

124 FERC ¶ 61,033
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman;
Sudeen G. Kelly, Marc Spitzer,
Philip D. Moeller, and Jon Wellinghoff.

PJM Interconnection, L.L.C.

Docket No. EL05-121-005

ORDER DENYING REHEARING

(Issued July 17, 2008)

1. On March 3, 2008, Old Dominion Electric Cooperative (Old Dominion) submitted a request for rehearing of the Commission's order on the compliance filing implementing the cost allocation methodology for transmission facilities that excludes transformers with a high-side voltage at or above 500 kV and a low-side voltage below 500 kV¹ from the class of facilities that receive PJM-wide cost allocation if they do not support the 500 kV system being constructed.² In this order, the Commission denies the request for rehearing.

I. Background

2. On April 19, 2007, the Commission issued an order on an initial decision concerning the transmission rate design for the PJM Interconnection, L.L.C. (PJM).³ In Opinion No. 494, the Commission accepted a postage-stamp cost allocation methodology

¹ The primary function of transformers is to connect transmission facilities operating at different voltage levels; as such, basic transformer construction consists of high-voltage-side and low-voltage-side connections.

² *PJM Interconnection, L.L.C.*, Opinion No. 494, 119 FERC ¶ 61,063 (2007); *order on reh'g and compliance filing*, Opinion No. 494-A, 122 FERC ¶ 61,082 (2008).

³ Opinion No. 494, 119 FERC ¶ 61,063 (2007).

for the recovery of investment in new facilities that operate at or above 500 kV.⁴ For recovery of the costs of investment in new facilities that operate below a 500 kV threshold, the Commission endorsed the continued use of a “beneficiary pays” approach. The Commission also requested PJM to submit a compliance filing revising its tariff to ensure that lower voltage facilities that are necessary to construct a particular new project that operates at 500 kV and above would also be rolled into the 500 kV and above postage-stamp rate.⁵

3. On May 21, 2007, as supplemented on May 29, 2007, PJM submitted a compliance filing amending Schedule 12 of its FERC Electric Tariff, Sixth Revised Volume No. 1, pursuant to Opinion No. 494 (compliance filing). PJM explained that “necessary” lower voltage facilities are those facilities that operate below 500 kV that must be upgraded or added to ensure the ability of a new 500 kV facility to reliably deliver energy to one or more terminal points.⁶ On January 31, 2008, the Commission issued an order accepting the compliance filing.⁷ In the order on compliance, the Commission held that so long as PJM determines that facilities are necessary for the construction of a 500 kV and above project, such facilities should be included as part of the project.⁸ According to the provisions in its tariff, PJM has the authority and the obligation to develop the regional transmission expansion plan and conduct the studies on which the plan is based.⁹ As a result, PJM determines the facilities that are necessary for each project based on the engineering necessities of that project.

4. Further, the Commission accepted PJM’s proposal to exclude from PJM-wide cost allocation: (1) transformers with low-side voltages below 500 kV that are not “integral” to the system,¹⁰ and (2) transmission facilities that operate below 500 kV and deliver

⁴ Under the postage-stamp methodology, the costs of all transmission facilities are regionalized across the entirety of PJM and allocated to all customers in PJM according to each customer’s share of the region’s load.

⁵ Opinion No. 494, 119 FERC ¶ 61,063 at P 76.

⁶ May 21, 2007 Compliance Filing Explanatory Letter, note 9, citing to its Brief on Exceptions, Docket No. EL05-121-000 at 13 (August 14, 2006).

⁷ Opinion No. 494-A, 122 FERC ¶ 61,082 at P 88-92.

⁸ *Id.* at P 89.

⁹ PJM Operating Agreement, Schedule 6, § 1.5.6 (a).

