmission of electricity, as well as the practices directly affecting such sale and transmission of electricity, are just and reasonable and not unduly discriminatory or preferential.[360] We agree with commenters that a generator's interconnection to the interstate transmission system does not fall outside of the Commission's jurisdiction merely because there is Co-Located Load behind the generator's point of interconnection.[361] The Commission retains exclusive jurisdiction to oversee the interconnection of generating facilities to the interstate transmission system, including where generators serve Co-Located Load.

172. Regarding generation interconnection, the Commission retains exclusive authority to regulate the procedures and agreements that apply to the interconnection of a generator that will make wholesale sales, both where the generator interconnects directly to the interstate transmission system and where a generator interconnects to dual-use distribution facilities.[362] The standard interconnection procedures and agreements first adopted in Order No. 2003 apply when an interconnection customer "that plans to engage in a sale for resale in interstate commerce or to transmit electric energy in interstate commerce"[363] requests interconnection to the facilities of a public utility's transmission system or distribution system "that, at the time the interconnection is requested, may be used either to transmit electric energy in interstate commerce or to sell electric energy at wholesale in interstate commerce pursuant to a Commission-filed Open Access

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[360] 16 U.S.C. §§ 824d, 824e; *see EPSA*, 577 U.S. at 278 (2016) (approving "a common-sense construction of the FPA's language, limiting the Commission's 'affecting' jurisdiction to rules or practices that 'directly affect the wholesale rate'" (cleaned up)).

[361] *See* Talen April 23 Reply Comments at 8.

[362] *See NARUC*, 475 F.3d at 1282 (FERC's exercise of jurisdiction "only over 'interconnections to a 'distribution' facility when the facility is included in a public utility's Commission-filed OATT *and* the interconnection is for the purpose of facilitating a jurisdictional wholesale sale of electric energy'" is permissible and not an example of jurisdictional "boot-strapping").

[363] Order No. 2003, 104 FERC ¶ 61,103 at P 804.

Transmission Tariff (OATT)."[364] In particular as to distribution-level interconnections, Order Nos. 2003 and 2006 established what is sometimes referred to as the "first use" test, under which the first interconnection to a distribution facility for the purpose of making wholesale sales is not typically Commission-jurisdictional because the facility is not at the time of the request used to transmit electric energy in interstate commerce or subject to wholesale open access under an OATT.[365] This jurisdictional application has been found to be consistent with the FPA.[366] Furthermore, once the generator has interconnected, the Commission retains authority over the generator's wholesale sales in interstate commerce.

c. The Commission Has Jurisdiction to Ensure that Eligible Customers Taking Service on Behalf of Co-Located Loads Are Allocated Costs for Transmission Service

173. We affirm that the Commission has exclusive jurisdiction over the provision of transmission service used by an Eligible Customer to serve Co-Located Load, again

[364] *Id.*; *see also Standardization of Small Generator Interconnection Agreements & Procs.*, Order No. 2006, 111 FERC ¶ 61,220, at P 5, *order on reh'g*, Order No. 2006-A, 113 FERC ¶ 61,195 (2005), *order granting clarification*, Order No. 2006-B, 116 FERC ¶ 61,046 (2006) ("this Final Rule applies only to interconnections with facilities that are already subject to the Transmission Provider's OATT at the time the Interconnection Request is made").

[365] *See* Order No. 2003, 104 FERC ¶ 61,103 at P 804; Order No. 2006, 111 FERC ¶ 61,220 at P 481 (explaining that "only facilities that already are subject to the Transmission Provider's OATT are covered by this rule [and that] the Commission is not encroaching on the States' jurisdiction"). The interconnection of a second generator to the same distribution facility for the purpose of engaging in wholesale sales *is* jurisdictional, however, because the facilities are already being used to facilitate wholesale transactions and are subject to wholesale open access, meaning that it and any subsequent wholesale generators must utilize the Commission-jurisdictional generator interconnection procedures and agreements. *Participation of Distributed Energy Res. Aggregations in Mkts. Operated by Reg'l Transmission Orgs. & Indep. Sys. Operators*, Order No. 2222, 172 FERC ¶ 61,247, at P 93 (2020), *order on reh'g*, Order No. 2222-A, 174 FERC ¶ 61,197, *order on reh'g*, Order No. 2222-B, 175 FERC ¶ 61,227 (2021).

[366] *See NARUC*, 475 F.3d at 1280-82 ("By establishing standard agreements FERC has exercised its jurisdiction over the *terms* of those relationships.") (citing *TAPS*, 225 F.3d at 696 ("FPA § 201 makes clear that *all aspects* of wholesale sales are subject to federal regulation, regardless of the facilities used.")).

provided that transmission of electricity is in interstate commerce.[367] As part of its transmission authority, the Commission has exercised jurisdiction over the terms of certain interconnections to the transmission system as "an essential element of [t]ransmission [s]ervice"[368] and we agree with commenters who note the same.[369] The Commission also "may exercise jurisdiction over generation facilities to the extent necessary to regulate interstate transmission"[370] and may require "physical changes" to those facilities as long as the changes "bear a close enough relation to [the Commission's] exercise of jurisdiction over jurisdictional transactions."[371] Similarly,

[367] *See supra* P 171. The Supreme Court has held that transmission facilities connected to the interstate grid operate in interstate commerce, but the presumption that transmission is in interstate commerce will not necessarily hold if transmission-level facilities are not connected to that interstate grid. *See New York v. FERC*, 535 U.S. at 16 (citing *FPC v. Fla. Power & Light Co.*, 404 U.S. 453, 466-67 (1972) (*Florida Power*)); *see also Florida Power*, 404 U.S. at 462-63 ("[The Commission's] alternative assertion that energy commingles in a bus is, in our opinion, sufficient to sustain [the Commission's] jurisdiction."). *See also* Market Monitor April 23 Reply Comments at 13.

[368] Order No. 2003-A, 106 FERC ¶ 61,220 at P 698; *see NARUC*, 475 F.3d at 1280 (affirming Order No. 2003 and observing that "interconnections appear to be relationships between parties with respect to electricity flowing over facilities. . . . By establishing standard agreements [the Commission] has exercised its jurisdiction over the *terms* of those relationships."). The Commission has reiterated this finding repeatedly. *Pac. Gas & Elec. Co.*, 115 FERC ¶ 61,193, at P 36 (2006) ("[I]nterconnection is part and parcel of transmission of electric energy in interstate commerce, and thus interconnection service is part and parcel of jurisdictional transmission service."); *see also id.* P 36 n.52 (citing *Tenn. Power Co.*, 90 FERC ¶ 61,238, at 61,761, *reh'g dismissed*, 91 FERC ¶ 61,271 (2000)).

[369] *See, e.g.*, Talen April 23 Reply Comments at 4-5 (explaining that the basis of the Commission's authority is that the ISA governing a generator serving Co-Located Load is Commission-jurisdictional).

[370] *TAPS*, 225 F.3d at 718; *NextEra Energy Res., LLC v. FERC*, 118 F.4th 361, 369 (D.C. Cir. 2024) (holding that an upgrade to a generator's equipment directly affects the transmission of electricity in interstate commerce and is therefore within the Commission's jurisdiction).

[371] *NARUC*, 475 F.3d at 1282.

"FERC may regulate electric generating facilities so long as it is addressing a practice affecting wholesale rates."[372]

174. We acknowledge, as the Supreme Court has recognized, that the boundaries between federal and state jurisdiction are not hermetically sealed.[373] The application of the principles outlined in this order to Co-Location Arrangements depends on the specific facts and circumstances presented in particular situations. We find, however, that the changes to the PJM Tariff that the Commission directs in this order properly draw on the Commission's authority under the FPA without infringing on states' authority.

3. Show Cause Findings

a. Overview

175. We find that PJM's Tariff is unjust and unreasonable because it does not contain provisions addressing with sufficient clarity or consistency the rates, terms, and conditions of service that apply to Interconnection Customers serving Co-Located Load and Eligible Customers taking transmission service on behalf of Co-Located Load.[374] As the Commission explained in the Show Cause Order, the absence of such provisions leaves entities unable to determine what steps they must take to effectuate Co-Location Arrangements of various configurations. Furthermore, this absence creates uncertainty that has resulted in disparate treatment in PJM, where transmission owners have taken different approaches to performing the necessary steps that apply to Interconnection Customers seeking to serve Co-Located Load through a Co-Location Arrangement, leading to no consistent understanding of entities' responsibilities with respect to their planned Co-Location Arrangements.[375] The absence of such provisions also introduces the risk that Co-Located Load may benefit from regulation and black start services

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[372] *Nat'l Ass'n of Regul. Util. Comm'rs*, 964 F.3d at 1186 n.5; *accord La. Pub. Serv. Comm'n v. FERC*, 522 F.3d 378, 390 (D.C. Cir. 2008) (explaining that "the generating facility exception of Section 201(b)(1)" conferring authority over generation facilities to States "does not apply where jurisdiction is specifically provided for in certain specified sections of the [Federal Power] Act, including Sections 201 and 206.").

[373] *EPSA*, 577 U.S. at 281.

[374] *See, e.g.*, EPSA/P3 April 23 Reply Comments at 10.

[375] *See, e.g.*, Constellation, Complaint, Docket No. EL25-20-000 (filed Nov. 22, 2024); Baltimore Gas & Electric Company and PECO Energy Company, Petition for Declaratory Order, Docket No. EL24-149-000 (filed Sept. 30, 2024); Constellation April 23 Reply Comments at 4 n.4 (stating that "PJM is uniquely situated" in having an unjust and unreasonable tariff absent co-location rules).

without contributing to cost recovery for such services. Many parties to this proceeding filed comments supporting the Commission's preliminary finding that PJM's Tariff lacks sufficient clarity or consistency as to the rules for Co-Location Arrangements.[376] We are not persuaded by PJM's argument that its Tariff remains just and reasonable, because while PJM asserts that its existing Tariff permits Co-Location Arrangements, PJM recognizes that there is a lack of clarity and consistency in the Tariff regarding the rules for Co-Location Arrangements.[377]

176. First, we find the PJM Tariff unjust and unreasonable because there is a lack of sufficient clarity or consistency as to the rates, terms, and conditions of service that apply to Interconnection Customers serving Co-Located Load. As such, Interconnection Customers seeking to use their generating facilities to serve Co-Located Load have no means of knowing the appropriate mechanism for setting forth the terms and conditions of Co-Location Arrangements. Moreover, without an Eligible Customer designated to

[376] *See* Constellation May 8 Answer at 9 ("In sum, the record in this proceeding unequivocally supports the Commission's preliminary finding that the PJM Tariff lacks clear co-location rules and is unjust and unreasonable."); *see also* AEU April 23 Reply Comments at 19 ("Loads and generators pursuing [C]o-[L]ocation [A]rrangements need clarity as to how these arrangements will be studied, and how those studies will be evaluated. There must be a level of uniformity and detail outlining study requirements to ensure regulatory certainty for large loads and new generation and storage resources seeking to serve large loads. This level of uniformity is currently lacking in PJM's interconnection procedures and cost allocation methodology . . . ."); EPSA/P3 April 23 Reply Comments at 2 ("EPSA and P3 agree with the Commission that PJM needs to establish tariff provisions and rules to accommodate the array of [C]o-[L]ocated [L]oad arrangements that will facilitate the timely and effective integration of large loads locating in the region."); DCC April 23 Reply Comments at 7 (". . . [T]he Commission should direct PJM to develop clear, enforceable tariff language that affirms the permissibility of multiple co-location configurations, including those where load is served directly from a generation resource located on or near the same site. Tariff clarity is essential to reduce unnecessary disputes, avoid case-by-case confusion, and enable transmission providers to process interconnection and load addition requests efficiently and predictably.").

[377] PJM March 24 Response at 32 ("Nevertheless, clarifications and enhancements could well be in order given that this is an evolving area and Tariff provisions did not contemplate the type of arrangements at issue in this docket or their implications."); *id.* at 35 ("The extent to which netting [rules under the PJM Tariff] could or should apply to co-located data center load is not clear at this time."); *see also* Vistra April 23 Reply Comments at 11 (arguing that PJM has "effectively conceded" that the PJM Tariff does not contain sufficient clarity).

take transmission service on behalf of a Co-Located Load, there is no mechanism for PJM to address situations in which a Co-Located Load withdraws energy from the transmission system. As described in Part IV.B.4.a, we therefore direct PJM to file, as the first part of the replacement rate, revisions to the generation interconnection procedures of the Tariff, including to require an Interconnection Customer who will use its generating facility to serve Co-Located Load to specify an Eligible Customer who will take transmission service on behalf of the Co-Located Load. We also direct PJM to file Tariff changes specifying that an Interconnection Customer seeking to serve Co-Located Load using an existing generating facility must bear the costs of all Network Upgrades that PJM finds are necessary to preserve transmission system reliability for existing transmission customers, and that an existing generating facility cannot begin service to a Co-Located Load until all required Network Upgrades are in service. This requirement will protect existing transmission customers from transmission reliability risks and from bearing the cost of Network Upgrades required for an Interconnection Customer to begin serving Co-Located Load. Furthermore, as described in Part IV.B.4.d, we direct PJM to revise its Tariff to clarify that an Interconnection Customer seeking to serve a Co-Located Load with a newly interconnecting generating facility may: (1) request interconnection service at a level below its maximum facility output; (2) use existing procedures in the PJM Tariff to accelerate the study of the interconnection service request if the request has no cost allocation for Network Upgrades and does not require further studies; (3) request provisional interconnection service; and (4) request Surplus Interconnection Service.

177. Second, we also find that PJM's Tariff is unjust and unreasonable because it does not include transmission services that reflect Eligible Customers[378] taking service on behalf of Co-Located Loads that are willing and able to limit their energy withdrawals from the transmission system under certain conditions. As discussed below, requiring Eligible Customers taking transmission service on behalf of Co-Located Load to take NITS, without the option to instead take the new transmission services set forth in this order, would be inefficient. Specifically, for Eligible Customers taking service on behalf of Co-Located Loads that do not reserve transmission or take energy from the transmission system but which receive only regulation and black start services, or that otherwise are willing and able to limit their energy withdrawals from the transmission system, requiring such Eligible Customers to take NITS on behalf of these Co-Located Loads may in some circumstances result in costly and inefficient transmission system

[378] PJM defines Eligible Customer as: "(i) Any electric utility … or any person generating electric energy for sale for resale … (ii) Any retail customer taking unbundled transmission service pursuant to a state requirement that the Transmission Provider or a Transmission Owner offer the transmission service, or pursuant to a voluntary offer of such service by a Transmission Owner, is an Eligible Customer under the Tariff . . . ." PJM, Intra-PJM Tariffs, OATT, § I.1 Definitions – E-F (41.0.0).

buildout that may not be necessary if such Eligible Customers are willing and able to take a transmission service that requires fewer Network Upgrades to provide, and therefore may result in lower Network Upgrade costs, than would NITS. Moreover, we find that PJM's Tariff is unjust and unreasonable because it does not address charges related to Co-Located Loads' use of regulation and black start services, which introduces the risk that Co-Located Load may benefit from regulation and black start services without contributing to cost recovery for such services and, thereby, the risk that costs may be allocated entirely to other transmission customers and passed through to residential customers, among others.[379] Specifically, the record demonstrates that Co-Located Loads, which are synchronized with the PJM transmission system, use regulation and black start services, as explained below. In addition to regulation and black start services, Co-Located Loads that withdraw energy from the transmission system are taking transmission service.

178. Therefore, as the second part of the replacement rate, we direct PJM to revise its Tariff to create three new transmission services that reflect that Eligible Customers taking service on behalf of Co-Located Loads are willing and able to limit their energy withdrawals from the transmission system under certain conditions. Specifically, we direct PJM to revise its Tariff to allow Eligible Customers seeking to take NITS on behalf of Co-Located Load to take a new interim, non-firm transmission service until all Network Upgrades necessary to provide the requested NITS are complete. We further direct PJM to offer two other new transmission services—a Firm Contract Demand transmission service and a Non-Firm Contract Demand transmission service[380]—that an Eligible Customer can choose to take on behalf of a Co-Located Load instead of taking NITS. Specific to these new transmission services, we establish paper hearing procedures to determine the just and reasonable rates, terms, and conditions for such services.

[379] While the replacement rate we establish in Part IV.B.4 applies to Eligible Customers taking transmission service on behalf of Co-Located Load, we intentionally refer at times only to Co-Located Load, for example, when explaining in our Show Cause findings how Co-Located Load uses certain services.

[380] Under this Non-Firm Contract Demand transmission service, we note that an Eligible Customer on behalf of a Co-Located Load may elect to not reserve any amount of transmission service to the extent that the Eligible Customer will not withdraw any electricity from the transmission system. In such a scenario, as discussed below, the Eligible Customer taking the Non-Firm Contract Demand transmission service on behalf of a Co-Located Load will be charged for regulation and black start services, subject to the paper hearing established below.

