United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued December 11, 2023 Decided July 26, 2024

No. 20-1283

NEW YORK POWER AUTHORITY AND HUDSON TRANSMISSION PARTNERS, LLC,
PETITIONERS

v.

FEDERAL ENERGY REGULATORY COMMISSION,
RESPONDENT

PJM INTERCONNECTION, L.L.C. AND PPL ELECTRIC UTILITIES CORPORATION,
INTERVENORS

Consolidated with 20-1352

On Petitions for Review of Orders of the
Federal Energy Regulatory Commission

Lucas C. Townsend argued the cause for petitioners. With him on the joint briefs were *Gary D. Levenson*, *Lawrence G. Acker*, *Gary D. Bachman*, and *William R. Hollaway, Ph.D*.

Susanna Y. Chu, Attorney, Federal Energy Regulatory Commission, argued the cause for respondent. With her on the

brief were *Matthew R. Christiansen*, General Counsel, and *Robert H. Solomon*, Solicitor.

John Longstreth argued the cause for respondent-intervenor PPL Electric Utilities Corporation. With him on the brief was *Donald A. Kaplan*. *Steven M. Nadel* entered an appearance.

Before: RAO, WALKER and CHILDS, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* RAO.

RAO, *Circuit Judge*: When Hudson Transmission Partners owned firm rights to draw electricity from the PJM grid, it was assessed costs for certain improvements. Hudson relinquished its firm rights in 2017. The question presented here is whether, under the PJM Open Access Transmission Tariff ("PJM Tariff"), Hudson must continue paying the previously assessed costs for (1) upgrades to lower voltage facilities and (2) economic projects.

The Federal Energy Regulatory Commission ("FERC") correctly found that Hudson must continue to pay for these costs. The PJM Tariff dictates that prior assessments for lower voltage facility upgrades are fixed and unaffected by a change in firm rights, and the costs of economic projects are validly allocated to entities like Hudson that benefit from the energy savings. We accordingly deny the petitions for review.

I.

This case is a sequel to *Consolidated Edison Co. of New York, Inc. v. FERC* ("*ConEd*") and involves several of the same parties. *See* 45 F.4th 265 (D.C. Cir. 2022) (per curiam). That decision discusses the regulatory background and the relationship between the various energy providers in detail, but

we recount the facts necessary to evaluate the issues presented here.

A.

PJM Interconnection ("PJM") manages the electric grid in a region stretching from Illinois to New Jersey, overseeing a network of member utilities that deliver energy from generators to consumers. The utilities own the grid's electrical infrastructure, but PJM exercises operational control over the transmission of electricity and coordinates with several "merchant transmission facilities," like Hudson. Unlike utilities, which sell electricity to customers within PJM's grid, merchant transmission facilities pay to draw power from PJM's grid and sell it to customers outside the PJM region. *See PJM Interconnection, L.L.C.*, Opinion No. 503, 129 FERC ¶ 61,161 at P 2 & n.3 (2009); *TransEnergie U.S., Ltd.*, 91 FERC ¶ 61,230, 61,835–36 (2000).

As part of its managerial responsibilities, PJM helps prepare the Regional Transmission Expansion Plan ("Regional Plan"), which schedules improvements to PJM's transmission facilities to accommodate changing energy needs. Because upgrades to one part of the grid often benefit other users, PJM can spread the costs among grid participants in accordance with Schedule 12 of the PJM Tariff. Two types of improvements are relevant here: reliability upgrades and economic projects. In its landmark Opinion No. 503, FERC concluded that merchant transmission facilities with firm rights could be assigned a share of the costs for these improvements. Opinion No. 503 at PP 73, 80.