¹⁰ PJM explains that “integral” transformers operate in parallel with a regional facility, and non-integral transformers are in series with the regional facilities, rather than
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energy from a 500 kV facility to load.¹¹ PJM explained that the function of these facilities is to deliver energy to load beyond the terminal of a 500 kV facility to load. The Commission agreed that, because of the function of these facilities, they are not a part of the transmission system that operates at 500 kV and above and thus the costs of such facilities should not be allocated on the same basis as 500 kV facilities. The Commission found PJM's proposal consistent with Opinion No. 494, where the Commission determined that the cost of transmission facilities that operate below 500 kV should be allocated on a beneficiary pays basis.¹²

II. Requests for Rehearing

5. Old Dominion has requested rehearing of the order on compliance insofar as the Commission accepted PJM's proposal to exclude non-integral transformers with a high-side voltage at or above 500 kV and a low-side voltage below 500 kV from the class of facilities that receive PJM-wide cost allocation.¹³ Old Dominion contends that the Commission did not adequately address its concerns or engage in the reasoned decision-making required by *Keyspan*.¹⁴ Old Dominion argues that the record "supported a finding that facilities operating at or above 200 kV tend to be used predominately for *regional* transfers in much of the PJM region."¹⁵ Old Dominion also contends that the evidence supported its argument that all transformers with a high-side voltage at or above 500 kV technically operate at the PJM-wide threshold, and as a result should be included in the PJM-wide allocation. In support of this theory, Old Dominion asserts that the

in parallel. "Integral transformers" do not deliver energy to load; rather, they facilitate the connection of a regional facility. Accordingly, PJM provides an exception from the general allocation method for such "integral" transformers, reasoning that, since such transformers are, in essence, a part of the regional facility, they should be allocated on the same basis as regional facilities. May 21, 2007 Compliance Filing Explanatory Letter at 5-6.

¹¹ Tariff, Schedule 12 (b)(i)(C).

¹² Opinion No. 494, 119 FERC ¶ 61,063 at P 69.

¹³ Old Dominion sought rehearing (alternatively, clarification) of Opinion No. 494. The Commission addressed Old Dominion's comments within the order on compliance.

¹⁴ *KeySpan-Ravenswood, LLC v. FERC*, 348 F.3d 1053, 1056 (D.C. Cir. 2003); also citing *NorAm Gas Transmission Co. v. FERC*, 148 F.3d 1158, 1165 (D.C. Cir. 1998); and *KN Energy, Inc. v. FERC*, 968 F.2d 1295, 1303 (D.C. Cir. 1992).

¹⁵ Old Dominion Request at 7-8, referencing Ex. TOP-3 at 20-21.

majority of the costs of a transformer with a high-side voltage at or above 500 kV are associated with transformer parts that are energized at or above 500 kV, and as a result, the entire cost of the transformer should be allocated based on its high-side voltage. Old Dominion also contends that the Commission acted arbitrarily and capriciously in accepting PJM's proposed distinction between integral and non-integral transformers, and erred in accepting PJM's conclusory rationale.¹⁶ Further, Old Dominion argues that the tariff does not clearly define when a transformer is an integral component.

6. Old Dominion also argues that it was arbitrary and capricious for the Commission to rely on the previous cost sharing agreements of the "classic" PJM transmission owners to justify the 500 kV cut-off for facilities subject to PJM-wide cost allocation, while simultaneously declining to find that the same former tariff provisions supported Old Dominion's arguments concerning cost allocation for transformers.¹⁷ Old Dominion requests that the Commission require PJM to file revised tariff sheets providing for PJM-wide cost allocation for all transformers with a high-side voltage at or above 500 kV, without regard to the low-side voltage level. In the alternative, Old Dominion requests that the Commission direct PJM to allocate the cost of new or upgraded transformers with high-side voltage at or above 500 kV and low-side voltage below 500 kV consistent with the default cost allocation methodology formerly used by the "classic" PJM transmission owners.

III. Commission Determination

7. We will deny Old Dominion's request for rehearing of the order on compliance. In Opinion No. 494, the Commission established a postage-stamp allocation methodology for recovery of the costs of investment in new facilities that operate at or above 500 kV. The Commission reasoned that this would best support new investment that will strengthen the electric system, improve reliability and support the PJM markets. At the same time, the Commission endorsed the continued use of a "beneficiary pays" approach for recovery of the costs of investment in new facilities that operate below a 500 kV threshold.

8. The Commission's order on compliance accepted PJM's proposal to exclude the cost of non-integral transformers¹⁸ with a low-side voltage of below 500 kV from the

¹⁶ Citing *Cf Villages of Chatham v. FERC*, 662 F.2d 23, 28 (D.C. Cir. 1981).

¹⁷ The "classic" PJM transmission owners allocated as much as 75 percent of the costs of transformers with high side voltage of 500 kV or higher to all of the then-existing PJM Transmission Owners.