179. Third, we find the existing BTMG rules in the PJM Tariff to be unjust and unreasonable. As discussed below, under the existing Tariff, loads with BTMG are not fully accounted for in resource adequacy planning. As such, the existing BTMG rules may lead to both reliability and resource adequacy risks because PJM, per its Tariff, is obligated to serve transmission customers using BTMG but does not consider such customers in transmission and resource adequacy planning. Thus, as the third part of the replacement rate, we direct PJM to revise its BTMG rules. Recognizing concerns raised in the record about the potential impacts on existing BTMG customers of the Commission changing PJM's BTMG rules, however, we direct PJM to maintain the current BTMG rules for customers that fall below a new MW materiality threshold for the amount of load at a particular electrical location that Network Customers may net using BTMG. We also direct PJM to implement a two-part transition process for retail BTMG, as discussed below, including: (1) the establishment of a three-year transition period; and (2) the ability to grandfather certain entities with existing contracts, as described further below. A materiality threshold for all BTMG should reduce the reliability and resource adequacy risks that large or increasing BTMG may pose to PJM, while also allowing for Network Customers to reduce their transmission charges in a transparent, not unduly discriminatory fashion.

180. Finally, because certain aspects of PJM's interconnection procedures do not clearly explain how and where they apply to Interconnection Customers seeking to serve Co-Located Load, we direct several clarifications to PJM's Tariff regarding interconnection procedures for these customers. In addition, we require PJM to file an informational report on several matters related to PJM's Critical Issue Fast Path (CIFP) stakeholder process and PJM's integration of new generation sufficient to serve forecasted large load additions within 30 days of the date of issuance of this order.

b. Transmission Service, Regulation and Black Start

181. The Commission's cost causation principle requires costs to be allocated to those who cause the costs to be incurred and reap the resulting benefits.[381] Courts and the Commission have acknowledged that adherence to the cost causation principle does not require that cost allocation methods balance costs and benefits with "exacting

[381] *See S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 41, 87 (D.C. Cir. 2014) ("[T]he Commission's adoption of a beneficiary-based cost allocation method is a logical extension of the cost causation principle[;] under that basic tenet, which we have repeatedly embraced, 'costs are to be allocated to those who cause the costs to be incurred and reap the resulting benefits.'"). *See also ICC v. FERC I*, 576 F.3d at 476 ("To the extent that a utility benefits from the costs of new facilities, it may be said to have 'caused' a part of those costs to be incurred, as without the expectation of its contributions the facilities might not have been built, or might have been delayed.").

precision."[382] Ultimately, the requirement is met so long as "all approved rates reflect to some degree the costs actually caused by the customer who must pay them[,]"[383] and this apportioning is done by ensuring that costs are "allocated in a manner that is at least roughly commensurate with benefits."[384]

182. There are significant costs to building, operating, and maintaining the transmission system to provide, as relevant here, transmission service, regulation service, and black start service, including fixed costs such as wires, poles, transformers, and substations, as well as ongoing maintenance and upgrades necessary to maintain reliability and serve load.[385] Transmission providers undertake substantial planning and make significant investments to minimize disruptions on the transmission system that may impact generators or force generators to go offline.[386]

183. There is significant agreement in the record that Co-Located Loads that are synchronized with the PJM transmission system use and benefit from at least some ancillary services and may be reasonably charged for such benefits.[387] The Commission

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[382] *Coal. of MISO Transmission Customers v. MISO*, 172 FERC ¶ 61,099, at P 83 & n.228 (2020) (quoting *Midwest ISO Transmission Owners*, 373 F.3d at 1369).

[383] *Id*. P 82 (quoting *KN Energy Inc. v. FERC*, 968 F.2d 1295, 1300 (D.C. Cir. 1992)).

[384] *Mun. Energy Agency of Neb. v. Pub. Serv. Co. of Colo.*, 189 FERC ¶ 61,099, at PP 41, 46 (2024) (citation omitted), *subsequent history omitted*; *see also Pub. Serv. Elec. & Gas Co.*, 989 F.3d at 13 (explaining that "although the Commission need not 'allocate costs with exacting precision,' the costs assessed against a party must bear some resemblance 'to the burdens imposed or benefits drawn by that party'") (quoting *Midwest ISO Transmission Owners*, 373 F.3d at 1368-69).

[385] *See, e.g.*, Indicated Transmission Owners March 24 Response at 3.

[386] *See, e.g.*, PJM March 24 Response at 42; ITC, Comments, Docket No. AD24-11, at 5 (filed Dec. 9, 2024).

[387] *See* Constellation April 23 Reply Comments at 34 ("[I]t may be appropriate to include some ancillary service charges, such as regulation and black start . . . ."); Constellation May 8 Answer at 14 ("To eliminate any debate and move past what always has been a peripheral issue, Constellation would support generator-contingent co-location rules that included ancillary service charges as part of a replacement rate."); Vistra April 23 Reply Comments at 26 ("Vistra acknowledges that it may be reasonable to charge a co-location configuration for some ancillary services . . . ."); ; Advanced Energy United April 23 Reply Commentsat 19 ("Ultimately, when large co-located loads come online, they will use some ancillary and other wholesale services, and should pay for the

has defined ancillary services as part of the costs of transmission services, specifically as those "that must be offered with basic transmission service under an open access transmission tariff … [and] needed to accomplish transmission service while maintaining reliability within and among control areas affected by the transmission service."[388] Also, as PJM notes, ancillary services "pass through transmission lines."[389]

184. Regulation service is necessary to provide for the continuous balancing of resources with load and for maintaining scheduled interconnection frequency at 60 cycles per second (60 Hz).[390] The cost of providing regulation service is currently charged or credited to LSEs and wholesale loads based on their pro rata share of the regulation requirements, net of BTMG, for the regulation zone for the hour (but not to be less than zero).[391] Regardless of whether a Co-Located Load is drawing energy from the transmission system, Co-Located Loads are unlikely to have a perfect load factor,[392] and it will therefore be necessary for PJM to use regulation service to maintain the power balance between the five-minute intervals of the real-time energy market. Depending on the Co-Location Arrangement, variability in the Co-Located Load may be reflected in the generator's net output to the transmission system. Any moment-to-moment variability in

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services as any customer would."); PIOs April 23 Reply Comments at 25 (". . . [C]o-location arrangements should pay for their share of transmission and ancillary services costs since the transmission system to which co-location arrangements connect deliver blackstart and other critical services to ensure reliability for these co-location arrangements.").

[388] *City of Holland, Mich. v. Midwest Indep. Transmission Sys. Operator, Inc.*, 123 FERC ¶ 61,187, at P 21 (2008) (citing Order No. 888, FERC Stats. & Regs. ¶ 31,036 at 31,705).

[389] PJM March 24 Response at 36.

[390] PJM, Intra-PJM Tariffs, OATT, sched. 3 (6.0.0).

[391] *Id. See also* PJM Manual 28. Regulation and Frequency Response Service is accomplished by committing on-line resources whose output is raised or lowered (predominantly through the use of automatic generating control equipment) and by other non-generation resources capable of providing this service as necessary to follow the moment-by-moment changes in load. Each LSE's share of the regulation requirement is based on its total load net of BTMG for the hour (but not to be less than zero). However, as discussed below, we find PJM's existing BTMG netting rules unjust and unreasonable.

[392] Load factor refers to "[t]he ratio of the average load to peak load during a specified time interval." U.S. Energy Info. Admin. (EIA), *Glossary* (last visited Dec. 2025), https://www.eia.gov/tools/glossary/index.php?id=L.

the Co-Located Load within real-time market intervals may be absorbed by the transmission system, meaning that unless an Eligible Customer takes transmission service on behalf of the Co-Located Load, there will be no charges for the benefits that this ancillary service provides. This variability will exist even if the Co-Located Load takes no energy from the transmission system. We therefore find that Eligible Customers taking one of the new transmission services on behalf of Co-Located Load must be assessed for regulation service on a gross demand basis at the existing Tariff rate, consistent with the Commission's cost causation principles.

185. Black start service is the ability of generators to start without an outside electric supply or remain operating when disconnected from the transmission system. The revenue requirements of units providing black start service are recovered from transmission customers based on coincident peak load.[393] While parties have noted that the generating facilities of some Interconnection Customers serving Co-Located Load may be able to provide black start service,[394] many cannot; and even if the generating facility of an Interconnection Customer can provide black start service, as long as it is connected to the transmission system, black start must be coordinated with the system operator to avoid damage to other components of the transmission system.[395] Therefore, Co-Located Loads that remain connected to the transmission system through an Interconnection Customer will benefit from black start service in a manner comparable to Network Loads. Further, as parties argue, Co-Located Loads rely on black start service for the restoration of the transmission system.[396] We therefore find that Co-Located Loads benefit from black start service even if they have zero net energy withdrawals and Eligible Customers taking one of the new transmission services on behalf of Co-Located Load must be assessed for this service based on gross demand basis at the existing Tariff rate.

[393] PJM, Intra-PJM Tariffs, OATT, sched. 6A (16.1.0).

[394] *See, e.g.*, Mainspring April 23 Reply Comments at 11.

[395] *See, e.g.*, PJM's March 24 Response at 42-43.

[396] *See, e.g.*, Indicated Transmission Owners March 24 Response at 13 n.29. *See also* PJM March 24 Response at 42 ("The load and generator are connected to and synchronized with the multi-state bulk power system. It is not operating as a micro grid (nor can it if the generating facility is a nuclear unit).").

c. BTMG

186. We find that circumstances have changed since the Commission approved PJM's retail BTMG rules such that these rules are no longer just and reasonable.[397] PJM explains that the BTMG rules were "conceived for, and [have] been implemented for, substantially smaller loads (like a warehouse with solar panels) and not on the scale of large data centers."[398] However, large loads, both existing and in the planning stages with PJM, have proliferated in recent years, and PJM has persuasively explained the problems that could occur if Network Customers with large loads were allowed to use the existing BTMG rules in the Tariff.[399] For example, PJM explains that "[a]llowing very large loads like data centers to net is problematic because loads in this configuration do not carry reserves."[400] Such loads must nevertheless be served, however, allowing them to "lean on the PJM system when the co-located generation is on a full or partial outage or if the load exceeds the rating of the co-located generation."[401] Importantly, PJM's existing BTMG rules do not limit the amount of qualifying load that a Network Customer may net by using BTMG and do not provide any protections against this potential transmission and resource adequacy planning problem or against the costs of maintaining sufficient resources to serve these loads being shifted onto other customers.[402] We therefore find that PJM's BTMG rules are no longer consistent with cost causation principles, because large loads configured in a BTMG arrangement with significant generation will raise cost shifting concerns compared to loads pursuing smaller amounts of netting. We find that PJM's existing BTMG rules may lead to both reliability and

[397] *See PJM*, 107 FERC ¶ 61,113; *ISO New England Inc.*, 173 FERC ¶ 61,198, at P 68 (2020) (finding new entrant rules unjust and unreasonable based on changed circumstances).

[398] PJM March 24 Response at 13.

[399] *See, e.g.*, Docket No. AD24-11-000, Large Loads Co-Located at Generating Facilities Tr. at 9:2-3 (noting that "large data centers [] need these significant new amounts of energy for their business"); *PJM Interconnection, L.L.C.*, 188 FERC ¶ 61,200, at P 5 (2024) ("PJM explains that the [tariff] proposal [to allocate load adjustments] was spurred by the recent proliferation of data centers that are contributing to large additions of forecasted load concentrated within a specific wholesale metering area.").

[400] PJM March 24 Response at 36.

[401] *Id.* at 13 n.5.

[402] PJM, Intra-PJM Tariffs, OATT, § III.34.2 Netting of Behind the Meter Generation (0.0.0).

resource adequacy risks because PJM, per its Tariff, is obligated to serve transmission customers using BTMG but does not consider such customers in transmission and resource adequacy planning. We clarify that, while the order is limited to Co-Located Loads, this finding applies to all Network Load.

4. Replacement Rate

a. Generation Interconnection Procedures, *pro forma* GIA, and Common Service Provisions

187. We direct PJM to submit a compliance filing to establish rules for Interconnection Customers serving Co-Located Load. As discussed below, we direct PJM to revise the generation interconnection procedures of the Tariff, the *pro forma* Generation Interconnection Agreement (GIA),[403] and Part I, Common Service Provisions, of the Tariff, and Attachment O, Appendix 2 of the Tariff.

188. First, we direct PJM to submit, within 60 days of the date of issuance of this order, a compliance filing to revise the generation interconnection procedures of the Tariff. In particular, we direct PJM to revise its OATT, VIII, Subpart B, section 403 - Application Rules to add to the list of requirements for a New Service Request that an Interconnection Customer who will use its generating facility to serve Co-Located Load must specify an Eligible Customer who will take transmission service on behalf of the Co-Located Load.[404] As part of that compliance filing, we also direct PJM to submit revisions to the generation interconnection procedures to specify any operational procedures or data

[403] We note that, as part of reforms to its interconnection process to transition from a serial first-come, first-served study process to a first-ready, first-served cluster study approach, PJM renamed its *pro forma* ISA to the *pro forma* GIA. *See PJM Interconnection, L.L.C.*, 181 FERC ¶ 61,162 (2022). The new *pro forma* GIA applies to interconnection requests subject to the transition period rules and the new rules accepted in the PJM queue reform proceeding. Interconnection Customers who executed interconnection agreements prior to the transition period executed an ISA. Accordingly, we refer to both ISAs and GIAs in this order, where applicable.

[404] An Eligible Customer could be, for example, any person generating electric energy for resale or any retail customer taking unbundled transmission service under certain conditions. For the full definition of Eligible Customer, see Part I.C. For a discussion of how an Eligible Customer may take transmission service on behalf of Co-Located Load, see *infra* P 189 n.407.

exchange requirements that PJM deems necessary for Co-Location Arrangements to remedy our finding that its Tariff lacks sufficient clarity or consistency.[405]

189. These Tariff revisions, which will apply to all Interconnection Customers requesting to interconnect their generating facilities to the transmission system and seeking to use those facilities to serve Co-Located Load,[406] will establish a requirement in the Tariff for the Eligible Customer to be charged for transmission and ancillary services that the Eligible Customer must take on behalf of the Co-Located Load—either NITS or the new transmission services described below in Part IV.B.4.b.iii.[407] To the extent that an Interconnection Customer wishes to serve Co-Located Load using its generating facility but not identify an Eligible Customer, then the Interconnection Customer may take steps to terminate its generating facility's interconnection to the PJM transmission system and serve the Co-Located Load fully islanded from PJM's transmission system.

190. Second, we direct PJM to submit, within 60 days of the date of issuance of this order, a compliance filing to revise its *pro forma* GIA. In particular, we direct revisions to OATT, Part IX, Subpart B GIA to specify that an Interconnection Customer that will use its generating facility to serve Co-Located Load must specify an Eligible Customer that will take transmission service on behalf of the Co-Located Load. We find that this revision will ensure that the charges for transmission and ancillary services taken by Eligible Customers to serve Co-Located Load are appropriately assigned to those Eligible Customers.

191. Third, we direct PJM to submit, within 60 days of the date of issuance of this order, a compliance filing to add a new provision to Part I, Common Service Provisions,

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[405] For example, PJM explains that "unique operational procedures and data exchange requirements like those proposed in the Susquehanna [Interconnection Service Agreement] should be developed and specified" and that *pro forma* agreements may require modification to specify, where applicable, the entities that own any Co-Located Load and contact information at the Co-Located Load for use during emergency and non-emergency situations. PJM March 24 Response at 60-62.

[406] *See PJM Interconnection, L.L.C.*, 189 FERC ¶ 61,078 at P 87 (*Susquehanna*) ("This [reliance on a generally applicable document for proposed non-conforming provisions] raises questions regarding whether PJM intends to offer these terms to all similarly situated interconnection customers.").

[407] There are several ways that an Eligible Customer could take transmission service on behalf of Co-Located Load. For example, subject to applicable state law, the Eligible Customer could create a corporate intermediary to serve the Co-Located Load, or the Co-Located Load, acting as an Eligible Customer, could request service from the relevant transmission owner directly.

of the Tariff that requires Interconnection Customers with ISAs or GIAs executed, or requested to be filed unexecuted, prior to the effective date of the revised generation interconnection procedures and *pro forma* GIA directed in this order that wish to add Co-Located Load or are currently serving Co-Located Load to publicly notify PJM of that addition and identify the Eligible Customer that will take transmission service on behalf of that Co-Located Load. As discussed further below, that Eligible Customer must abide by the terms of the Tariff, including terms regarding transmission service.