The method for calculating cost assignments for reliability upgrades has changed significantly in the last decade. Before 2013, PJM assigned these upgrade costs using a violation-based distribution factor analysis, a "snapshot" approach

designed to determine which entities were drawing power from specific facilities at a given time and contributing to violations of reliability standards. *See PJM Interconnection, L.L.C.*, 142 FERC ¶ 61,214 at PP 348, 379, 427 (2013); *PJM Interconnection, L.L.C.*, Opinion No. 494, 119 FERC ¶ 61,063 at P 2 n.3 (2007). Upgrade costs would then be assigned to participants in proportion to their contribution to the reliability violation. Because the violation-based method was tied to energy usage at a particular point in time and the calculations were fixed, FERC determined that the method failed to account for the constant changes to the grid. *See PJM Interconnection, L.L.C.*, 138 FERC ¶ 61,230 at P 37 (2012). In 2013, PJM switched to a solution-based distribution factor. This calculation method projects who will benefit from upgrades based on relative usage, and it permits PJM to update and reassign costs annually. *PJM Interconnection*, 142 FERC ¶ 61,214 at PP 379, 416.

When PJM changed to the new cost calculation method, Schedule 12 was revised, but these revisions also included a kind of saving clause stating "nothing" in the revised Schedule 12 "shall change the assignment of cost responsibility" for reliability upgrades calculated using the old violation-based method, "[e]xcept as specifically set forth herein." PJM Tariff, Sched. 12(a)(v).

B.

Petitioner Hudson is a merchant transmission facility that interconnects with PJM. It owns an eight-mile-long cable that runs under the Hudson River from New Jersey to New York. When energy prices are lower in New Jersey, Hudson routes electricity across the river and sells it at a profit. On the New Jersey side, Hudson connects to a PJM member utility, while in New York, Hudson's "anchor" customer is the New York

Power Authority, a government-run electrical utility. The New York Power Authority is responsible for the charges that Hudson incurs to obtain electricity from PJM.

In 2010, Hudson contracted with PJM for firm rights, entitling Hudson to draw a guaranteed amount of energy from PJM's grid. At that time, several merchant transmission facilities held firm rights, and ConEd held the equivalent of firm rights. Hudson, ConEd, and the other facilities were each assigned a percentage of the cost responsibility for improvements. Pre-2013 cost assessments for reliability upgrades—employing the old violation-based calculation method—were memorialized in Schedule 12's Appendix ("Appendix").

Faced with rising costs for various improvement projects, ConEd let its rights expire in 2017. A provision in the Tariff allowed PJM to reallocate ConEd's remaining cost responsibility if ConEd terminated its contract, and so PJM shifted a portion of ConEd's cost responsibilities onto Hudson. *See id.* Sched. 12(b)(xi)(B).

Also unable to keep up with these escalating costs, Hudson sought—and FERC approved—the conversion of its firm rights into non-firm rights. *PJM Interconnection, L.L.C.*, 161 FERC ¶ 61,262 at P 1 (2017). This relieved Hudson of its obligation to pay for ongoing reliability upgrades calculated using the solution-based method, including $633 million in costs formerly assigned to ConEd. *See PJM Interconnection, L.L.C.*, 162 FERC ¶ 61,197 at P 28 (2018). We affirmed that decision in *ConEd*. *See* 45 F.4th at 286–90. But neither FERC nor our court addressed whether Hudson, after relinquishing its firm rights, was obligated under the PJM Tariff to continue paying for other previously assessed costs.

C.

The question in this case is whether Hudson remains responsible for the balance of two kinds of previously assessed costs. First, Hudson claims it is no longer required to pay for reliability upgrades to "lower voltage facilities" that are listed in the Appendix. Lower voltage facilities are smaller segments of electrical infrastructure that improve grid reliability. Before 2013, Hudson was assigned a share of the cost responsibility for upgrades to these facilities, including a $975 million set of upgrades in New Jersey that was completed in 2016. Hudson claims that its remaining share of these upgrades is approximately $136 million, to be paid out over the next 40 years.