¹⁸ See note 9, above.

PJM-wide cost allocation. PJM explained that such non-integral transformers are viewed as delivering energy from a 500 kV facility to load.¹⁹ The Commission agreed with PJM that transformers with a low-side voltage below 500 kV are sending energy directly to load, and the costs of these transformers should be allocated locally.²⁰

9. We reject Old Dominion's assertion that all transformers with a low-side voltage below 500 kV provide support to the 500 kV transmission system, whether they are integral or not,²¹ and thus should be allocated based on their connection to the 500 kV system. In the order on compliance, we accepted PJM's rationale to allocate the costs based on the *function* of the transformer, and the function of non-integral transformer facilities that operate below 500 kV is to deliver energy to load.

10. Old Dominion has neither proposed an alternative functional test, nor shown that such transformers are necessary to support the 500 kV transfer of energy. When non-integral transformer facilities are connected to transmission facilities that operate below 500 kV, in which the costs are allocated based on a "beneficiary pays" methodology, the cost of these transformer facilities should be allocated based on the "beneficiary pays" methodology, because the transformers serve the same function as other lower voltage facilities that serve load. As PJM explained, non-integral transformers with load-side voltages of less than 500 kV are in series with the 500 kV facilities in that they are viewed as delivering energy to load.²² We continue to find that this is consistent with the cost allocation approved in Opinion No. 494.

¹⁹ May 21, 2007 Compliance Filing Explanatory Letter at 5-6.

²⁰ Local allocation of the costs of such facilities does not mean, however, that these costs are only allocated to the zone where the transformer is located. Instead, the costs of non-integral transformers with a low-side voltage at or below 500 kV will be allocated to all zones that benefit, in accordance with load flow methodology. A settlement agreement proposing a load-flow based beneficiary pays methodology is currently being reviewed by the Commission. Docket No. ER06-456, *et al.*

²¹ In essence, Old Dominion is seeking to have all transformers treated as "integral" transformers; it would have the exception swallow the rule.

²² When transformers connecting a lower voltage line are in parallel with the 500 kV system, there are multiple paths for the flow of electricity from source to load. Therefore, the loss of the 500 kV system would result in electricity flow over the lower voltage lines. In this case, the transformer is integral to the 500 kV system because it provides for greater reliability. In contrast, when the transformer is connected in series with the lower voltage lines, the loss of the 500 kV line results in the loss of the flow of energy on the lower voltage facilities.

11. Old Dominion contends that non-integral transformers with low-side voltages should be subject to a PJM-wide roll-in, because the record “supported a finding that facilities operating at or above 200 kV tend to be used predominately for *regional* transfers in much of the PJM region.”²³ We reject this argument because it is in effect an impermissible request for rehearing of Opinion No. 494. Opinion No. 494 required rolled-in cost treatment only for facilities operating at or above 500 kV, because such facilities provide an energy highway benefitting all of PJM. While we recognized that facilities below 500 kV may transfer energy among regions of PJM, we found that the costs of such facilities should be allocated only to the regions found to benefit from such facilities.

12. Old Dominion argues that simply because a facility is connected to a 500 kV transmission facility, its costs should be allocated PJM-wide. But mere connection to a 500 kV facility is not sufficient to justify the rolling-in of the costs of such facilities across all of PJM. Because these facilities serve to deliver energy to load, we find it just and reasonable for PJM to allocate the cost of such facilities on the same “beneficiary pays” basis as the facilities to which the transformers are connected.

13. We also reject Old Dominion’s assertion that it is arbitrary and capricious to allocate PJM-wide the costs of transformers with low-side voltage below 500 kV if they are considered to be integral to the 500 kV facility, but not to apply the same rationale to all transformers. We find that the distinction PJM makes is well supported, and, in fact, will ensure that only the costs of those transformers that support the 500 kV project will be allocated PJM-wide. This distinction is based on the function of transformers, as well as their physical configuration. As PJM has explained, some transformers do not operate to deliver energy to load, but are part of and support the construction of the 500 kV PJM-wide facilities. For example, a transformer that steps down voltage in order to connect the components of a dynamic reactive device to a 500 kV line is integral to the 500 kV project because it provides reactive power compensation to the transmission system to address transient voltage instability and voltage collapse concerns on the 500 kV line. Like the dynamic reactive power device, such a transformer is reasonably considered an integral part of the 500 kV system.²⁴ These criteria will be analyzed through PJM’s open and transparent planning process. Old Dominion argues that the tariff does not clearly define when a transformer is an integral component. During the planning process, PJM is required to identify all necessary lower voltage and integral facilities.²⁵ The Commission

²³ Old Dominion Request at 7-8, referencing Ex. TOP-3 at 20-21.