192. As a result of these requirements, an Interconnection Customer that requests to interconnect its generating facility to the PJM transmission system, or whose generating facility is already interconnected to the PJM transmission system, and seeks to serve Co-Located Load, or is currently serving Co-Located Load, using its generating facility must specify an Eligible Customer who will take transmission service on behalf of the Co-Located Load, thereby ensuring that the Eligible Customer will be the party responsible for executing a transmission service agreement, which will ensure that the charges for transmission and ancillary services are appropriately assigned.

b. Transmission Services

193. As discussed above, PJM's Tariff is unjust and unreasonable because it does not contain provisions addressing with sufficient clarity or consistency the rates, terms, and conditions of service that apply to Eligible Customers taking transmission service on behalf of Co-Located Load. Specifically, as above, we find that PJM's Tariff is unjust and unreasonable because it does not include transmission services that reflect Eligible Customers taking service on behalf of Co-Located Loads that are willing and able to limit their energy withdrawals from the transmission system under certain conditions. The following discussion relates to the types of transmission service that an Eligible Customer taking transmission service on behalf of a Co-Located Load must select from when it requests the required transmission service. We look to cost causation principles to determine what constitutes the Eligible Customer's just and reasonable share of transmission system costs and therefore direct a three-part replacement rate based on the degree to which the Eligible Customer on behalf of Co-Located Load takes transmission and ancillary services. Specifically, we direct PJM to submit, within 60 days of the date of issuance of this order, a compliance filing to modify its Tariff to require that the Eligible Customer taking transmission service on behalf of a Co-Located Load takes one of three transmission services: (1) NITS or a new interim, non-firm transmission service while Network Upgrades to provide full NITS service are constructed, (2) a new Firm Contract Demand transmission service, or (3) a new Non-Firm Contract Demand transmission service. As a part of this compliance obligation, PJM must ensure a transmission service agreement that reflects the rates terms, and conditions of these new transmission service options is available to Eligible Customers.

194. With respect to the new transmission services that we require, we establish paper hearing procedures to determine the appropriate rates, terms, and conditions of those services. This Tariff requirement, which will apply to any Eligible Customer taking transmission service on behalf of Co-Located Load, incorporates the existing transmission service structure in the Tariff, which imposes rates, terms, and conditions of transmission service on the Eligible Customer. The Tariff requirements that we establish apply to the relevant Interconnection Customer taking interconnection service and the Eligible Customer taking transmission service on behalf of the Co-Located Load. Eligible Customers, on behalf of the Co-Located Loads that they represent, may choose the transmission services that match their preferred use of the transmission system; however, they must choose at least one of the required transmission services, and may take a combination of the new Firm Contract Demand and Non-Firm Contract Demand transmission services that we direct herein.

i. NITS

195. First, we note that it continues to be just and reasonable for an Eligible Customer taking transmission service on behalf of Co-Located Load to elect, as one of the required transmission services from which the Eligible Customer must choose, to take NITS.[408] As discussed further below, NITS provides significant benefits because a NITS customer gains the right to be served from the transmission system at any time, and PJM and the transmission owners incorporate NITS load into their transmission planning. However, as discussed above, we find that the existing Tariff's BTMG rules are unjust and unreasonable. Thus, Eligible Customers that elect to take NITS on behalf of Co-Located Loads will not be able to use the existing BTMG rules and must instead take NITS on a gross demand basis.[409] While we find that NITS charged on a gross demand basis is one just and reasonable transmission service option for Eligible Customers taking transmission service on behalf of Co-Located Loads, it is not the only option. This order establishes new transmission service options that Eligible Customers taking transmission service on behalf of Co-Located Loads may use if they do not wish to take NITS on a gross demand basis.

196. Consistent with our finding that the existing Tariff's BTMG rules are unjust and unreasonable, we find that it would be unjust and unreasonable to allow Eligible Customers taking transmission service on behalf of Co-Located Loads to take NITS on a net basis. The Commission has previously found that loads that are able to be served in

[408] Eligible Customers taking NITS on behalf of Co-Located Load may not combine NITS with any of the other transmission services discussed herein.

[409] Eligible Customers taking service on behalf of Co-Located Loads that meet the new criteria discussed below may be able to use the new BTMG rules.

part through NITS and in part through behind-the-meter generation[410] shift costs onto other transmission customers.[411] Furthermore, the Commission has rejected cost causation arguments made by network customers that sought to lower their load ratio share based on actual use of the transmission system.[412] The Commission has explained that "splitting a discrete load is antithetical to the concept of network service" because "a load at a discrete point of delivery cannot be partially integrated—it is either fully integrated or not integrated."[413] In addition, the Commission found that a split system creates the potential for a customer to evade some or all of its load ratio share cost responsibility for network services by using behind-the-meter generation during monthly peaks to reduce its load ratio share below its actual, typical monthly peak usage (also called peak shaving), resulting in a rate that is subsidized by other network customers.[414] Similarly, in Order No. 890,[415] the Commission refused to require transmission providers to allow netting of behind the meter generation against network transmission charges. The Commission explained that its existing policy already provides customers with the opportunity to reduce network service costs to the extent a customer is not relying on the transmission system to meet its energy needs (i.e., by taking PTPS instead of NITS).[416]

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[410] Here we reference behind-the-meter generation more broadly, rather than PJM's defined BTMG specifically.

[411] Order No. 888-A, FERC Stats. & Regs. ¶ 31,048 at 30,259-61.

[412] *See, e.g.*, *Amtrak*, 171 FERC ¶ 61,237 at P 41. *See also PJM*, 169 FERC ¶ 61,041, at P 60 (2019).

[413] Order No. 888-A, FERC Stats. & Regs. ¶ 31,048 at 30,262.

[414] *Id.* at 30,260-61. *See also East Ky. Power Coop. Inc. v. Louisville Gas & Elec. Co./Ky. Utils. Co.*, 154 FERC ¶ 61,144, at P 60 (2016) ("[T]he Commission used the 'behind-meter-generation' language as an example of transmission customers subject to the provision but it did not explicitly exclude . . . other transmission customers from this provision.").

[415] *Preventing Undue Discrimination and Preference in Transmission Serv.*, Order No. 890, 118 FERC ¶ 61,119, at P 1619, *order on reh'g*, Order No. 890-A, 121 FERC ¶ 61,297 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228, *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

[416] *Id.* The Commission also explained that it would review alternative transmission provider proposals for behind-the-meter generation treatment on a case-by-case basis. *Id.*

197. Regarding Constellation's argument that it is unduly discriminatory to charge Eligible Customers taking transmission service on behalf of Co-Located Loads for NITS on a gross demand basis to the extent it would charge the same rates to customers who impose different costs on the system,[417] we reiterate that while Eligible Customers taking transmission service on behalf of Co-Located Loads must take one of the required transmission services, they may take one of the new transmission services instead of NITS. Therefore, Eligible Customers taking transmission service on behalf of Co-Located Loads that do not wish to be Network Load may seek the alternative transmission services described below. Constellation further argues that charging all Eligible Customers taking transmission service on behalf of large Co-Located Loads for NITS based on a gross demand basis would be unduly discriminatory because it is inconsistent with the treatment of BTMG.[418] However, we direct changes to PJM's existing BTMG rules, as described below. In doing so, we decline to address Constellation's alternative proposals to modify the BTMG provisions.[419]

198. The Network Load that an Eligible Customer designates when taking NITS on behalf of a Co-Located Load will benefit from the transmission system in the same manner as the Network Load of other NITS customers. The Network Load of the Eligible Customer taking NITS on behalf of a Co-Located Load will gain the right to be served from the transmission system at any time. The Network Load of the Eligible Customer taking NITS on behalf of a Co-Located Load, as any other Network Load, would contribute to the need for costs to be incurred for operation and maintenance of the transmission system, as well as new Network Upgrades to keep the transmission system reliable. Moreover, PJM explains, and we agree, that, if Co-Located Load is Network Load, PJM will include the customer's full load in its models for purposes of procuring capacity and will include Co-Located Load that is Network Load in the load forecast for

[417] Constellation April 23 Reply Comments at 31.

[418] *Id.* at 32-33, 39.

[419] *See FirstEnergy Serv. Co. v. FERC*, 758 F.3d 346, 353 (D.C. Cir. 2014) ("The statutory 'just and reasonable' standard is the same under section 205 and section 206."); *ExxonMobil Oil Corp. v. FERC*, 487 F.3d 945, 955 (D.C. Cir. 2007) ("Under the arbitrary and capricious test, our standard of review is 'only reasonableness, not perfection.' We need not decide whether the Commission has adopted the best possible policy as long as the agency has acted within the scope of its discretion and reasonably explained its actions."); *New England Power Generators Ass'n v. ISO New England Inc.*, 153 FERC ¶ 61,222, at P 35 (2015) (explaining that, in setting a just and reasonable replacement rate, the Commission could accept a party's proposal or "implement[] its own solution").

purposes of transmission planning.[420] Therefore, we find that if an Eligible Customer takes NITS and designates a Co-Located Load as Network Load, the NITS charges an Eligible Customer incurs on behalf of that Co-Located Load will be at least roughly commensurate with the benefits received.

199. We disagree with parties who argue that Co-Located Loads should only be allowed to take NITS, and that the NITS they must take is on a gross demand basis.[421] As discussed further below, we find that the option to take NITS on a gross demand basis is just one part of a just and reasonable replacement rate that also includes the opportunity for Eligible Customers to take on behalf of Co-Located Loads the new Firm or Non-Firm Contract Demand transmission services. As explained below, the record demonstrates that Eligible Customers taking transmission service on behalf of Co-Located Loads are willing and able to limit their energy withdrawals from the transmission system under certain conditions.[422] It would be inconsistent with cost causation principles to require Eligible Customers taking transmission service on behalf of Co-Located Loads that limit their energy withdrawals to take NITS on a gross demand basis. Rather, Eligible Customers taking service on behalf of Co-Located Loads should be allowed to choose the transmission service that aligns with their use of the transmission system and therefore aligns the charges for service with the benefits received. Further, we find that requiring an Eligible Customer taking transmission service on behalf of Co-Located Load to take NITS on a gross demand basis would be inefficient. Requiring this could necessitate inefficient and costly transmission buildout and costs paid by transmission customers that may not be necessary if Eligible Customers taking transmission service on behalf of Co-Located Loads are willing to limit their energy withdrawals and take a transmission service that requires fewer Network Upgrades to provide.[423]

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[420] PJM March 24 Response at 39 n.64.

[421] *See, e.g.*, NREMC April 23 Reply Comments at 5-6; Indicated Transmission Owners March 24 Response at 16-17; Center April 23 Reply Comments at 27.

[422] *See infra* P 204.

[423] *See* Antora April 23 Reply Comments at 11-12 ("Where a customer could have instead taken curtailable transmission service that allows PJM and/or the EDC to curtail its load if that service were offered, the failure to provide a service option that incorporates load flexibility will directly lead to costs for the interconnecting customer that do not appropriately reflect its flexibility and resulting ability to avoid using high value energy or grid capacity. And it will lead to increased costs for other customers because PJM's transmission and interconnection study processes and operating protocols will apply a lack of headroom in its system based on its assumed need to serve the

ii. Interim, Non-Firm Transmission Service

200. Co-Located Loads are concerned with the speed to interconnect to the PJM transmission system and begin operation. As a result, these types of loads have sought to establish Co-Location Arrangements with existing generating facilities that can begin serving new large Co-Located Loads rapidly.[424] In response, and to facilitate more rapid interconnection and operation of Co-Located Loads, PJM and other parties discuss the development of a new transitional service that would allow new Co-Located Load to withdraw electricity from the PJM transmission system earlier than may be otherwise achievable if those new Co-Located Loads could only be designated as Network Load and served once all of the Network Upgrades necessary to provide the requested NITS are complete.[425] Therefore, we direct PJM to submit, within 60 days of the date of issuance of this order, a compliance filing to create a new interim, non-firm transmission service similar, but not identical, to PJM's proposed option 7. This new interim, non-firm transmission service must allow an Eligible Customer that has requested NITS on behalf of a Co-Located Load to take non-firm transmission service that can be interrupted until the Network Upgrades necessary to provide NITS are complete and the Co-Located Load can be designated as Network Load. We reiterate that this interim, non-firm transmission service should be temporary—only available to Eligible Customers that have requested NITS on behalf of Co-Located Loads that cannot yet be reliably served with NITS—and available only until the necessary Network Upgrades are completed and the Co-Located Load is designated as Network Load. Moreover, this new service would be optional for an Eligible Customer seeking NITS on behalf of a Co-Located Load and would only be available to the extent PJM determines that it can provide some level of interim service reliably. Eligible Customers taking this interim, non-firm transmission service on behalf of Co-Located Loads would pay the NITS rate for the new service, as well as ancillary services charges and charges for black start service, but they would not be charged for generation capacity because, as interruptible

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entirety of the Network Load at any given moment, despite the fact that the customer is capable of dispatching down pursuant to PJM and/or EDC instructions. This, in turn, will trigger identification of infrastructure upgrades that could have been avoided . . . ."); Constellation April 23 Reply Comments at 20 (". . . [A] NITS-only approach to serving hyperscale data centers and other large new loads will create a need for massive transmission upgrades and impose billions of dollars of costs on existing customers . . . .").

[424] Show Cause Order, 190 FERC ¶ 61,115 at P 85.

[425] *See* PJM March 24 Response at 18-19; Mainspring April 23 Reply Comments at 13; Constellation April 23 Reply Comments at 55-57; Buckeye April 23 Comments at 9.

loads, capacity will not be procured on their behalf until such time as the Network Upgrades are in place to serve them. Once the required Network Upgrades to serve the full gross demand are in place, the Co-Located Load would be designated as Network Load and the Eligible Customer would pay on behalf of the Co-Located Load all Network Load charges. This transmission service may not be combined with the Firm Contract Demand transmission service or Non-Firm Contract Demand transmission service discussed herein.

201. We find that this new interim, non-firm transmission service will facilitate the timely provision of transmission service to Eligible Customers taking transmission service on behalf of Co-Located Loads, while preserving reliability for other transmission customers. As discussed above, the record in this proceeding suggests that a key driver of Co-Location Arrangements is delays in new large loads obtaining service through the traditional front-of-the-meter load interconnection process.[426] This interim, non-firm transmission service would help to address such delays by allowing an Eligible Customer that has requested to take NITS on behalf of a Co-Located Load to, through this new transmission service, receive an interruptible transmission service before the Network Upgrades necessary to designate and serve the Co-Located Load as Network Load are complete. Eligible Customers taking the interim, non-firm transmission service on behalf of Co-Located Loads would avoid paying generator capacity costs in return for their willingness to curtail their withdrawals in advance of emergency conditions (i.e., it will be curtailed before existing firm transmission services and the new Firm Contract Demand Transmission Service).[427] This willingness to curtail would potentially allow them to obtain service more quickly. As part of the compliance filing ordered above, we seek briefing on an appropriate point in emergency operations at which to curtail Eligible Customers taking this new interim, non-firm transmission service on behalf of Co-Located Loads. We further note that, when curtailed, Eligible Customers taking this transmission service on behalf of Co-Located Loads may be able to continue to take energy from the Interconnection Customer with which they are co-located if PJM's Tariff otherwise allows.

202. We note that, unlike in PJM's proposal in option 7, which would allow Eligible Customers taking transmission service on behalf of Co-Located Loads to receive the transitional service until "any resource adequacy supply/demand imbalances associated with the large load addition could be addressed,"[428] we instead direct PJM to limit the transitional period to the time needed to complete any Network Upgrades identified in the

[426] Indicated Transmission Owners June 3 Answer, Powers Aff. at 16.

[427] *See infra* P 208.

[428] PJM March 24 Response at 18-19.

study process as necessary to provide the requested NITS. PJM's proposal in option 7 to allow the transitional period to continue until any resource adequacy challenges are addressed is too broad and not sufficiently detailed to direct as a replacement rate.

203. However, as discussed below, we conclude that additional record evidence is needed to set the appropriate replacement rate, i.e., the terms and conditions for the new interim, non-firm transmission service. Thus, we establish a paper hearing and direct further briefing.

iii. Firm Contract Demand and Non-Firm Contract Demand Transmission Services

204. As the record demonstrates, various potential Co-Location Arrangements may use the transmission system to differing extents. Specifically, parties note that some Co-Location Arrangements include system protection facilities that prevent energy withdrawals from the transmission system,[429] and parties have demonstrated that some Co-Located Loads are willing and able to control their withdrawals from the transmission system.[430] System protection facilities are defined as the equipment, including necessary protection signal communications equipment, required to protect (1) Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility, and (2) the Generating Facility from faults or other electrical system disturbances occurring on Transmission Provider's Transmission System or on other delivery systems or other generating systems to which Transmission Provider's Transmission System is directly connected.[431] Instead of system protection facilities, we

[429] *See, e.g.*, *id.* at 13-15.

[430] *See, e.g.*, SEIA April 23 Reply Comments at 8 (citing Duke University's Nicholas Institute for Energy, Environment & Sustainability, Rethinking Load Growth: Assessing the Potential for Integration of Large Flexible Loads in US Power Systems, https://nicholasinstitute.duke.edu/sites/default/files/publications/rethinking-load-growth.pdf (Duke Study)); *id.* ("Co-located loads with the ability to curtail or shift demand in coordination with generator output or grid constraints should be treated differently than firm grid-dependent load, as these loads would be capable of reducing their demand on the grid."); Constellation April 23 Reply Comments at 56 ("The Duke Study identifies the significant benefits to the efficient use of the transmission grid and existing capacity when loads can 'temporarily reduce (i.e., curtail) its electricity consumption from the grid during [] peak stress periods.'") (quoting Duke Study at 5); EDFR April 23 Reply Comments at 9.