Second, Hudson insists its lack of firm rights eliminates its obligation to pay for nine "economic projects." When demand for energy outstrips transmission facilities' ability to provide it, the grid is forced to "draw on more expensive generation closer to the areas of high demand, which ultimately raises costs to consumers." *Int'l Transmission Co. v. FERC*, 988 F.3d 471, 473 (D.C. Cir. 2021). Economic projects aim to ameliorate these inefficiencies. PJM allocates the costs of economic projects to "Zones" based on their share of cost savings from the improvements over the first fifteen years of the projects' lives. *See* PJM Tariff, Sched. 12(b)(v)(C). PJM previously assessed Hudson cost responsibility for nine of these projects.

D.

Based on its interpretation of the Tariff, PJM concluded that after Hudson converted to non-firm rights, it was no longer responsible for paying for lower voltage facility upgrades and economic projects. PJM filed a proposal with FERC to revise

Schedule 12 of the Tariff to that effect.[1] Several parties intervened to oppose the amendments, including some of PJM's member utilities.

FERC rejected PJM's proposed changes. *PJM Interconnection, L.L.C.*, 170 FERC ¶ 61,295 at P 24 (2020). FERC first found that Hudson must continue to pay the previously assessed costs for lower voltage facilities. According to the Tariff, regional upgrade charges in the Appendix—including Hudson's responsibility for the lower voltage facilities—are fixed and unchangeable unless Schedule 12 "specifically" states otherwise. PJM Tariff, Sched. 12(a)(v). FERC determined that nothing in Schedule 12 explicitly changed this cost responsibility. *PJM Interconnection*, 170 FERC ¶ 61,295 at P 28. FERC also reasoned that costs for economic projects are allocated to "transmission owners whose load benefits from these investments." *Id.* at P 30. Even without firm rights, Hudson benefits from the savings associated with these economic projects and must continue paying for them. *Id.* FERC reached the same conclusions on rehearing. *PJM Interconnection, L.L.C.*, 172 FERC ¶ 61,205 at PP 21–29 (2020).

Hudson timely petitioned for review, as did the New York Power Authority, which joined Hudson on the briefs. We have jurisdiction over the consolidated petitions under 16 U.S.C. § 825*l*(b).

II.

We review FERC orders to ensure they are not "arbitrary, capricious, an abuse of discretion, or otherwise not in

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[1] Section 205 of the Federal Power Act requires FERC to approve all proposed tariff revisions. 16 U.S.C. § 824d(a), (d).

accordance with law." 5 U.S.C. § 706(2)(A). FERC is bound to follow "unambiguous tariff language." *La. Pub. Serv. Comm'n v. FERC*, 10 F.4th 839, 846 (D.C. Cir. 2021). It must also act consistently with its prior orders and the cost-causation principle, assigning the costs of improvements to the parties that either cause the need for an improvement or benefit from it. *See Ind. Boxcar Corp. v. R.R. Ret. Bd.*, 712 F.3d 590, 591 (D.C. Cir. 2013); *Okla. Gas & Elec. Co. v. FERC*, 11 F.4th 821, 832 (D.C. Cir. 2021). Applying these standards, we conclude that FERC properly held Hudson responsible for the cost assignments associated with lower voltage facilities and economic projects.

A.

First, Hudson argues that both the PJM Tariff and prior FERC decisions forbid PJM from continuing to collect previously assessed lower voltage facility costs from a merchant transmission facility that has given up its firm rights. The costs at issue were allocated to Hudson after it contracted for firm rights and were memorialized in Schedule 12's Appendix.

The Tariff sets a strong presumption in favor of requiring Hudson to continue paying for these upgrades. The Appendix sets out the cost responsibility for regional upgrades calculated using the old violation-based method, including Hudson's allocations for the lower voltage facilities. *See PJM Interconnection*, 172 FERC ¶ 61,205 at P 8. The Tariff also provides that "[e]xcept as specifically set forth herein, nothing in this Schedule 12 shall change the assignment of cost responsibility" in the Appendix. PJM Tariff, Sched. 12(a)(v). No provision in Schedule 12 specifically addresses or alters Hudson's cost assignments for lower voltage facilities in the

Appendix. Thus, we agree with FERC that Hudson remains responsible for paying these charges.