²⁴ PJM’s May 21, 2007 Compliance Filing Explanatory Letter at 6.

²⁵ In the order on compliance, we accepted PJM’s explanation that transformers with a low-side voltage below 500 kV are viewed as delivering energy from the regional
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has accepted that an engineering analysis conducted in an open and transparent planning process should provide clarity to all parties as to which facilities qualify to be included in the PJM-wide cost allocation and which should be allocated regionally using the beneficiary pays analysis.

14. Finally, Old Dominion argues that if costs of the transformers with low-side voltages at or below 500 kV are not rolled in PJM wide, at least 75 percent of these costs should be considered a part of the PJM-wide allocation, consistent with the arrangement that, according to Old Dominion, PJM used before it was a Regional Transmission Operator (RTO). Old Dominion is correct that in the pre-RTO PJM, all transmission facilities that operate at or above 500 kV, and 75 percent of the costs of the transformers with low-side voltages below 500 kV, were allocated to all customers in the then footprint of PJM.

15. First, Old Dominion, in presenting this alternative theory on rehearing has not provided adequate support for such an allocation, other than the fact that it was a previously agreed-to cost-sharing agreement. But the rate design of classic PJM is very different than the current rate design. In classic PJM, facilities that were not rolled-in were allocated purely based on a license-plate rate design, in which each utility paid for transmission service based on the costs of transmission facilities that were located in the same zone as the utility. Thus, under a license-plate rate design, the full cost of non-integral transformers with a low-side voltage of less than 500 kV would be allocated only to one zone even if those facilities may have provided some broader regional benefit.

16. The situation is quite different under the current rules. Under Opinion No. 494, facilities below 500 kV are not allocated only to a single zone, but instead to all customers that benefit from those facilities; only facilities operating at or above 500 kV are allocated PJM-wide.²⁶ Thus, the current system more accurately allocates the costs of below 500 kV facilities, so that the 75 percent convention is no longer needed. Moreover, the current footprint of PJM is far broader than classic PJM, so that a cost allocation scheme that may have been reasonable in the past may no longer be as reasonable. While transformers with low-side voltages, may have provided sufficient benefit to the entirety of the much smaller classic PJM so as to justify the 75 percent

facility to load, that is, they are in series with the regional facility rather than parallel. As such, they are not required to support or strengthen the regional facilities, and should be allocated on a beneficiary pays basis. Parallel facilities that are required to support or strengthen the regional facilities should be allocated on a regional basis.

²⁶ The only facilities that are allocated strictly to one zone are transmission owner initiated projects whose regional benefits are not evaluated by PJM.

allocation, these facilities do not provide such equal benefits to the much larger PJM of today. The “beneficiary pays” method of cost allocation therefore better reflects the regional benefits that such transformers provide.

17. Second, merely because the 75 percent allocation method was previously found just and reasonable does not mean that PJM’s proposed method of allocating based on function is unjust and unreasonable. We find that PJM has provided sufficient justification for its treatment of non-integral generators with low-side voltages below 500 kV.²⁷

The Commission orders:

The request for rehearing of Old Dominion Electric Cooperative is hereby denied, as discussed in the body of this order.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.

²⁷ *Petal Gas Storage, L.L.C. v. FERC*, 496 F.3d 695, 703 (D.C. Cir. 2007) (FERC is not required to choose the best solution, only a reasonable one); *Wisconsin Public Power, Inc. v. FERC*, 493 F.3d 239, 266 (D.C. Cir. 2007) (merely because petitioners can conceive of a refund allocation method that they believe would be superior to the one FERC approved does not mean that FERC erred in concluding the latter was just and reasonable); *ExxonMobil Oil Corp. v. FERC*, 487 F.3d 945, 955 (D.C. Cir. 2007) (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); *United Distribution Companies v. FERC*, 88 F.3d 1105, 1169 (D.C. Cir. 1996) (“The existence of a second reasonable course of action does not invalidate the agency’s determination”).