[431] Federal Energy Regulatory Commission, *Pro forma* LGIP, § 1 (Definitions) (Aug. 20, 2024), https://www.ferc.gov/media/pro-forma-lgip. *See Reform of Generator Interconnection Procs. & Agreements*, Order No. 845, 163 FERC ¶ 61,043, at P 367

will use in this order the term special protection scheme, also known as a remedial action scheme. A special protection scheme is a plan designed to detect abnormal system conditions and to automatically take appropriate corrective action, to maintain system stability, acceptable system voltages, and acceptable facility loading. Corrective actions, as applicable here, may address scenarios such as generator runback or load shedding.[432]

205. As such, PJM and other commenters discuss transmission services that are tailored to Co-Located Loads that have protection schemes to limit their energy withdrawals from the system, and that recognize the reduced impact on the transmission system of such Co-Location Arrangements as compared to traditional Network Load.[433] Parties argue that these services will not require PJM to plan the transmission system to serve these Co-Located Loads to the same extent as PJM must plan the transmission system to serve Network Load, possibly reducing the need for new Network Upgrades.[434] Parties further argue that Co-Located Loads may be able to receive transmission service faster with use of a new, limited transmission service product than they would if they selected NITS, to the extent that providing NITS would require Network Upgrades that the limited transmission service would not.[435] We note that, in general, special protection schemes allow Eligible Customers on behalf of Co-Located Load to effectively limit their withdrawals from the transmission system.[436] For these reasons, in these instances where

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(2018), *order on reh'g*, Order No. 845-A, 166 FERC ¶ 61,137, *order on reh'g*, Order No. 845-B, 168 FERC ¶ 61,092 (2019) (discussing system protection facilities in the context of a generating facility not injecting energy onto the transmission system above the requested level of service).

[432] PJM Manual 07: PJM Protection Standards, Rev. 5 (eff. Sept. 25, 2025) § 17.1. We recognize that PJM's manual currently does not include excess energy withdrawals as an abnormal system condition.

[433] *See, e.g.*, PJM March 24 Response at 13-15, 18-19; Glatz and Silverman April 23 Reply Comments at 12-13; Constellation April 23 Reply Comments at 65; Vistra April 23 Reply Comments at 28.

[434] *See* Enchanted Rock April 23 Reply Comments at 17.

[435] *See* Constellation April 23 Reply Comments at 55-56; EPSA/P3 April 23 Reply Comments at 14.

[436] *See* Constellation April 23 Reply Comments, Herling Aff. ¶ 23 ("The protection system, discussed above, is fully redundant and, while it cannot be guaranteed to never fail, it is unreasonable to treat the failure of both primary and secondary relay system facilities following the loss of a generator as anything other than a third contingency. In fact, when I was directing transmission planning for PJM, I cannot think of an instance in which we treated such a situation otherwise. In practice, protection

the Co-Location Arrangement includes special protection schemes that limit its energy withdrawals, we find that it is a just and reasonable replacement rate to allow an Eligible Customer taking transmission service on behalf of such load to take and be charged for new types of transmission service that are alternatives, and not equivalent, to NITS.

206. We therefore direct PJM to develop two new transmission services that must be available to Eligible Customers taking transmission service on behalf of Co-Located Loads: (1) Firm Contract Demand transmission service, and (2) Non-Firm Contract Demand transmission service. These new transmission services will serve as *permanent* alternatives to existing transmission services, unlike the new interim, non-firm transmission service described above in Part IV.B.4.b.ii, and the new transmission services would not require the Co-Located Load to become Network Load. For the Eligible Customer taking transmission service on behalf of a Co-Located Load to be eligible for these new transmission services, the Co-Located Load must be able and willing to prevent or limit its energy withdrawals and must be separately metered from the associated generator. Eligible Customers taking transmission service on behalf of Co-Located Loads would also be able to take a combination of Firm Contract Demand transmission service and Non-Firm Contract Demand transmission service. Because firm transmission service contemplates a reservation and regular withdrawal of energy, Eligible Customers taking transmission service on behalf of Co-Located Loads that will not withdraw energy from the transmission system must take Non-Firm Contract Demand transmission service at 0 MW.

207. The record assembled to date does not address the appropriate rates, terms, and conditions for these new Firm Contract Demand and Non-Firm Contract Demand transmission services. Thus, we direct further briefing to enable the Commission to set the appropriate replacement rate for these services, as discussed below. Among other topics with respect to this pair of new transmission services available to Eligible Customers taking transmission service on behalf of Co-Located Loads, the Commission directs further briefing on whether the rate paid by an Eligible Customer on behalf of a Co-Located Load taking only a *de minimis* amount of the new Firm or Non-Firm

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schemes are regularly employed on the PJM transmission system, and the successful operation of such protective systems is a common observance within PJM."). Proper special protection scheme design is also subject to NERC standards to ensure they do not introduce unintentional or unacceptable reliability risks to the system. *Remedial Action Schemes Reliability Standard*, Order No. 837, 160 FERC ¶ 61,071 (2017) (approving Reliability Standard PRC-012-2).

Also, as discussed below, we clarify that PJM's necessary study process assesses any special protection scheme that is a part of a Co-Location Arrangement. *See infra* P 227.

Contract Demand transmission services should reflect not only (i) charges for regulation and black start service and (ii) the transmission service charges for that *de minimis* amount of service, but also an additional charge reflecting that the Co-Located Arrangement is physically connected and synchronized to the PJM transmission system and, if so, how that additional charge, including a *de minimis* threshold, should be determined.

(a) Firm Contract Demand Transmission Service

208. Under the new Firm Contract Demand transmission service, Eligible Customers will have the right to request transmission service on behalf of a Co-Located Load up to a specified MW quantity, i.e., the contract demand. The Firm Contract Demand transmission service will have the same reservation and curtailment priority as existing firm transmission services, at the level of the contract demand. However, unlike NITS customers, the Eligible Customer taking Firm Contract Demand transmission service on behalf of the Co-Located Load is not permitted to withdraw energy from the PJM transmission system beyond the contract demand level.[437]

209. Eligible Customers taking the new Firm Contract Demand transmission service on behalf of Co-Located Loads will be charged for transmission, ancillary services, and capacity based on the contract demand, with the exception of regulation and black start services.[438] As explained above, we agree with parties who argue that all Co-Located Loads rely on regulation and black start services to be served regardless of whether they are drawing energy from the transmission system,[439] and we therefore find that Eligible

[437] We note an Eligible Customer may combine Firm Contract Demand transmission service with Non-Firm Contract Demand transmission service to withdraw, on an as-available basis, more energy than its firm entitlement.

[438] *See, e.g.*, Constellation April 23 Reply Comments at 66 ("Ancillary services should be charged on a gross or net load basis for firm and interruptible configurations, as required to avoid discrimination. For generator-contingent configurations, some charge for regulation or black start service may be appropriate. Energy charges should be assessed based on a net injection or withdrawal of the co-located load generator and load to the transmission system.").

[439] *See id.* at 34 ("[I]t may be appropriate to include some ancillary service charges, such as regulation and black start . . . ."); Vistra April 23 Reply Comments at 27 ("For example, variances in the co-located load, which are seen by the grid as changes in the co-located generator's output, could be viewed as related to the need for regulation service. Co-location configurations with high load variation therefore can be considered to use regulation service."); ACEG April 23 Reply Comments at 2 ("Proposed co-located

Customers that take the Firm Contract Demand transmission service on behalf of Co-Located Loads must be charged for regulation and black start services based on a gross demand basis, rather than the contract demand.

210. PJM will only have an obligation to plan for the Network Upgrades necessary to serve Eligible Customers taking this new Firm Contract Demand transmission service on behalf of Co-Located Loads at their contract demand. Because PJM will procure generation capacity on behalf of the Co-Located Load served by Firm Contract Demand transmission service based on their contract demand, we find it is appropriate to charge the relevant Eligible Customer for generation capacity based on the full amount of the Firm Contract Demand transmission service.[440] We direct parties to brief the appropriate rate, terms, and conditions for this new Firm Contract Demand transmission service, including whether it would be just and reasonable to apply the current zonal firm PTPS rates to this new transmission service.[441]

211. We note that the new Firm Contract Demand transmission service does not raise similar cost shifting concerns as the split system contemplated in Order No. 888-A.[442] Firm Contract Demand transmission service customers will be charged based on their contract demand irrespective of usage and therefore will not be able to reduce their load-ratio cost responsibility. Further, PJM will only plan the transmission system and procure generation capacity for the contract demand—not for load growth, like it does for NITS customers—and PJM will have no obligation to serve the Eligible Customer beyond the contract demand. Therefore, we find that allowing Eligible Customers taking transmission service on behalf of Co-Located Loads to take the new Firm Contract Demand transmission service will not cause a cost shift to other transmission customers

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load arrangements do not always function as truly islanded micro grids, and they may still rely on services such as frequency regulation, voltage support, and black start capability.").

[440] As noted in Part IV.B.2.a *supra*, states have exclusive authority over the allocation of Commission-jurisdictional costs to retail customers, including retail customers that are Co-Located Load. Therefore, states have authority over how the costs for Firm Contract Demand transmission service and other services assigned to an Eligible Customer are allocated among individual retail customers.

[441] *See* PJM, Intra-PJM Tariffs, OATT, sched. 7 (15.0.1).

[442] *See* Order No. 888-A, FERC Stats. & Regs. ¶ 31,048 at 30,259 ("The concept of allowing a 'split system' or splitting a discrete load is antithetical to the concept of network service. . . . Furthermore, such a split system creates the potential for a customer to "game the system" thereby evading some or all of its load-ratio cost responsibility for network services.").

because these Eligible Customers will not be able to reduce their load-ratio share to avoid paying transmission costs or capacity costs. Rather, these customers will pay only for the contracted demand, aligning the costs for the Firm Contract Demand transmission service that they take with the benefits they receive.

212. Should the Eligible Customer taking transmission service on behalf of a Co-Located Load withdraw energy from the PJM transmission system in excess of the contract demand, for example, due to a special protection scheme failure, we direct PJM to apply a penalty rate. The Commission has previously found that transmission customers should be subject to unreserved use penalties in circumstances where a transmission customer uses transmission service in excess of its reserved capacity or if it uses transmission service where it does not have a reservation.[443] Further, PJM states that it has observed that special protection schemes can fail, which may result in the Eligible Customer taking unreserved service from the transmission system on behalf of the Co-Located Load.[444] We direct parties to brief the appropriate penalty charge for a Firm Contract Demand transmission service customer's unreserved use of the PJM transmission system. We also direct parties to brief the appropriate procedures for PJM to curtail Eligible Customers taking the new Firm Contract Demand transmission service on behalf of Co-Located Loads that withdraw energy in excess of the contract demand and any other remedial action that PJM should take to address withdrawals in excess of the contract demand. We also note that, as discussed in the briefing questions below, PJM will determine the technical and engineering requirements of special protection schemes to help address reliability risks associated with unreserved use of the transmission system.

213. We find that the new Firm Contract Demand transmission service must have a minimum term of one year, similar to NITS.[445] However, generation capacity is typically procured three years in advance in PJM. As such, we find that it is just and reasonable that the terms and conditions for taking the new Firm Contract Demand transmission service must prevent transmission customers from switching between the Firm Contract Demand and Non-Firm Contract Demand transmission services, i.e., must include an anti-toggling mechanism. Otherwise, Eligible Customers taking transmission service on behalf of Co-Located Loads may attempt to switch between the two new transmission services based on expected capacity market conditions. PJM's capacity market includes anti-toggling measures, including the "must-offer" requirement for existing Capacity Resources and the five-year minimum commitment for loads seeking to procure their

[443] Order No. 890, 118 FERC ¶ 61,119 at P 834.

[444] PJM March 24 Response at 44.

[445] *See* PJM, Intra-PJM Tariffs, OATT, § III.29.2 Application Procedures (2.0.0).

own capacity through the Fixed Resource Requirement alternative. Both measures exist to prevent loads or generators from introducing price volatility or exercising market power by entering and exiting the market from one year to the next based on projected market conditions. We direct parties to brief the appropriate mechanism for such a feature, including the appropriate minimum service period and minimum notice period for discontinuing service for the new Firm Contract Demand and Non-Firm Contract Demand transmission services.

(b) Non-Firm Contract Demand Transmission Service

214. As discussed above, we establish a new Non-Firm Contract Demand transmission service to be offered to Eligible Customers taking service on behalf of Co-Located Loads. We recognize that not all Co-Located Loads will necessarily plan to withdraw energy from the transmission system on a regular basis. Eligible Customers taking service on behalf of such loads may, however, still seek to withdraw energy from the transmission system from time to time when transmission capacity is available and not needed by firm customers. For example, an Eligible Customer could seek a transmission reservation for a Co-Located Load in advance for the duration of an expected outage of the associated generator. The new Non-Firm Contract Demand service will provide an option for Eligible Customers seeking to use the transmission system on behalf of a Co-Located Load in this more limited manner, while still charging customers for regulation and black start services, for the reasons discussed above.

215. We find that the new Non-Firm Contract Demand transmission service must be available during normal operations and curtailed during emergency operations (i.e., it will be curtailed before existing firm transmission services and the new Firm Contract Demand Transmission Service). Under this service, Eligible Customers may reserve transmission service on behalf of a Co-Located Load as needed during normal, non-emergency system operating conditions. Reservations under this service would be available only when there is available transmission capacity, similar to existing non-firm transmission service options in the Tariff. Reservations for this service shall be available for terms ranging from one hour to one month, consistent with the terms available for Non-Firm PTPS in the PJM Tariff.[446] As noted above, Eligible Customers may use Non-Firm Contract Demand transmission service to make use of the transmission system above their Firm Contract Demand transmission service level, if transmission capacity is available.

[446] *See* PJM, Intra-PJM Tariffs, OATT, § 14.1 (1.0.0) ("Non-Firm Point-To-Point Transmission Service will be available for periods ranging from one (1) hour to one (1) month").

216. Eligible Customers taking the Non-Firm Contract Demand transmission service on behalf of Co-Located Loads will be charged for transmission and ancillary services on an as-reserved contract demand basis, based on the reserved contract demand amount of transmission service (except as noted below). As with the new Firm Contract Demand transmission service, we find that Eligible Customers that take the Non-Firm Contract Demand transmission service on behalf of Co-Located Loads use and therefore should be charged for regulation and black start services based on a gross demand basis, rather than the reserved amount of transmission service. As discussed below, we direct parties to brief the appropriate rate, terms, and conditions for this new Non-Firm Contract Demand transmission service, including whether it would be just and reasonable to apply the current zonal non-firm PTPS rates to this new service.[447]

217. In addition, similar to the Firm Contract Demand transmission service, should the Eligible Customer taking the Non-Firm Contract Demand transmission service on behalf of the Co-Located Load make unreserved use of the transmission system by withdrawing energy in excess of its transmission service reservation,[448] PJM must apply a penalty rate in such circumstances. We direct parties to brief the appropriate charge for such a penalty, including whether it should be the same as the unreserved use penalty charge applicable to the new Firm Contract Demand transmission service. We also direct parties to brief the appropriate triggers and procedures for PJM to curtail an Eligible Customer taking the new Non-Firm Contract Demand transmission service on behalf of a Co-Located Load when it makes unreserved use of the transmission system by withdrawing energy in excess of its transmission service reservation.

218. The new Non-Firm Contract Demand transmission service will not include a charge for generation capacity.[449] Because it is non-firm transmission service, PJM will not have an obligation to serve Eligible Customers taking this new Non-Firm Contract Demand transmission service on behalf of Co-Located Loads; thus, unlike Network Load, Co-Located Loads on whose behalf Eligible Customers are taking Non-Firm

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[447] *See* PJM, Intra-PJM Tariffs, OATT, sched. 8 (14.0.1).

[448] As noted above, Non-Firm Contract Demand transmission service will be curtailed during emergency operations and we request briefing on the appropriate procedures to govern the circumstances under which PJM curtails an Eligible Customer taking Non-Firm Contract Demand transmission service on behalf of a Co-Located Load during emergency procedures.

[449] Regardless, however, we clarify that this option is distinct from Vistra's proposal to allow a secondary generator that provides occasional, interruptible backup service to a Co-Located Load to also serve as a Capacity Resource. Vistra April 23 Reply Comments at 8, 30.

Contract Demand transmission service would not be considered for resource adequacy planning purposes. PJM will also have no obligation to include the Co-Located Loads on whose behalf Eligible Customers take such service in its transmission planning.

iv. Paper Hearing on Rates, Terms, and Conditions of New Transmission Services

219. As discussed above, additional record evidence is needed to set the appropriate replacement rates, terms, and conditions for the new interim, non-firm transmission service, Firm Contract Demand transmission service, and Non-Firm Contract Demand transmission service. Parties should address the following questions with specificity.