Hudson raises several challenges to this straightforward conclusion, but each misreads the Tariff or misinterprets FERC's prior decisions. Hudson's primary argument is that Schedule 12 section (b)(x)(B)(2) obviates its responsibility to pay for lower voltage facilities. This section sets some special rules for merchant transmission facilities in the regional planning process, including that PJM "shall base the collection of … [c]harges … on the actual Firm … Rights that have been awarded to the Merchant Transmission Facility." *Id.* Sched. 12(b)(x)(B)(2). Because Hudson no longer possesses "actual" firm rights, it maintains this provision prohibits PJM from continuing to collect regional upgrade costs.

In context, however, this provision is far more limited—it addresses how PJM should proceed when a merchant transmission facility has contracted for firm rights but has not received them in full. For various reasons, there may be a gap between the time a facility contracts for firm rights and the time it is entitled to receive its full complement of rights. Section (b)(x)(B) explains how PJM should accommodate these circumstances. First, under section (b)(x)(B)(1), PJM must "defer collection" of charges until the merchant transmission facility "goes into commercial operation." Then section (b)(x)(B)(2) provides PJM will limit "collection" of upgrade charges to the firm rights actually awarded. And section (b)(x)(B)(3) provides a mechanism for collecting deferred charges in the situation in which a facility is awarded less than the amount of firm rights in its interconnection agreement.

Within this structure, the role of section (b)(x)(B)(2) is clear. It prohibits PJM from collecting the full amount of upgrade charges until a facility has acquired the full amount of

agreed-upon firm rights.[2] Hudson cannot convert section (b)(x)(B)(2) into an all-purpose rule that merchant transmission facilities without firm rights do not pay for previously assessed upgrades set in the Appendix. The provision says nothing about Hudson's situation, namely where a merchant transmission facility was assigned upgrade costs under the violation-based calculation method, received its full amount of firm rights, and then gave up those rights in favor of non-firm rights.[3] Section (b)(x)(B)(2) certainly does not "specifically" require changes to the fixed cost allocations for lower voltage facilities, as section (a)(v) requires.[4]

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[2] For context, section (b)(x)(B)(2) was added in response to Opinion No. 503, which held that "[t]o the extent … [a] Merchant Transmission Facility receives less than the full allocation of Firm … Rights on [its] in-service date, PJM should bill the Merchant Transmission Facility based on the actual Firm … Rights available at that time while deferring further collections until the full Firm Transmission Withdrawal Rights are awarded." Opinion No. 503 at P 146; *see also* PJM Compliance Filing, FERC Docket No. ER06-456-022 (Feb. 19, 2010).

[3] FERC suggested that section (b)(x)(B)(2) operated to prevent merchant transmission facilities without firm rights from being allocated prospective solution-based cost assignments. *See PJM Interconnection*, 170 FERC ¶ 61,295 at P 28. That is partially correct—when allocations for reliability upgrades are updated each year, merchant transmission facilities who lack firm rights as of the assignment date will not receive cost allocations. *See* PJM Tariff, Sched. 12(b)(i)(A)(1)(b), (b)(i)(A)(2)(a), (b)(ii)(A), (b)(iii)(A)(3). The Tariff compels that result through other provisions, however, not section (b)(x)(B)(2).

[4] Hudson also contends that FERC's order should be vacated because it "entirely failed to analyze the text of Schedule 12(b)(x)(B)(2)." But FERC correctly concluded that "[no] language in … section

Hudson next argues that even if the cost allocations for lower voltage facilities are fixed, section (b)(x)(B)(2) prohibits PJM from collecting on those allocations. But section (b)(x)(B)(2) is not a flat ban on collecting charges from a merchant transmission facility without firm rights; it addresses merchant transmission facilities facing a discrepancy between the firm rights contracted for and the firm rights received. This section simply does not address whether PJM can collect on previously assessed upgrade charges after Hudson gave up its firm rights.