(1) What are the appropriate rates, terms, and conditions for the new Firm Contract Demand transmission service, including whether it would be just and reasonable to apply the current zonal firm PTPS charges to this new service and whether it would be just and reasonable and consistent with cost causation to include charges for any of PJM's administrative services?

(2) What are the appropriate rates, terms, and conditions for the new Non-Firm Contract Demand transmission service, including whether it would be just and reasonable to apply the current zonal non-firm PTPS charges to this new transmission service and whether it would be just and reasonable and consistent with cost causation to include charges for any of PJM's administrative services?

(3) As noted above, a Co-Location Arrangement is synchronized to the transmission system.[450] Should the rate paid by an Eligible Customer on behalf of a Co-Located Load taking only the new Non-Firm Contract Demand transmission service that elects to not reserve any amount of that service for a period of time (e.g., one month) reflect not only charges for regulation and black start services, but also an additional charge given that regulation and black start services could not be provided without the transmission system? If so, how should that additional charge be determined?

(4) As noted above, a Co-Location Arrangement is synchronized to the transmission system.[451] Should the rate paid by an Eligible Customer on behalf of a Co-Located Load taking only a *de minimis* amount of the new Firm or Non-Firm Contract Demand transmission services reflect not only (i) charges for regulation and black start service and (ii) the transmission service charges

[450] *See also* PJM March 24 Response at 42-43.

[451] *Id*.

for that *de minimis* amount of service, but also an additional charge reflecting that the Co-Location Arrangement is physically connected and synchronized to the PJM transmission system? If so, how should that additional charge be determined?

(5) What is the appropriate penalty charge or other remedial action that PJM should take to address any unreserved use of the PJM transmission system for an Eligible Customer taking Firm Contract Demand transmission service on behalf of a Co-Located Load?

(6) What is the appropriate penalty charge or other remedial action that PJM should take to address any unreserved use of the PJM transmission system for an Eligible Customer taking Non-Firm Contract Demand transmission service on behalf of a Co-Located Load?

(7) What are the appropriate mechanisms for an anti-toggling feature for the Firm Contract Demand transmission service, including the appropriate minimum service period and minimum notice period for discontinuing or modifying the level of service?

(8) What interconnection requirements and operational practices are necessary for special protection schemes to maintain system reliability (e.g. the need for full redundancy of such schemes) in the event that a Co-Located Load itself or its associated generator trips offline?

(9) What communications, alarm, SCADA[452] or other requirements are necessary for PJM to monitor Co-Located Load transmission system demand status; ensure that relay settings are consistent with special protection scheme design; and inform system operator action, in order to limit withdrawals from Eligible Customers on behalf of Co-Located Load that exceed the amount of Firm or Non-Firm Contract Demand transmission services?

(10) What other eligibility requirements, e.g., interconnection requirements or operational practices, are necessary for an Eligible Customer to take Firm Contract Demand or Non-Firm Contract Demand transmission service on behalf of Co-Located Load?

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[452] Supervisory Control and Data Acquisition (SCADA) is a system of remote control and telemetry used to monitor and control the transmission system. *See* NERC Glossary of Terms at 42, https://www.nerc.com/globalassets/standards/reliability-standards/glossary_of_terms.pdf.

(11) What are the appropriate procedures to govern the circumstances under which PJM curtails an Eligible Customer taking the interim, non-firm transmission service, Firm Contract Demand transmission service, or Non-Firm Contract Demand transmission service on behalf of a Co-Located Load during emergency procedures? In particular, can PJM shed all or a portion of a Co-Located Load on whose behalf an Eligible Customer takes Non-Firm Contract Demand transmission service while continuing to serve all or a portion of a Co-Located Load on whose behalf an Eligible Customer takes Firm Contract Demand transmission service?

220. PJM must submit its initial brief in Docket No. EL25-49-000 on or before February 16, 2026. The deadline to file responses to PJM's initial brief will be March 18, 2026, and the deadline to file replies to those responses will be April 17, 2026.

v. Behind the Meter Generation (BTMG)

221. We next turn to the Tariff's BTMG rules.[453] Based on our finding above that PJM's BTMG rules are no longer just and reasonable, we direct PJM to revise the Tariff to revise the retail BTMG rules. However, we acknowledge that not all loads using BTMG are large loads that create the reliability and resource adequacy risks described above. We therefore direct PJM, within 60 days of the date of issuance of this order, to propose a new MW threshold for the amount of load at a particular electrical location that Network Customers may net by using BTMG. Such a threshold should reduce the reliability and resource adequacy risks discussed above that large loads may pose to PJM, while also allowing for Network Customers to reduce their transmission charges in a transparent, not unduly discriminatory fashion. We acknowledge that such a materiality threshold will not eliminate the risk identified in this order, but we find that it will ensure that the risk is limited. Parties will have an opportunity to comment on PJM's proposed threshold before we establish this replacement rate. Although we make no finding in this order on a threshold that would be just and reasonable, we note as points of reference that PJM requires any generator larger than 10 MW to be individually metered[454] and that the Commission's definition of a small generator is 20 MW.[455]

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[453] We clarify that, consistent with the definition in 159,provided above, *supra* P 164, BTMG is not Co-Located Load.

[454] PJM Manual 14G: Generation Interconnection Requests, Rev. 8 (eff. July 26, 2023), § 1.6.2.

[455] Order No. 2006, 111 FERC ¶ 61,220 at P 1.

222. We clarify we do not direct PJM to change its rules for non-retail BTMG.[456] Because non-retail BTMG is already capped, the record does not demonstrate a need for further changes at this time.[457] We also recognize concerns raised in the record about the potential impacts of the Commission changing PJM's BTMG rules for existing BTMG customers.[458] We thus make several findings and directives about the replacement rate below that are designed to minimize the impact of this transition on existing BTMG customers.

223. First, we find that it is appropriate to establish a transition period for Network Customers currently using PJM's existing BTMG rules. We thus direct PJM, within 60 days of the date of issuance of this order, to include in its compliance filing Tariff revisions to allow Network Customers already using the BTMG rules to continue to do so for a transition period of three years, which aligns with the timeline to procure replacement capacity in PJM,[459] from the date of issuance of this order. We find that this approach reasonably balances concerns about expediently addressing unjust and unreasonable rates with concerns from parties that have relied on the existing Tariff.

224. Second, while the record indicates that parties desire the continued use of the existing Tariff BTMG rules,[460] we acknowledge the possibility that entities may also have contracted for the specific purpose of effectuating a BTMG arrangement. To the extent an entity is a party to an existing contract for such a purpose, we find that it is

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[456] PJM defines Non-Retail BTMG as BTMG that is "used by municipal electric systems, electric cooperatives, or electric distribution companies to serve load." PJM, Intra-PJM Tariffs, OATT, § I.1 Definitions – L-M-N (51.0.1) (defining Non-Retail BTMG).

[457] Indicated Transmission Owners March 24 Response at 28 n.6 (". . . [T]he total amount of Non-Retail BTMG in the PJM Region is capped in any specific year and sets a maximum ceiling of 3,000 MW . . . ."); PJM, Intra-PJM Tariffs, OATT, § III.34.3 Netting of Non-Retail Behind the Meter Generation (1.0.0).

[458] *See, e.g.*, AMP April 23 Reply Comments at 10-11; PSE&G May 23 Answer at 7.

[459] *See* PJM, Intra-PJM Tariffs, OATT, attach. DD.5, § 5.4(a) Reliability Pricing Model Auctions (10.0.0) ("The Base Residual Auction shall be conducted in the month of May that is three years prior to the start of such Delivery Year.").

[460] *See, e.g.*, PSE&G May 23 Answer at 2 ("Second, rules adopted by the Commission should not adversely impact existing customers in PJM who have BTMG and who have long relied upon the netting provisions under the PJM Tariff for purposes of paying wholesale grid services . . . .").

appropriate to grandfather such entity so that it may continue using BTMG for the current term remaining under the existing contract.[461] We thus direct PJM, within 60 days of the date of issuance of this order, to include in its compliance filing Tariff revisions to grandfather entities with existing contracts for the specific purpose of effectuating a BTMG arrangement for the current term remaining under the existing contract.

c. Necessary Study Process[462] for Existing Interconnection Customers

225. Based on our finding above that the PJM Tariff is unjust and unreasonable because it lacks sufficient clarity and consistency with respect to the rules for Co-Location Arrangements, we direct PJM to revise its Tariff to provide sufficient clarity regarding the responsibilities of existing Interconnection Customers seeking to serve Co-Located Load using their generating facilities.

226. First, we direct PJM to submit, within 60 days of the date of issuance of this order, a compliance filing to revise the Tariff to clarify that an existing Interconnection Customer seeking to modify its ISA or GIA to allow its generating facility to serve Co-Located Load, including to reflect any reduction in its CIRs, must follow the necessary study process to effectuate such Co-Location Arrangement. Vistra argues that the Commission should require transmission owners to cooperate in the necessary study process,[463] and Indicated Transmission Owners respond that the Commission cannot require transmission owners to participate in a study process as a prerequisite to interconnecting load.[464] Vistra's request is unnecessary. As part of the replacement rate in this order, we establish a just and reasonable process to accommodate Co-Location Arrangements, including by requiring the designation of an Eligible Customer to take transmission service on behalf of a Co-Located Load, and thereby reduce concerns raised in the Show Cause Order about how transmission owners approach Interconnection

[461] *Cf. ISO New England Inc.*, 121 FERC ¶ 61,097 (2007) (accepting subject to condition proposal including an option for certain customers with existing agreements for grandfathered treatment); *ISO New England Inc.*, 124 FERC ¶ 61,297 (2008) (approving settlement agreement to implement proposal including grandfathering option).

[462] Necessary studies "are essentially generator interconnection modification studies." PJM March 24 Response at 7. This process is used for changes "that typically have relatively small MW impacts on [the generator's] ability to deliver less power to the grid than the configuration reflected in an existing service agreement." PJM March 24 Response at 47.

[463] Vistra April 23 Reply Comments at 23.

[464] Indicated Transmission Owners June 3 Answer at 23.

Customers' requests to use their generating facilities to serve Co-Located Load.[465] We also clarify that the above-directed requirement is on the Interconnection Customer with the interconnected generating facility that is seeking to modify its ISA or GIA to use that generating facility to serve Co-Located Load.

227. Second, we direct PJM to submit, within 60 days of the date of issuance of this order, a compliance filing to add to the Tariff a description of the scope of the analysis that it will perform as part of the necessary study process when an Interconnection Customer seeks to use its existing generating facility to serve Co-Located Load, consistent with PJM's discussion of how it conducts necessary studies associated with Interconnection Customers seeking to amend their ISAs or GIAs to use existing generating facilities to serve Co-Located Load, including to reflect any reduction in CIRs.[466] This should provide additional clarity and transparency regarding the steps that PJM and Interconnection Customers are taking to maintain transmission system reliability before an existing generating facility can serve Co-Located Load. In response to Antora's concerns,[467] we require PJM to describe the information that the Interconnection Customer must provide about the Co-Located Load for purposes of the necessary study. In response to RMI,[468] we clarify that PJM's necessary study process, as reflected in the record, assesses any special protection scheme that is a part of a Co-Location Arrangement.[469] We disagree with parties such as PIOs who claim that the necessary study process is inappropriate for generation interconnection modification to serve Co-Located Load. PIOs, for example, claim this process is "a poor fit,"[470] but they do not critique PJM's detailed explanation in its Show Cause Response of the scope of its study. We also believe that the Tariff revisions required as part of this compliance filing address some of the transparency concerns that parties have raised about the use of the

[465] Show Cause Order, 190 FERC ¶ 61,115 at P 75 ("As such, the record of proceedings before the Commission appear to suggest that Transmission Owners are taking different approaches to performing the steps necessary to accommodate a co-location arrangement and in the transmission service that they are requiring entities to take.").

[466] *See* PJM March 24 Response at 49, 51-53.

[467] Antora April 23 Reply Comments at 8.

[468] RMI April 23 Reply Comments at 4-5.

[469] PJM March 24 Response at 49.

[470] PIOs April 23 Response at 9.

necessary study process, including questions about the scope of the analysis[471] and how the necessary study process aligns with other studies.[472] To the extent that PJM seeks to enhance the necessary study process, including as it gains experience evaluating requests from Interconnection Customers to modify their interconnection to serve Co-Located Load, PJM may submit such enhancements in an FPA section 205 filing.

228. Third, we direct PJM to submit, within 60 days of the date of issuance of this order, a compliance filing to revise the Tariff to indicate that the Interconnection Customer will be responsible for the costs of any modifications or Network Upgrades that are needed as a result of PJM's study of the change to the ISA or GIA to allow the existing generating facility to serve Co-Located Load, including to reflect any reduction in CIRs, inclusive of all necessary Network Upgrades. This will clarify that costs associated with such Co-Location Arrangements will not be unfairly shifted to other transmission customers. PJM states that it requires Interconnection Customers to complete such upgrades before using their generating facilities to serve Co-Located Load in practice, but this requirement does not appear to be in the Tariff.[473] Therefore, as part of this compliance directive, we direct PJM to revise its Tariff to clarify that an existing generator may not commence service to a Co-Located Load until all required Network Upgrades, special protection schemes, and metering are in service.

229. By directing PJM to revise its Tariff as discussed above, the Tariff will have sufficient clarity and consistency to facilitate Co-Location Arrangements in a just and reasonable and not unduly discriminatory or preferential manner. We note that we are directing a longer compliance timeline for PJM to submit these Tariff revisions related to Interconnection Customers seeking to serve Co-Located Load using existing generating facilities, compared to the compliance timeline described below related to new generating facilities, in order to expeditiously provide Interconnection Customers clarity on the steps that will be needed to bring new generation online to serve Co-Located Loads.

230. In accordance with the existing rules for removing Capacity Resource status,[474] we also clarify that an existing generating facility may not begin serving Co-Located Load

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[471] OPSI April 23 Reply Comments at 3.

[472] Glatz/Silverman April 23 Reply Comments at 7.

[473] PJM March 24 Response at 50 ("Service to the co-located load pursuant to the co-located load configuration may not commence until the necessary PJM interconnection service agreement(s) has been fully executed by the parties, filed with and accepted by the Commission, and *all required system reinforcements*, system protection facilities, and metering are in place.") (emphasis added).

[474] *See* PJM, Intra-PJM Tariffs, OATT, attach. DD.6, § 6.6 Offer Requirement for

that is not Network Load until it has delisted its CIRs for the portion of the generating facility to be designated to serve any Co-Located Load that is not receiving NITS. In order for an existing generator to de-list its CIRs to serve Co-Located Load, the Interconnection Customer must revise its ISA or GIA and bear the cost of all required system upgrades, as noted above.

d. New Generating Facilities Serving Co-Located Load

231. Next, we discuss several clarifications that we require PJM to make in its Tariff with respect to Interconnection Customers seeking to use new generating facilities to serve Co-Located Load. Such revisions are necessary to clarify the steps such Interconnection Customers must take to effectuate Co-Location Arrangements in a manner that is just and reasonable and not unduly discriminatory or preferential.

232. First, with respect to Interconnection Customers seeking to use new generating facilities to serve Co-Located Load, we direct PJM to submit, within 30 days of the date of issuance of this order, a compliance filing to revise section 404.A.2.a.v of its Tariff to clarify that PJM shall consider requests for interconnection service below the full generating capability of the generating facility, so that an Interconnection Customer may request interconnection service at a level below its maximum facility output to serve Co-Located Load. We direct PJM to revise any other Tariff provisions consistent with this directive.[475] Consistent with PJM's existing Tariff process, an Interconnection Customer seeking to use its generating facility to serve Co-Located Load will be studied at the level of interconnection service requested for the purposes of determining Interconnection Facilities, Network Upgrades, and associated costs, but may be subject to other studies at the full generating capability of the generating facility to ensure the safety and reliability of the transmission system, with the study costs borne by the Interconnection Customer.[476] This revision will clarify that an Interconnection Customer seeking to use a new generating facility to serve a Co-Located Load may request only the minimum level of interconnection service it deems necessary to effectuate its Co-Location Arrangement.

233. Second, we direct PJM to submit, within 30 days of the date of issuance of this order, a compliance filing to revise its Tariff to clarify that Interconnection Customers seeking to use new generating facilities to serve Co-Located Load may use existing procedures to accelerate a new service request if they satisfy the criteria of PJM's Tariff,

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Capacity Resources (3.0.0); PJM March 24 Response at 58.

[475] *See* Order No. 845, 163 FERC ¶ 61,043 at P 367.

[476] PJM, Intra-PJM Tariffs, OATT, § VIII.C.404.A.2.a.v Introduction (1.0.0).

i.e., the request has no cost allocation for Network Upgrades and does not require further studies.[477]

234. Third, we direct PJM to submit, within 30 days of the issuance of this order, a compliance filing to revise the Tariff to clarify that an Interconnection Customer seeking to use a new generating facility to serve Co-Located Load may request provisional interconnection service. As the Commission explained in Order No. 845, Interconnection Customers may seek provisional interconnection service when available studies or additional studies as necessary indicate that there is a level of interconnection service that can occur without any additional Interconnection Facilities and/or Network Upgrades, and the Interconnection Customer wishes to make use of that level of interconnection service while the facilities required for its full interconnection request are completed.[478] Consistent with PJM's existing Tariff process, whether PJM grants a request for provisional interconnection service is at PJM's discretion based upon its evaluation and the results of available studies.[479] This revision will clarify that an Interconnection Customer that requests provisional interconnection service for a new generating facility serving Co-Located Load can enter commercial operation and begin serving the Co-Located Load on an expedited basis, provided such provisional interconnection service is available. We also note that an Interconnection Customer may seek provisional service in combination with a request to interconnect at a level below nameplate capacity.

235. Fourth, we direct PJM to submit, within 30 days of the date of issuance of this order, a compliance filing to revise section 414 of its Tariff to clarify that an Interconnection Customer seeking to use a new generating facility to serve Co-Located Load at an existing point of interconnection may request Surplus Interconnection Service, if the existing Interconnection Customer at that point of interconnection has made Surplus Interconnection Service available. Consistent with PJM's Tariff, Surplus Interconnection Service is granted if PJM concludes in its Surplus Interconnection Study that no new Network Upgrades are required to accommodate the new generating facility's output at the designated point of interconnection.[480] This revision will clarify

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[477] PJM, Intra-PJM Tariffs, 406, OATT Part VIII.C 406 Decision Point I (1.1.0), § 406.A.2 ("Only New Service Requests that have no cost allocation for Network Upgrades and do not require further studies are eligible for acceleration."); PJM, Intra-PJM Tariffs, 408, OATT Part VIII.C 408 Decision Point II (2.1.0), § 408.A.2.d (stating same).

[478] Order No. 845, 163 FERC ¶ 61,043 at P 441.

[479] PJM, Intra-PJM Tariffs, ATTACHMENT O.A2.1.4A, OATT ATTACHMENT O.A2.1.4A Other Interconnection Options (2.1.0), § 1.4A.2.

[480] PJM, Intra-PJM Tariffs, 414, OATT Part VIII.E 414 Surplus Interconnection

that an Interconnection Customer seeking to use a new generating facility to serve Co-Located Load has the same opportunity to use Surplus Interconnection Service that is available to other new Interconnection Customers.

236. Lastly, we note that PJM requested guidance on its proposed options, including option 6.[481] Noting that we direct PJM to clarify its Tariff with respect to Interconnection Customers seeking to use a new generating facility to serve Co-Located Load, PJM and several commenters state that additional Tariff constructs that accelerate interconnection studies for new generation associated with new Co-Located Loads (PJM proposed option 6) may be just and reasonable.[482] We believe that such constructs may help address concerns raised in this proceeding that increasing amounts of new Co-Located Load seeking to be served by an Eligible Customer faster than equivalent generation can come online may create resource adequacy problems.[483] As PJM notes,[484] additional load on the system requires the addition of generators to serve that load reliably, and a process with accelerated interconnection studies for certain generators with Co-Located Load could timely match new load with needed generation.

e. Informational Report

237. We also are encouraged that, in August 2025, the PJM Board of Managers (PJM Board) initiated the CIFP stakeholder process to address matters that relate to but that are broader than those involving Co-Location Arrangements, and specifically, "to address the development of reliability-focused solutions to ensure large load additions can continue

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Service (1.0.0), § 414.B.2.

[481] *See* PJM March 24 Response at 5, 33-34, 53. PJM's option 6 refers to Co-located load that elects to be Network Load and bring its own generation.

[482] PJM suggests that one possibility could be to enhance existing provisional interconnection service to accelerate in a non-discriminatory manner the ability of new generation to achieve commercial operation. *Id.* at 17; *see also* Bloom April 23 Reply Comments at 2 (arguing that an integrated interconnection approach such as that outlined in the Brattle Report attached to Bloom's comments, which "shares some traits with the approach PJM calls New Option 6," could significantly accelerate the interconnection timeline).

[483] *See, e.g.*, PJM March 24 Response at 16-17; Market Monitor April 23 Reply Comments at 11; BrightNight April 23 Reply Comments at 9; Ohio FEA April 23 Reply Comments at 4-5; AEU April 23 Reply Comments at 14.

[484] PJM March 24 Response at 62.

to be integrated rapidly and reliably, without causing resource inadequacy."[485] PJM and stakeholders considered a number of potential reforms designed to accommodate large load additions in an efficient and reliable manner. In PJM's contemplated expedited interconnection process, for example, generation projects that have a contractual commitment to a new large load, in addition to standalone generation that submits a higher readiness deposit to PJM, would be able to access an expedited interconnection pathway, so long as they seek to be Capacity Resources, meet a substantial size threshold, pay a large, non-refundable study deposit, are supported by a state commitment to expedite permitting, and demonstrate three full years of 100% site control, among other criteria. Other reforms considered, and that we highlight here, included, but were not limited to, modifications to PJM's reliability backstop mechanism to expedite PJM's ability to procure generation capacity on a multi-year basis during instances of resource adequacy shortfalls, development of enhanced load forecasting criteria and processes, and rules to enable the more efficient utilization of the transmission system by increasing demand flexibility.

238. Accordingly, we direct PJM to submit in Docket No. EL25-49-000, within 30 days of the date of issuance of this order, a detailed informational report[486] on the status of the proposals considered in the CIFP stakeholder process, including—but not limited to—the status of the expedited interconnection process to enable shovel-ready generation projects to serve PJM more quickly, modifications to PJM's reliability backstop mechanism to improve PJM's ability to respond to acute resource adequacy shortfalls, and the development of enhanced load forecasting[487] and demand flexibility measures to assist PJM in determining the amount of new capacity that is needed to maintain system reliability. The informational report must include a detailed schedule of key milestones, such as stakeholder or PJM Board votes, that includes the estimated date on which PJM expects to file any such proposals with the Commission. Additionally, as part of this informational report, we direct PJM to identify any problem statements, issue charges, or other ongoing stakeholder processes that aim to increase the pace of adding generating capacity in the PJM region. PJM must provide as detailed a schedule as is feasible on the

[485] PJM, Critical Issue Fast Path – Large Load Additions, https://www.pjm.com/committees-and-groups/cifp-lla (last visited Dec. 5, 2025).

[486] Upon receipt, the Commission will not act on or notice this informational filing.

[487] We note that, on October 20, 2025, PJM submitted a response to then-Chairman Rosner's letter on load forecasting. *See supra* P 154. PJM should expand on its response to then-Chairman Rosner in the informational report that we direct here by explaining, in detail, any changes or updates to its load forecasting processes that it is considering.

timing of such initiatives, including updates on the stakeholder process and approximate dates of any anticipated filings with the Commission. The informational report also must identify specifically which of these initiatives would support the addition, on an expedited basis, of new generation that is sufficient to serve large loads, like data centers, while meeting PJM's near-term system resource adequacy needs

239. Finally, given PJM's currently compressed auction schedule, PJM should explain the proposed effective date of any proposal that it intends to file so that the Commission can understand whether any of those proposals could be in place by the 2028/2029 Base Residual Auction (BRA) and subsequent BRAs to attract sufficient new generation to maintain regional resource adequacy.

5. PJM Capacity Market, Reliability, and Resource Adequacy

240. There is also insufficient evidence in the record to find that the existing Tariff provisions governing capacity market rules, reliability, and resource adequacy are unjust and unreasonable or unduly discriminatory or preferential. In the Show Cause Order, the Commission stated that the Tariff may be unjust and unreasonable and unduly discriminatory or preferential insofar as it lacks rules necessary to provide PJM with sufficient information to perform appropriate analysis to ensure reliable system operations given the characteristics of Co-Location Arrangements.[488] Commenters responded with concerns, including that Co-Located Load served entirely behind-the-meter will not be accounted for in PJM's planning processes and that Co-Located Load could unexpectedly appear online after being previously invisible to PJM.[489]

241. However, as directed herein, Interconnection Customers choosing to serve Co-Located Load using their generating facilities will be required to identify an Eligible Customer who will take transmission service on behalf of that Co-Located Load. We find that this requirement should address concerns that Co-Located Load would not be visible to PJM or its transmission owners. We further note that Co-Located Load that elects to meet this requirement by taking NITS or the new Firm Contract Demand transmission service through an Eligible Customer will be included in transmission planning and the capacity market.[490] In addition, the Eligible Customer that elects to instead take the Non-Firm Contract Demand transmission service on behalf of

[488] *See* Show Cause Order, 190 FERC ¶ 61,115 at PP 83-86.

[489] Indicated Transmission Owners April 23 Reply Comments at 13; PPL April 23 Reply Comments at 10-11; Pennsylvania Commission April 22 Reply Comments at 6.

[490] *See* PJM March 24 Response at 39 n.64; Indicated Transmission Owners March 24 Response, attach. A at 17.

Co-Located Load agrees that it will be curtailed during emergency operations upon PJM's direction, and thus will not be included in transmission planning or in the capacity market.

242. Because PJM states that Co-Located Loads that elect to be Network Load may participate as a demand response resource under PJM's existing Tariff,[491] we find that there is not sufficient evidence to conclude that the existing Tariff is not just and reasonable as it relates to the existing demand response rules. We recognize that PJM acknowledges that there could be an additional review of the PJM Demand Response rules in its stakeholder process,[492] which may be further addressed through a future FPA section 205 filing. We also note that the Firm Contract Demand transmission service and Non-Firm Contract Demand transmission service we direct in this order will create opportunities for Co-Located Loads that do not elect to be Network Load to benefit from any ability they have to limit their consumption.

243. Regarding broader resource adequacy and reliability concerns associated with maintaining sufficient generation to serve Co-Located Load, we reiterate that load growth generally involves resource adequacy and reliability considerations, regardless of whether the new load is Co-Located Load.[493] Several commenters, including PJM, acknowledge this fact.[494] While the Commission found in the Show Cause Order that the speed at which Co-Located Load can be added to the transmission system may pose particular resource adequacy challenges, especially if Co-Location Arrangements are not adequately and transparently reflected in existing resource adequacy planning mechanisms,[495] there is not sufficient evidence to conclude that additional Tariff changes regarding Interconnection Customers electing to use their generating facilities to serve Co-Located Load are needed with respect to capacity market rules, reliability, and resource adequacy to ensure that the PJM Tariff remains just and reasonable. We encourage PJM to continue monitoring capacity market, resource adequacy, and reliability issues as they relate to Co-Location Arrangements to evaluate whether additional Tariff changes may be appropriate.

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[491] PJM March 24 Response at 19-20.

[492] *Id.* at 20.

[493] Show Cause Order 190 FERC ¶ 61,115 at P 85.

[494] *See, e.g.*, PJM March 24 Response at 57; Constellation April 23 Reply Comments at 11, 60-61 (citing Patterson Aff. ¶ 15).

[495] Show Cause Order 190 FERC ¶ 61,115 at P 85.

6. Motions

244. In response to the Motion to Stay, we reject the Joint Parties' request to stay the proceeding to allow them to develop through settlement proceedings a new replacement rate that establishes the services an Eligible Customer takes on behalf of Co-Located Load and allocates any costs to such Eligible Customer. Because we have established paper hearing procedures to determine the just and reasonable rates, terms, and conditions for new transmission services, and directed PJM to make related Tariff revisions on compliance, we deny the Motion to Stay.

245. We note that Vistra moved for clarification in this proceeding regarding the meaning of *Susquehanna* by April 16, 2025 so that parties could take the Commission's clarification of that order into account when preparing the comments due in this proceeding on April 23, 2025. The Commission issued the Susquehanna Rehearing Order on April 10, 2025 in Docket No. ER24-2172-002, including ruling on Vistra's motion in that proceeding seeking clarification of *Susquehanna*.[496] We thus dismiss as unnecessary Vistra's pending motion in this proceeding.

246. We partially grant Constellation's Motion insofar as we adopt the finding in the Show Cause Order that the PJM Tariff is unjust and unreasonable and establish a replacement rate.

247. We disagree with PJM that acting in this proceeding violates applicable case law. PJM selectively quotes *Cities of Anaheim* for the proposition that adjudication should not supplant a pending rulemaking proceeding, but PJM points to no actual court decision that holds that an agency has violated the Administrative Procedure Act on that basis. We also disagree with parties who argue that acting in this proceeding would prejudge the issues raised in the ANOPR proceeding or otherwise be improper. The Commission has discretion as to whether to proceed via adjudication or rulemaking,[497] and we find that it is an appropriate exercise of discretion to act on the PJM co-location proceeding before taking any action in the ANOPR proceeding.

7. Constellation Complaint

248. In the Show Cause Order, the Commission consolidated the new show cause proceeding in Docket No. EL25-49-000 with the complaint filed by Constellation against the PJM Tariff in Docket No. EL25-20-000. As summarized in detail in the Show Cause

[496] *Susquehanna*, 191 FERC ¶ 61,025.

[497] *N.L.R.B. v. Bell Aerospace Co. Div. of Textron, Inc.*, 416 U.S. 267, 294 (1974).

Order,[498] Constellation argued that the Tariff is unjust and unreasonable and unduly discriminatory because it lacks rules for interconnected generators to follow when seeking to serve to end-use load co-located with generation behind the meter in a configuration with system protection facilities to prevent the load from receiving electricity from the transmission system.[499] Constellation stated that, in establishing the replacement rate, the Commission should conclude that provisions of the PJM Guidance Document not on file with the Commission (particularly sections 2, 3, 5, and 7) must be incorporated into the Tariff under the rule of reason, which will provide certainty to generators and transmission owners by ensuring that the PJM Guidance Document is applied to all interconnected generators seeking to serve Co-Located Load.[500]

249. We grant in part and deny in part the complaint. We grant the complaint insofar as we find, as discussed above, that PJM's Tariff is unjust and unreasonable because it does not contain provisions addressing with sufficient clarity or consistency the rates, terms, and conditions of service that apply to Interconnection Customers serving Co-Located Load, including generators serving Co-Located Load in a configuration with special protection schemes to prevent the Co-Located Load from taking energy from the transmission system. We deny the complaint insofar as we direct PJM, as discussed above, to revise the Tariff to establish just and reasonable replacement rates, terms, and conditions for Interconnection Customers serving Co-Located Load. The PJM Guidance Document has been rescinded by PJM,[501] and it lacked all terms that we find above are just and reasonable for Interconnection Customers serving Co-Located Load.

The Commission orders:

(A) PJM is hereby directed to submit, within 30 days of the date of issuance of this order, revisions to its Tariff as described in Part IV.B.4.d.

(B) PJM is hereby directed to submit, within 60 days of the date of issuance of this order, revisions to its Tariff as described in Part IV.B.4.a and Part IV.B.4.c.

(C) PJM is hereby directed to submit, within 60 days of the date of issuance of this order, revisions to modify its Tariff to provide that the Eligible Customer taking transmission service on behalf of a Co-Located Load ensure that the Co-Located Load take one of three transmission services: (1) NITS, as modified in the body of this order,

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[498] *See* Show Cause Order, 190 FERC ¶ 61,115 at P 50.

[499] Complaint at 1.

[500] *Id.* at 20.

[501] PJM March 24 Response at 33.

(2) a new Firm Contract Demand transmission service, or (3) a new Non-Firm Contract Demand transmission service, as discussed in Part IV.B.4.b.

(D) Paper hearing procedures are established to evaluate the rates, terms, and conditions of the interim, non-firm transmission service, Firm Contract Demand transmission service, and Non-Firm Contract Demand transmission service.

(E) PJM is hereby directed to submit its initial brief in Docket No. EL25-49-000 on or before February 16, 2026. The deadline to file responses to PJM's initial brief will be March 18, 2026, and the deadline to file replies to those responses will be April 17, 2026.

(F) PJM is hereby directed to submit, within 60 days of the date of issuance of this order, revisions to the Tariff to: (1) revise the BTMG rules, as discussed in the body of this order; (2) propose a new MW threshold for the amount of load that Network Customers may net by using BTMG, as discussed in the body of this order; and (3) establish a transition period for Network Customers already using the BTMG rules, as discussed in the body of this order.

(G) PJM is directed to submit an informational report within 30 days of the date of issuance of this order, as discussed in the body of this order.

(H) Joint Parties' motion to stay is hereby denied, as discussed in the body of this order.

(I) Vistra's motion for clarification is hereby dismissed, as discussed in the body of this order.

(J) Constellation's motion for expedited action is partially granted, as discussed in the body of this order.

(K) The Constellation complaint in Docket No. EL25-20-000 is hereby granted in part and denied in part, as discussed in the body of this order.

By the Commission. Commissioner Rosner is concurring with a separate statement attached.
Commissioner Chang is concurring with a separate statement attached.

(S E A L)

Debbie-Anne A. Reese,
Secretary.