Turning to the history of the PJM Tariff, Hudson insists that section (b)(x)(B)(2) must operate to bar the collection of the previously assessed violation-based charges because, at the time that section was written into Schedule 12, the violation-based method was the only way to make cost allocations for lower voltage facilities. Again, however, Hudson misunderstands the import of section (b)(x)(B)(2). Under both the violation-based method and the solution-based method, section (b)(x)(B)(2) caps the collection of charges at the level of a merchant transmission facility's actual firm rights, until a facility receives its full complement of rights. But importantly, when PJM transitioned to the new solution-based method in 2013, it added section (a)(v) to make clear that the *previous* cost assessments memorialized in the Appendix remained unchanged (absent an express provision stating otherwise). To reiterate, because section (b)(x)(B)(2) does not specifically undo those previously assessed charges, Hudson remains responsible for them.

(b)(x)(B)(2) … specifically changes the cost allocation" for charges in the Appendix. *PJM Interconnection*, 172 FERC ¶ 61,205 at P 24. A lengthy explanation is unnecessary when FERC relies on the straightforward text of the Tariff.

Hudson also claims the charges in the Appendix cannot truly be fixed because PJM reallocated ConEd's charges after ConEd terminated its contract. But the Tariff expressly provides that "[a]ll cost responsibilit[ies]" under Schedule 12 "shall be adjusted at the commencement and termination of service under the ConEd Service Agreements." *Id.* Sched. 12(b)(xi)(B). If anything, this language demonstrates the level of specificity the PJM Tariff uses to authorize adjustments of previously assessed charges. The absence of comparable language with respect to Hudson, or to merchant transmission facilities more generally, underscores that nothing in Schedule 12 "specifically" relieves Hudson of the obligation to pay for its share of previously assessed upgrade costs for lower voltage facilities.[5] *Id.* Sched. 12(a)(v).

Furthermore, FERC's interpretation of the Tariff is supported by its prior orders. Back when PJM still used the violation-based method for lower voltage facilities, an electric utility left PJM's grid and there was a dispute about whether the utility was still responsible for annually assessed higher voltage facility costs. *Midwest Indep. Transmission Sys. Operator, Inc.* ("*MISO*"), 124 FERC ¶ 61,219 at PP 1, 168 (2008). These annual costs contrasted with lower voltage facility costs, which were "fixed" in the Regional Plan. *Id.* at P 168. The utility conceded, and FERC agreed, that because the lower voltage costs were "fixed," the utility was liable for them, even after it left the grid. *Id.* What was true in *MISO* is true here. After giving up its firm rights, Hudson is no longer responsible for annually updated costs (calculated using the

[5] Hudson's only response is to argue that section (b)(xi) does not specify a way to calculate reallocation. But that is beside the point. Section (b)(xi) specifically authorizes the reallocation of ConEd's cost assignments. No such provision exists for Hudson or other merchant transmission facilities.

solution-based method), but it still owes the fixed lower voltage facility costs.

Hudson insists that later FERC orders tell a different story, and FERC arbitrarily contradicted those orders here. Hudson pulls a sentence from Opinion No. 503, in which FERC stated that PJM may allocate Regional Plan costs to merchant transmission facilities with firm rights because it is "required to provide [them] reliable service." Opinion No. 503 at P 80. Merchant transmission facilities "can avoid these costs if instead of opting for Firm … Rights, they opt only for Non-Firm … Rights under the tariff." *Id.* But in context, FERC was referring to a facility's *initial* choice to obtain firm rights versus non-firm rights. Hudson previously opted for firm rights in 2010, and so PJM planned upgrades and allocated Hudson costs that were set in the Appendix. FERC's decision here is not in conflict with Order No. 503, which simply does not address what happens to those fixed cost allocations when a facility converts its firm rights to non-firm rights.

Hudson alternatively relies on language in FERC's December 2017 order, which states that when Hudson converts to non-firm rights, "upgrade costs [will] no longer be allocable to [Hudson]." *PJM Interconnection*, 161 FERC ¶ 61,262 at P 50. Seizing on this phrase, Hudson insists it cannot be allocated upgrade costs of any kind. But the December order, which approved Hudson's conversion to non-firm rights, was plainly prospective. The very next sentence is clear that the costs referenced were the ongoing solution-based cost allocations, those "updated annually … to determine beneficiaries of [Regional Plan] projects."[6] *Id.* FERC has

[6] Hudson also points to FERC's statement that the Tariff does "not require a merchant transmission facility … to be allocated costs for [a Regional Plan] project over the life of that project based on

consistently maintained such costs may be assigned only to merchant transmission facilities with firm rights, and everyone agrees that PJM may no longer allocate solution-based costs to Hudson. *Id.* at PP 49–50. The December order says nothing about the previously assessed costs for upgrades listed in the Appendix, such as for lower voltage facilities.

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With respect to the previously assessed charges for lower voltage facilities fixed in the Appendix, FERC followed the plain language of the PJM Tariff and reasonably explained how its decision complied with prior orders. We therefore conclude that Hudson continues to be responsible for these charges even after converting to non-firm rights.

B.

Hudson next challenges its continuing cost responsibility for nine economic projects, which are improvements that lower the cost of transmitting electricity. *PJM Interconnection*, 172 FERC ¶ 61,205 at P 5. FERC's conclusion that Hudson is still responsible for these charges is consistent with the text of the Tariff and agency precedent.

Section (b)(v) of Schedule 12 defines the cost allocation method for three types of economic projects. At issue here are several subsection (C) economic projects for which Hudson was assigned a share of the costs while it held firm rights.

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the … Firm [Rights] the merchant transmission facility held at the time that the … project was approved." *PJM Interconnection*, 161 FERC ¶ 61,262 at P 50. In context, however, FERC was clearly referring to prospective annual cost allocations under the solution-based method, not previously assessed charges set forth in the Appendix.

Hudson's cost responsibility, however, was not based on its firm rights. According to the Tariff, economic projects must be funded by "Zones" that experience cost savings from the improvements.[7] *See* PJM Tariff, Sched. 12(b)(v)(C). And there is no dispute that Hudson and its customers benefit from the cost savings associated with these projects. Thus, FERC appropriately concluded that Hudson must continue paying for the nine projects.

Hudson launches two attacks on this conclusion—one categorical, one narrower—but neither succeeds. First, Hudson suggests that merchant transmission facilities (irrespective of their firm rights) are simply not zones and therefore cannot be allocated costs for subsection (C) economic projects, which must be assigned to "Zones." *Id.* Sched. 12(b)(v)(C). By contrast, subsection (A) assigns costs of different economic projects "to Zones and Merchant Transmission Facilities." *Id.* Sched. 12(b)(v)(A). Because subsection (A) uses the phrase "Zones and Merchant Transmission Facilities," whereas subsection (C) mentions only "Zones," Hudson maintains that subsection (C) costs cannot be assigned to merchant transmission facilities.

We cannot assess the plausibility of this argument, however, because it constitutes a collateral attack on a prior FERC order. After FERC's Opinion No. 503 held that merchant transmission facilities with firm rights were equivalent to zones and could be assigned costs for regional

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[7] In the technical language of the Tariff, PJM must allocate the cost of subsection (C) economic projects "to the Zones that show a decrease in the net present value of the Changes in Load Energy Payment." PJM Tariff, Sched. 12(b)(v)(C); *see also* PJM Operating Agreement, Sched. 6, § 1.5.7(d) (defining "Change in Load Energy Payment").