Appendix

Intervenors

Advanced Energy United (AEU)+
AES Corporation*
Alliant Energy Corporate Services, Inc.
Allegheny Electric Cooperative, Inc.+
Alpha Generation, LLC*
Ameren Companies[502]
American Clean Power Association
American Council on Renewable Energy (ACORE)*+
American Electric Power Service Corporation (AEP)[503]
American Municipal Power, Inc. (AMP)+&
American Petroleum Institute*
Americans for a Clean Energy Grid (ACEG)+
AMP Transmission, LLC*
Antora Energy LLC (Antora)*+
Appalachian Voices
Arevon Energy, Inc.
Arkansas Public Service Commission*
Avangrid, Inc.
Bloom Energy Corporation (Bloom)+
Boston Energy Trading and Marketing LLC
BrightNight Power Marketing, LLC (BrightNight)+
Brookfield Renewable Trading and Marketing LP
Buckeye Power, Inc. (Buckeye)+&
Business Council for Sustainable Energy (BCSE)+^
California Department of Water Resources State Water Project
California Public Utilities Commission

[502] Ameren Services Company, a wholly-owned subsidiary of Ameren Corporation, moves to intervene on behalf of its affiliated public utility operating companies, Ameren Illinois Company, Ameren Transmission Company of Illinois and Union Electric Company d/b/a Ameren Missouri.

[503] AEP moves to intervene on behalf of its affiliates Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc., and AEP West Virginia Transmission Company, Inc.

Calpine Corporation (Calpine)
Campbell Energy Advisors, LLC
CEPM Companies[504]
Center for Biological Diversity (Center)#
Chevron U.S.A. Inc. (Chevron)+
Clean Air Task Force (CATF)#
Clean Energy Buyers Association
Clearway Energy Group LLC*
Consolidated Edison Company of New York, Inc.
Constellation Energy Generation, LLC (Constellation)&
Consumers Energy Company
Consumers' Research+
Cooperative Energy
Cordelio Services LLC*
Crete Energy Venture, LLC
Data Center Coalition+
Delaware Municipal Electric Corporation, Inc.
Delaware Public Service Commission (Delaware Commission)*+
Dominion Energy Services, Inc.
DTE Electric Company
Earthjustice
East Kentucky Power Cooperative, Inc.
East Texas Electric Cooperative, Inc.
EDF Renewables, Inc. (EDFR)*+
Edison Electric Institute (EEI)+
Electric Power Supply Association (EPSA)[505]+
Electricity Consumers Resource Council (ELCON)+
Enchanted Rock, LLC (Enchanted Rock)+
Enerwise Global Technologies, LLC (CPower)
ENGIE North America Inc.* (ENGIE)+
Environmental Defense Fund*
Eolian, LP*
Exelon Corporation
Exus Renewables North America (Exus)#

[504] Hamilton Liberty LLC, Hamilton Patriot LLC, Lakewood Cogeneration, LP, Essential Power OPP, LLC, Essential Power Rock Springs, LLC, and Cogentrix Energy Power Management, LLC (Cogentrix) comprise CEPM Companies.

[505] EPSA submitted joint comments with P3 (EPSA/P3).

FirstEnergy Transmission Companies[506]
Google Energy LLC
Google LLC
Hamilton Liberty
Idaho Power Company
Illinois Attorney General's Office
Illinois Citizens Utility Board
Illinois Municipal Electric Agency
Indiana Office of Utility Consumer Counselor*
Indicated Transmission Owners[507]+&

[506] First Energy Service Company moves to intervene as agent for its affiliates American Transmission Systems, Incorporated, Jersey Central Power & Light Company, Mid-Atlantic Interstate Transmission LLC, Keystone Appalachian Transmission Company, The Potomac Edison Company, Monongahela Power Company and Trans-Allegheny Interstate Line Company.

[507] Indicated Transmission Owners include: AEP on behalf of Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc., and AEP West Virginia Transmission Company, Inc.; AMP Transmission, LLC; City of Cleveland, Department of Public Utilities, Division of Cleveland Public Power; City of Hamilton, OH; Dominion Energy Services, Inc. on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia; Duke Energy Corporation on behalf of its affiliates Duke Energy Ohio, Inc., Duke Energy Kentucky, Inc., and Duke Energy Business Services LLC; Duquesne Light Company; East Kentucky Power Cooperative; Exelon Corporation, on behalf of Atlantic City Electric Company, Baltimore Gas and Electric Company, Commonwealth Edison Company, Commonwealth Edison Company of Indiana, Inc., Delmarva Power & Light Company, PECO Energy Company, and Potomac Electric Power Company; FirstEnergy Service Company, as agent for its affiliates American Transmission Systems, Incorporated, Jersey Central Power & Light Company, Mid-Atlantic Interstate Transmission LLC, Keystone Appalachian Transmission Company, The Potomac Edison Company, Monongahela Power Company and Trans-Allegheny Interstate Line Company; Old Dominion Electric Cooperative; PPL Electric Utilities Corporation; Rockland Electric Company; Southern Maryland Electric Cooperative, Inc.; UGI Utilities Inc; and Wabash Valley Power Association, Inc. Dominion Energy Services did not join in the June 3 Answer or the June 27 Answer. Duquesne Light Company did not join in the June 27 Answer.

Industrial Energy Consumers of America (IECA)[508]+
Invenergy Renewables LLC and Invenergy Thermal LLC (Invenergy)[509]+
ITC Companies[510]
Joint Parties[511]
Klondike Digital Infrastructure LLC
Large Public Power Council
Lee County Electric Cooperative, Inc.
Lincoln Generating Facility, LLC
LS Power Development, LLC (LS Power)
Mainspring Energy, Inc. (Mainspring)+
Maryland Office of People's Counsel (together with New Jersey Division of Rate Counsel, Joint Consumer Advocates)*+
Maryland Public Service Commission
Midwest Generation, LLC
Mississippi Public Service Commission
Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM (Market Monitor)+
National Grid
National Grid Renewables Development, LLC
National Hydropower Association
National Rural Electric Cooperative Association
National Security Experts[512]+
Natural Resources Defense Council (NRDC)+
Nebraska Public Power District
New Jersey Division of Rate Counsel+
New York State Reliability Council, L.L.C.*
Nextera Energy Transmission MidAtlantic, Inc. (NEET)+

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[508] IECA filed joint comments with the PJM ICC.

[509] Invenergy Renewables LLC and Invenergy Thermal LLC comprise Invenergy.

[510] International Transmission Company d/b/a ITC Transmission, Michigan Electric Transmission Company, LLC, ITC Midwest LLC and ITC Great Plains, LLC comprise ITC companies.

[511] Joint Parties is composed of EPSA, P3, Calpine, Cogentrix, Constellation, and LS Power.

[512] National Security Experts is composed of John B. Hashem, Robert G. F. Lee, Joseph L. Lengyel, Craig R. McKinley, Benny M. Paulino, Paul Stockton, Chuck Wald, and Darryl D. M. Wong.

North American Electric Reliability Corporation (NERC)*+
Northeast Texas Electric Cooperative, Inc.
Northeastern Rural Electric Membership Corporation (NREMC)+&
Northern Virginia Electric Cooperative, Inc. (NOVEC)+&
NRG Business Marketing LLC
Office of the Ohio Consumers' Counsel
Ohio Federal Energy Advocate (Ohio FEA)+
One Power Company*
Orange & Rockland Utilities, Inc.
Organization of PJM States, Inc. (OPSI)[513]+^
Pacific Gas and Electric Company (PG&E)[514]+
Pennsylvania Public Utility Commission (Pennsylvania Commission)+^
PJM&
PJM Industrial Customer Coalition (ICC)+
PJM Power Providers Group (P3)
PPL Electric Utilities Corporation (PPL)+
PSE&G Companies (PSE&G)[515]+&
Public Citizen, Inc.
Public Interest Organizations (PIOs)[516]+

[513] OPSI noted that the following of its members support its comments: Delaware Public Service Commission, Public Service Commission of the District of Columbia, Illinois Commerce Commission, Indiana Utility Regulatory Commission, Kentucky Public Service Commission, Maryland Public Service Commission, Michigan Public Service Commission, New Jersey Board of Public Utilities, Public Utilities Commission of Ohio, Pennsylvania Commission, Tennessee Public Utility Commission, Virginia State Corporation Commission and Public Service Commission of West Virginia. The North Carolina Utilities Commission did not join in these comments.

[514] PG&E submitted joint comments with Southern California Edison (together, California Utilities).

[515] Public Service Electric and Gas Company, PSE&G Power LLC and PSE&G Energy Resources & Trade LLC comprise the PSE&G Companies. Comments were filed by Public Service Electric and Gas Company.

[516] PIOs is composed of Appalachian Voices, CATF, Earthjustice, EDF, PennFuture, and the Sierra Club. Of the PIOs, PennFuture did not move to intervene.

Public Systems[517]
Repsol Energy North America Corporation
Rockland Electric Company
RMI#^
San Diego Gas & Electric Company
Shell Energy North America (US), L.P.
Sierra Club
Silver Run Electric, LLC+
Solar Energy Industries Association (SEIA)+
Southern California Edison Company+
Southern Maryland Electric Cooperative, Inc.*
Sustainable FERC Project
Suzanne Glatz and Abraham Silverman (Glatz and Silverman)+^
Talen Energy Corporation (Talen)+&
The Dayton Power and Light Company (AES Ohio)+
The Retail Energy Supply Association
UGI Utilities Inc.
Union of Concerned Scientists (UCS)+
United States Senators[518]^
Virginia State Corporation Commission (Virginia Commission)*
Vistra Corp. (Vistra)+&
Vote Solar
Wabash Valley Power Association, Inc.
West Virginia Public Service Commission*

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* moved to intervene out-of-time
+ filed comments or reply comments
# filed comments out-of-time
^ filed comments without a notice of intervention or motion to intervene
& filed an answer

[517] Connecticut Municipal Electric Energy Cooperative, Massachusetts Municipal Wholesale Electric Company, and Vermont Public Power Supply Authority comprise Public Systems.

[518] United States Senators include Senators Edward J. Markey, Chris Van Hollen, Elizabeth Warren, Peter Welch, Raphael Warnock, Richard Blumenthal, and Adam B. Schiff.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C. Docket Nos. EL25-49-000
Allegheny Electric Cooperative, Inc. EL25-49-001
American Transmission Systems, Incorporated
Atlantic City Electric Company
Baltimore Gas and Electric Company
Delmarva Power & Light Company
Duke Energy Ohio, Inc.
Duke Energy Kentucky, Inc.
East Kentucky Power Cooperative, Inc.
Essential Power Rock Springs, LLC
Hudson Transmission Partners, LLC
Jersey Central Power & Light Company
Mid-Atlantic Interstate Transmission, LLC
Neptune Regional Transmission System, LLC
Old Dominion Electric Cooperative
PECO Energy Company
PPL Electric Utilities Corporation
Potomac Electric Power Company
Public Service Electric and Gas Company
Rockland Electric Company
Trans-Allegheny Interstate Line Company
Transource West Virginia, LLC
UGI Utilities, Inc.
Monongahela Power Company
The Potomac Edison Company
Commonwealth Edison Company
Commonwealth Edison Company of Indiana, Inc.
The Dayton Power and Light Company
AEP Appalachian Transmission Company, Inc.
AEP Indiana Michigan Transmission Company, Inc.
AEP Kentucky Transmission Company, Inc.
AEP Ohio Transmission Company, Inc.
AEP West Virginia Transmission Company, Inc.
Appalachian Power Company
Indiana Michigan Power Company
Kentucky Power Company
Kingsport Power Company
Ohio Power Company
Wheeling Power Company
Duquesne Light Company

Virginia Electric and Power Company
Linden VFT, LLC
City of Cleveland, Department of Public Utilities,
Division of Cleveland Public Power
City of Hamilton, OH
Southern Maryland Electric Cooperative, Inc.
Ohio Valley Electric Corporation
AMP Transmission, LLC
Silver Run Electric, LLC
NextEra Energy Transmission MidAtlantic Indiana, Inc.
Wabash Valley Power Association, Inc.
Keystone Appalachian Transmission Company

Large Loads Co-Located at Generating Facilities	AD24-11-000
Constellation Energy Generation, LLC	EL25-20-000 (Consolidated)

v.

PJM Interconnection, L.L.C.

(Issued December 18, 2025)

ROSNER, Commissioner, *concurring*:

1. Today's order directs reforms that deliver a commonsense outcome: if a new large load wants to connect directly to a power plant and operate in a way that lowers grid costs, we should let it. If the current rules don't let this work in a way that's fair for everyone, we must change those rules to deliver the cost savings that consumers so badly need and ensure reliable electricity for all. Saying no to innovation is not a winning strategy—whether we're trying to win the AI race, bring back American manufacturing, or deliver the reliable and affordable energy on which families and small businesses depend.

2. While today's outcome is commonsense, like so many Commission policies, the order includes a lot of regulatory jargon, which is necessary for technical precision and legal durability. That being the case, I write separately to explain what we are doing and, importantly, why we are doing it.

3. Let's begin by explaining the problem that we are trying to solve. We are trying to meet surging demand while upholding two fundamental values that underpin the

electric industry in our country: first, that all customers have a right to receive electric service on a timely basis, and second, that electric service should be reliable and affordable for all customers. Given the scale of new large loads putting demand on our grid today, it is clear that fostering both of these values requires intervention. Unfortunately, it has become persistently difficult and increasingly expensive to build new grid infrastructure in this country. Because of this, a business-as-usual approach to load growth—planning for generation and load separately—will not suffice to timely meet growing demand while also keeping prices reasonable.

4. Today's order helps break the logjam. It directs PJM to establish new pathways for **co-location**—directly connecting a large load with the power needed to serve it at the same site—and **load flexibility** that enable large co-located loads to reduce how much they lean on the grid, while ensuring that they pay their fair share. As a result, PJM can avoid constructing unnecessary transmission upgrades for large loads, reduce strain on the grid, and make power bills cheaper for everyone—including for families and small businesses. And co-located large loads and generators can get online faster and easier than would otherwise be the case. Grid operators like PJM should allow and encourage large loads and generators to pursue these time- and cost-saving co-location arrangements. Here's how we get there.

5. *First*, today's order directs PJM to create two new transmission services, which we call **Firm** and **Non-Firm Contract Demand Transmission Service**. These services allow a load that is co-located with a generator to contract and pay for service from the grid consistent with the load's actual net withdrawals, while ensuring that the load cannot take more service than the contracted amount.

6. For example, consider a 1,000 MW data center that co-locates with a new 900 MW generator. Under PJM's *status quo* rules, the data center would be required to take the full 1,000 MW of "front-of-meter" transmission service (*see* **Figure 1**), despite being directly connected to the co-located generator. Under today's order, the data center has two new options:

a. The data center may elect to purchase Firm Contract Demand Transmission Service if, for example, it plans to take just 100 MW of firm transmission service from the grid and get the remaining 900 MW of energy it needs from the co-located generator (*see* **Figure 2**). In turn, PJM will plan enough transmission and procure enough capacity to serve only that 100 MW.

b. The data center may instead elect to purchase Non-Firm Contract Demand Transmission Service if, for example, it only plans to pull energy from the grid temporarily while its co-located generator is undergoing scheduled maintenance (*see* **Figure 3**). When the data center chooses non-firm service, PJM will not plan any additional transmission or purchase any capacity to serve that load.

Under either new transmission service, the co-located load must uphold its side of the bargain by bearing the risk of being curtailed if its usage exceeds what it has contracted for in advance. Therefore, regardless of whether a customer takes the new firm service, the new non-firm service, or some combination of the two, PJM will plan less transmission and procure less generating capacity for the data center, which reduces costs for both the new co-located load and for all other PJM customers and creates the opportunity for both the new generator and the new load to get online more quickly.

7. *Second*, today's order directs PJM to revise its generator interconnection rules to clarify how both new and existing generators may co-locate with load, with a particular emphasis on accelerating new generation.

8. For **new generators**, the order directs PJM to clarify that a generator may request a level of service that is consistent with its actual injections to the grid, net of a co-located load. Consider the example above, but in reverse. If a new 1,000 MW generator co-locates with a new 900 MW data center, that generator will be allowed to "reserve" 900 MW to directly serve the data center, and will thus request to inject only 100 MW onto the PJM grid. As a result, new generators with co-located load will need fewer transmission upgrades to access the grid, allowing much-needed electricity to get online more quickly and affordably. Furthermore, the order directs PJM to file these rules for new generator interconnection within 30 days. In sum, these changes will make "bringing your own new generation" co-located with new load cheaper and faster, benefiting the generator, the large load it will serve, and—critically—all other PJM customers.

9. For **existing generators**, today's order directs PJM to clarify that a generator cannot remove its capacity from the grid to serve a co-located load until *all* transmission upgrades needed to maintain reliability are in service, with the costs of those upgrades allocated 100% to the existing generator. This means that generators comprising the keystone of today's grid cannot abandon existing customers unless and until those generators and their large load customers—not other ratepayers—construct the transmission upgrades and incur the costs necessary to maintain reliable service for everyone. And under any of the new transmission services, the large load will also pay its fair share for any benefits it continues to draw from the grid after the co-location arrangement is set up.