upgrades, FERC approved allocations of subsection (C) economic project costs to Hudson. *See PJM Interconnection, L.L.C.*, 156 FERC ¶ 61,120 at PP 1–2 (2016) (approving the economic project cost assignments in Filing, FERC Docket No. ER16-1232-000 (Mar. 18, 2016)). Parties must seek review of FERC orders within sixty days, and challenges to prior orders not raised within that timeframe are jurisdictionally barred. *See* 16 U.S.C. § 825*l*(b); *Pac. Gas & Elec. Co. v. FERC*, 533 F.3d 820, 824–25 (D.C. Cir. 2008). Hudson's claim that merchant transmission facilities *categorically* cannot be assigned cost responsibility for subsection (C) economic projects is an impermissible collateral attack on the order assigning it such costs.

In the face of this jurisdictional bar, Hudson pivots to a different argument. It claims that, even if it was lawfully allocated economic project costs while it held firm rights, it should no longer be responsible for these costs now that it lacks such rights. But this claim likewise fails. Although Opinion No. 503 held that PJM could treat merchant transmission facilities with firm rights like zones, it did not address subsection (C) economic projects specifically, nor did its reasoning preclude assigning costs for those projects to facilities without firm rights. *See* Opinion No. 503 at PP 79–81.

The plain meaning of the tariff confirms that subsection (C) economic project costs are assigned based on energy savings, irrespective of a beneficiary's firm rights. Subsection (C) explicitly assigns the costs of economic projects based on a party's share of the savings. PJM Tariff, Sched. 12(b)(v)(C). By contrast, subsections (A) and (B) incorporate the solution-based method and prospectively allocate costs to merchant transmission facilities based on their quantity of firm rights. *See id.* Sched. 12(b)(v)(A), (B). FERC's conclusion is consistent with the text of the Tariff—subsection (C) costs can

be assigned to entities that lack firm rights as long as they benefit from the improvements through lower load energy payments.[8]

Hudson tries to argue that it does not constitute "load" on PJM's system without firm rights, but FERC defines load broadly as "remov[ing] energy from [PJM's] system." Opinion No. 503 at P 25. Hudson does not dispute that it will continue to make withdrawals or that Hudson and its customers will continue to benefit from the cost savings. Thus, Hudson remains liable for the previously assessed costs of the nine economic projects.

C.

Finally, Hudson argues that FERC's decision violates the cost-causation principle. But FERC reasonably implemented the statutory mandate to ensure that cost assignments are based on a party's burden on the grid or the benefits it obtains.

The Federal Power Act requires "[a]ll rates and charges made, demanded, or received … in connection with the transmission or sale of electric energy" to "be just and reasonable." 16 U.S.C. § 824d(a). "For decades, the Commission and the courts have understood [the 'just and reasonable'] requirement to incorporate a 'cost-causation

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[8] FERC has consistently explained that the cost calculation method in subsection (C) does not depend on firm rights. In a related case involving targeted market efficiency projects—for which costs are also allocated using a method that does not consider firm rights—FERC observed that subsection (C) "allocates the cost of new Economic Projects based on the expected economic benefits from reduced locational marginal prices to Merchant Transmission Facilities without regard to their level of Firm … Rights." *PJM Interconnection, L.L.C.*, 164 FERC ¶ 61,002 at P 42 (2018).

principle'—the rates charged for electricity should reflect the costs of providing it." *Old Dominion Elec. Coop. v. FERC*, 898 F.3d 1254, 1255 (D.C. Cir. 2018). FERC must "compar[e] the costs assessed against a party to the burdens imposed or benefits drawn by that party." *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1368 (D.C. Cir. 2004). And FERC's cost allocation decisions must be both reasonable and reasonably explained. *See Old Dominion*, 898 F.3d at 1260. Importantly, "[w]hen a utility benefits from the costs of new facilities, the cost causation principle dictates that the utility must pay for that benefit because it has 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." *Okla. Gas*, 11 F.4th at 832 (cleaned up).

FERC's decision to sustain Hudson's previously assessed cost responsibility for improvements to the grid (i.e., lower voltage facilities and economic projects) is consistent with the cost-causation principle. First, FERC adequately explained why Hudson can continue to be charged for these improvements even after transitioning to non-firm rights. FERC explained that PJM assigned Hudson a share of the costs for lower voltage facilities using the violation-based calculation method. *PJM Interconnection*, 170 FERC ¶ 61,295 at P 24. This method assigned costs commensurate with burdens and benefits because "[t]he zones that 'cause' the violation and 'benefit from' the addition of upgrades … are allocated the costs" of upgrades. *Id.* at P 5 n.10. This "cost responsibility remain[s] with the transmission owner," even if it relinquishes its firm rights or leaves the PJM system. *PJM Interconnection*, 172 FERC ¶ 61,205 at P 23 & n.39. FERC also found that Hudson was still required to pay for the economic projects because it "continue[s] to benefit from the[] savings regardless of whether [it] hold[s] Firm … Rights." *PJM Interconnection*, 170 FERC ¶ 61,295 at P 30.

Hudson insists that FERC never performed a cost-causation analysis, or at least it did not explain how the principle applied to Hudson's case. True, FERC does not describe its reasoning as a "cost-causation analysis." But we have never required a FERC opinion to use those magic words. Both of FERC's orders tie the assignment of charges to the burdens Hudson placed on PJM's grid or the benefits it received. We have previously held that FERC "reasonably explained that its decision … adhered to cost-causation principles" when it identified the primary beneficiary and cost-driver of a project and explained why costs were appropriately assigned to that party. *See TransCanada Power Mktg. Ltd. v. FERC*, 811 F.3d 1, 3, 9–10 (D.C. Cir. 2015). That is what FERC did here. It explained that Hudson's cost assignments tracked either the burdens it placed on the grid or the benefits it reaped from the improvements. Even if FERC did not dwell on cost-causation, the "path" of the agency's reasoning is easily "discerned from the record." *Aera Energy LLC v. FERC*, 789 F.3d 184, 192 (D.C. Cir. 2015) (cleaned up).

Hudson also contends that FERC's assignment of costs fails because, without firm rights, Hudson no longer receives the benefits from reliability upgrades that it once did. But we have always stated the cost-causation principle in the disjunctive—it is satisfied by assigning costs based on either burdens or benefits. *See, e.g.*, *Midwest ISO*, 373 F.3d at 1368. With respect to the economic projects, Hudson's share of the cost responsibility was assigned in proportion to the benefits it received. And as for reliability upgrades, Hudson does not dispute that the lower voltage facility charges correspond to the burden it placed on PJM's system. Indeed, Hudson's contribution to reliability violations required PJM to make hundreds of millions of dollars in tangible upgrades after Hudson joined the system. Thus, it is neither unjust nor

unreasonable for FERC to require Hudson to continue paying its share of these previously assigned upgrade costs.

Finally, Hudson counters that it already "paid in full" for any burden on PJM's grid when it paid $335 million to obtain its firm rights. But Hudson confuses the initial cost of interconnection with the costs of reliability upgrades. When Hudson obtained firm rights, it had to pay the initial costs of connecting to PJM's grid, the $335 million. In addition, Hudson's ongoing burden on the system contributed to the need for reliability upgrades, which were assigned using the violation-based method and fixed in the Appendix. As explained above, Hudson remains responsible for these previously assessed costs, even after it relinquished its firm rights.

In sum, FERC adequately explained that Hudson's charges corresponded to either the burdens it placed on PJM's grid or the benefits it obtained. *See Old Dominion*, 898 F.3d at 1260. And that assignment of cost responsibility was neither arbitrary nor capricious.

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Even after relinquishing its firm rights, Hudson remains responsible for previously assessed lower voltage facility costs as well as the costs associated with nine economic projects. FERC's order comports with the plain meaning of the PJM Tariff, its prior orders, and the cost-causation principle. We therefore deny the petitions for review.

So ordered.