10. *Third*, today's order protects existing customers—including families and small businesses—by directing PJM to assign transmission costs to ensure that a co-located load, such as a data center, always pays its fair share. A co-located load that does not withdraw energy from the grid will pay for at least the essential grid services on which it still relies (i.e., regulation and black start services). Meanwhile, a co-located load that has the same right to withdraw energy from the grid as a conventional front-of-meter load will take and pay for the full cost of traditional network transmission service. And for all

options in between, a co-located load will pay a fair rate that is commensurate with its actual usage of the grid, protecting other customers from unfair cost shifting and price increases. Unless a load and its generator are completely disconnected from the grid, they will get benefits from the grid—and today's order ensures that they will pay for those benefits.

11. *Fourth*, today's order directs PJM to establish a **new interim service** (*see* **Figure 4**) to provide a bridge while the infrastructure needed to serve a large load with traditional front-of-meter network transmission service is being built. This interim service leverages speed in the near-term and unlocks the benefits of a full grid connection in the long-term. It will allow co-located loads and generators seeking front-of-meter service to access the grid faster than they can today. In exchange for increased speed, these loads will bear the risk of being curtailed when the grid is constrained *until* the transmission upgrades needed to provide service are constructed. But that doesn't mean that the load will always have to shut down completely during peak periods. Rather, if the co-located load is paired with a new generator, and that generator is still waiting to begin its own front-of-meter service, the load can take service directly from the generator in the interim until both "graduate" to full, front-of-meter service. This pathway is important because traditional, front-of-meter network transmission service provides the broadest benefits to both load and generators—a network load can be served by any generator on the grid, and a network generator can sell its power to any customer on the grid.

12. *Fifth*, today's order encourages further progress on solutions beyond co-location to keep up with growing electricity demand by directing PJM to provide the Commission with a detailed report that describes its ongoing initiatives to reduce both technical and financial barriers to building new generation and efficiently connect large loads. Given PJM's announcement yesterday that its 2027/2028 Base Residual Auction was short of its reliability requirement, the solutions enabled by both today's order and PJM's ongoing initiatives to accelerate new generation are immensely important and urgent. The information PJM will file allows the Commission to monitor PJM's progress and ensure that any further Commission actions on large load issues in the PJM region skate to where the puck is going. To that end, Secretary Wright recently asked the Commission to consider a range of "potential reforms to ensure the timely and orderly interconnection of large loads to the transmission system."[519] Although the Secretary's initiative is

[519] U.S. Department of Energy, Secretary of Energy, Direction that the 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 (Oct. 23, 2025).

broader than both co-location and PJM, I am pleased that today's order makes major progress on the important matters that he referred to the Commission.

13. *Finally*, all of the Commission's actions in this proceeding respect the long-standing jurisdictional line between federal and state authority provided by Congress and affirmed by the Supreme Court. Co-located loads will continue to receive a bill for state-regulated retail service just like any other load. Moreover, states retain exclusive jurisdiction to allocate how the costs of FERC-jurisdictional transmission charges are divided between their retail ratepayers, including co-located loads. The difference today's order makes is that utilities and load-serving entities will now have access to new transmission service options that will help lower costs for everyone.

14. Today's order is just the next step on important work that the Commission cannot do alone. I encourage all parties to approach today's order, and the path forward that it directs, with an open mind. Durable consensus requires your collective expertise to implement a solution capable of meeting today's challenges, realizing the historic opportunity that load growth presents, and delivering the reliable and affordable energy on which we all depend. Our country deserves no less.

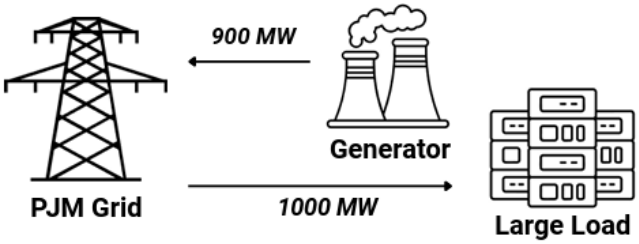
For these reasons, I vote to approve today's order.

_____

David Rosner
Commissioner

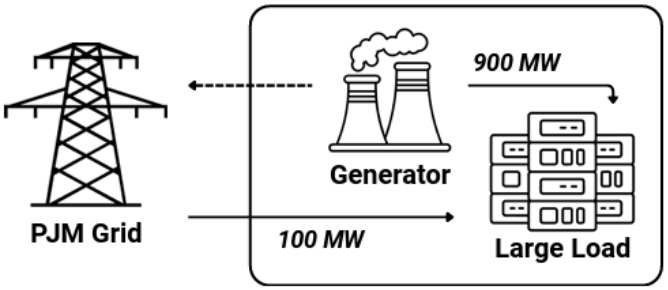
Figures

Figure 1: "Front-of-Meter" Network Integration Transmission Service



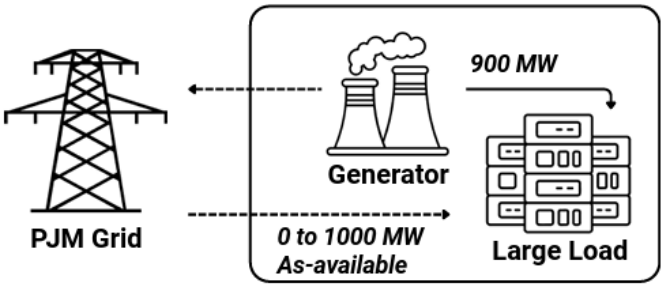
- PJM plans all transmission and generation to serve load
- Requires more transmission infrastructure and can take longer, but provides the broadest benefits

Figure 2: *New* Firm Contract Demand Transmission Service



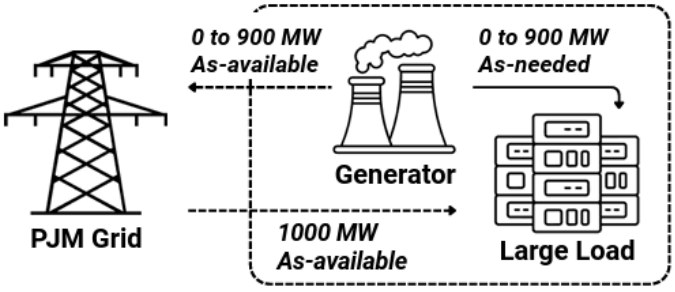
- Load pays for 100 MW of firm transmission service
- PJM has no obligation to serve load above 100 MW
- All or portion of the generator is devoted to co-located load

Figure 3: *New* Non-Firm Contract Demand Transmission Service



- Load pays for non-firm transmission service on an as-reserved basis
- PJM has no obligation to serve load if grid is unavailable
- All or portion of the generator is devoted to co-located load

Figure 4: *New* Interim Network Integration Transmission Service



- Load & Generator get non-firm service ASAP, and convert to firm service (Fig. 1) when grid upgrades are complete
- Generator can serve load while awaiting grid connection or when grid is unavailable

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners:

PJM Interconnection, L.L.C. Docket Nos. EL25-49-000
Allegheny Electric Cooperative, Inc. EL25-49-001
American Transmission Systems, Incorporated
Atlantic City Electric Company
Baltimore Gas and Electric Company
Delmarva Power & Light Company
Duke Energy Ohio, Inc.
Duke Energy Kentucky, Inc.
East Kentucky Power Cooperative, Inc.
Essential Power Rock Springs, LLC
Hudson Transmission Partners, LLC
Jersey Central Power & Light Company
Mid-Atlantic Interstate Transmission, LLC
Neptune Regional Transmission System, LLC
Old Dominion Electric Cooperative
PECO Energy Company
PPL Electric Utilities Corporation
Potomac Electric Power Company
Public Service Electric and Gas Company
Rockland Electric Company
Trans-Allegheny Interstate Line Company
Transource West Virginia, LLC
UGI Utilities, Inc.
Monongahela Power Company
The Potomac Edison Company
Commonwealth Edison Company
Commonwealth Edison Company of Indiana, Inc.
The Dayton Power and Light Company
AEP Appalachian Transmission Company, Inc.
AEP Indiana Michigan Transmission Company, Inc.
AEP Kentucky Transmission Company, Inc.
AEP Ohio Transmission Company, Inc.
AEP West Virginia Transmission Company, Inc.
Appalachian Power Company
Indiana Michigan Power Company
Kentucky Power Company
Kingsport Power Company
Ohio Power Company

Wheeling Power Company
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v.

PJM Interconnection, L.L.C.

(Issued December 18, 2025)

CHANG, Commissioner, *concurring*:

1. In today's order, the Commission addresses the rates, terms, and conditions through which Co-Located Loads may take service from the PJM Interconnection, L.L.C. (PJM) system. I write separately to address certain aspects of the Commission's proposed replacement rate and highlight the importance of developing a minimum charge for the new transmission services we establish today.

Today's Order

2. Due to significant delays in PJM's ability to interconnect new generation and load, large loads, including data centers, have preferred co-location arrangements to expedite their access to the PJM system. As today's order discusses, PJM's current tariff does not provide adequate clarity for the rules governing co-location arrangements. With today's

action, the Commission is providing guidance on how loads and generators may co-locate, including the development of new transmission services that recognize their ability to limit their energy withdrawals from the transmission system. The responsibility for setting these rules sits with the Commission. As we work together to address this issue, we must continue to keep protection of other customers from unnecessary risks and costs at the forefront of our decision making.

3. Today's order represents the first step to developing a package of solutions to address co-location in the PJM footprint. Specifically, by recognizing that controllable Co-Located Loads might use less service from the transmission system than traditional loads in front of the meter, the order's revised transmission service framework may reduce the number of, and costs associated with, future transmission upgrades. The order also helps to clarify how new generation resources may connect to the system on a provisional basis to serve Co-Located Loads.

4. Designing this new co-location framework highlights an essential component of the overall package: how we protect other customers from adverse reliability impacts and unjustified cost shifts. The Commission will ultimately resolve the rates, terms, and conditions of these new services following the paper hearing and compliance processes we direct today. As we consider the record, we will assess how those rates, terms, and conditions facilitate the efficient interconnection of Co-Located Loads, control transmission costs needed to serve them, and protect other customers against unjustified cost shifts.

Need for a Minimum Charge

5. One aspect of the paper hearing is particularly essential to protecting customers against transmission cost shifts under the new framework established through today's order: the need to establish a minimum charge for the Firm and Non-Firm Contract Demand transmission services.

6. The order proposes to establish these two new transmission services for use where the Co-Located Loads can electrically control the amount of energy that they will receive from the PJM system. As the order explains, all Co-Located Loads are synchronized to the PJM transmission system through their generators. All generators, and as relevant here, all generators that are part of Co-Located Arrangements, rely on the PJM transmission system to operate. Without the PJM grid, Co-Located Loads and their associated generators would be islanded. In today's order, neither of the newly developed Contract Demand transmission services requires Co-Located Loads to take any specific quantity of transmission service. In particular, the order contemplates that, under the new Contract Demand transmission services, if the Co-Located Load takes no service,

it would pay only for black start and regulation service.[1] Because the charges for those services only account for the provision of those discrete ancillary services, they do not contribute to the actual cost of building, operating, or maintaining the grid, or the Co-Located Load's explicit reliance on the PJM system. Black start and regulation service charges are nearly inconsequential.[2] Thus, just paying black start and regulation service charges does not constitute the Co-Located Loads paying for their "fair share" of the cost of maintaining and operating the transmission system. Furthermore, under such a scenario, a Co-Located Load would not pay for a portion of PJM's administrative costs, which are typically included in transmission service rates, even though the Co-Located Load benefits from services provided by PJM.

7. As a result, absent developing rates that explicitly charge the Co-Located Loads for their synchronization to and reliance on the PJM system, it is possible that a Co-Located Load would not contribute to the costs of operating and maintaining the system. Similarly, if a Co-Located Load takes a *de minimis* amount of Firm or Non-Firm Contract Demand service, it would pay only a minimal amount of system costs. Such scenarios would fail to recognize the benefits Co-Located Loads receive from the grid and risk shifting system costs to other customers. Simply put, Co-Located Loads electrically connected to the grid (through a co-located generator) benefit from the system and should cover their costs. This is a foundational cost causation principle that the Commission must uphold.

8. In the paper hearing established in today's order, the Commission seeks comments on whether the rates, terms, and conditions for these two new transmission services should reflect a minimum charge that recognizes that, without the transmission system, the Co-Located Load and generators could not operate as envisioned. The paper hearing also seeks briefing on how such a charge should be determined[3] and whether PJM administrative services charges should be applied to the new services.[4] To ensure the

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[1] *PJM Interconnection, L.L.C.*, 193 FERC ¶ 61,217, at P 206 (2025).

[2] According to data from the most recent State of the Markets Report by the PJM Independent Market Monitor, regulation and black start services constituted an average of $159 million and $47.5 million, respectively, for January through September 2024 and 2025, while transmission constituted an average of $10.81 billion for those two years. *See* PJM Independent Market Monitor, *2025 Q3 State of the Markets Report* at 18, https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2025/2025q3-som-pjm-sec1.pdf.

[3] *PJM Interconnection, L.L.C.*, 193 FERC ¶ 61,217 at P 219, questions 3 and 4.

[4] *Id.* questions 1 and 2.

Commission has a full and complete record on this issue, I encourage commenters to address the following points and questions in their responses to the paper hearing.

9. First, a just and reasonable replacement rate for the new transmission services should reflect some form of minimum transmission service charge, which would protect other customers against cost shifts resulting from Co-Located Loads that rely upon the transmission system but do not directly or meaningfully contribute to its costs via transmission service payments. This minimum charge would provide a floor to the Co-Located Load's cost responsibilities to pay for a portion of system costs, commensurate with the benefits that the Co-Located Load receives from the system, even where it plans to draw little or no energy from that system. I welcome comments on the need for such a minimum charge, including, but not limited to: (1) whether a Co-Located Load that is synchronized to the grid but does not meaningfully contribute to transmission system costs violates cost causation principles; and (2) whether such minimum charge is necessary for those that choose to take either the Firm and Non-Firm Contract Demand transmission service.

10. Second, I welcome comments on both the rate design and the specific costs to be included in such a minimum charge. For instance, given that all Co-Located Loads rely on the existence of the PJM grid and are synchronized to it, such loads should pay for at least their fair share of the system's operations and maintenance costs. In addition, I welcome comments as to whether Co-Located Loads should bear responsibility for some portion of the capital investments required to ensure the transmission grid continues to reliably serve all customers, and if so, the specific calculation of such charges.

Next Steps and Open Issues

11. While today's order is consequential, it is important that we place it in the proper context: it addresses a significant but discrete issue in PJM, and sets out services and guidance for a commercial model that may only be viable in a limited number of states where the co-located generator is eligible under state law to serve Co-Located Load. For states where retail loads must be served by the local electric utility, the model contemplated in this order may not apply, and thus it does not necessarily provide a replicable approach for large loads generally. Therefore, the broader challenge of reliably, efficiently, and fairly interconnecting large loads and the generation needed to serve them remains before the Commission, the states, and industry.

12. Further, today's order does not address the broader reliability challenges impacting the PJM footprint and its customers. While the order directs PJM to clarify options that exist under its current tariff, it does not address the clogged interconnection queue that has driven the interest in co-location in the first place as a way to expedite large loads' access to the grid. Solving this foundational problem will require a durable fix to the interconnection process that helps resources interconnect at a much more

efficient pace. As part of solving this problem, PJM must ensure that the transmission system is built to adequately support the interconnection of new, needed generation. I have a strong preference for durable reforms over one-off fixes.[5] Sound investments are driven by good data, comprehensive planning, and disciplined operations. The Commission, states, grid planners and operators, and utilities must balance near-term pressures and incentives with delivering long-term value to the customers we serve. Beyond this proceeding, I am concerned about PJM's ability to procure sufficient resources to reliably serve both new and existing load. PJM's resource adequacy construct must deliver clear price signals while being mindful of ratepayer costs.

13. As we consider further reforms, the Commission's core regulatory principles – most notably open access to the transmission system (including through an efficient interconnection process) – remain the foundation for addressing load growth and related challenges. While reform to existing approaches is likely needed, customers – particularly captive ones – must not bear the cost of a data center-driven infrastructure buildout, and the risks and costs associated with this buildout must not be shifted to small businesses and residential customers.

Conclusion

14. Following the paper hearing and compliance process, the Commission will determine the just and reasonable replacement rates. This process will consider comments regarding the design of these new transmission services, and how to ensure that other customers are protected against unnecessary risks and costs. As we establish new transmission services, it cannot come at the expense of other ratepayers. I look forward to reviewing the record developed in response to today's order while the Commission, the states, PJM, and others work to address the broader reliability and interconnection challenges facing the region.

[5] *See, e.g.*, *Sw. Pwr. Pool, Inc.*, 192 FERC ¶ 61,062, at P 3 (2025) (Chang, Comm'r, concurring).

For these reasons, I respectfully concur.

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Judy W. Chang

Commissioner