

187 FERC ¶ 61,203
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Willie L. Phillips, Chairman;
Allison Clements and Mark C. Christie.

PJM Interconnection, L.L.C.

Docket No. ER17-1433-005

ORDER ON REMAND

(Issued June 27, 2024)

1. On July 14, 2023, the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) issued a decision affirming in part and remanding for further explanation, without vacating, two Commission orders issued in 2022 that accepted PJM Interconnection, L.L.C.'s (PJM) revisions to its forfeiture rule for Financial Transmission Rights (FTRs) (FTR Forfeiture Rule)¹ and denied refunds.² The D.C. Circuit affirmed the Commission's denial of refunds and determination to not require use of an FTR portfolio as part of the FTR Forfeiture Rule. The D.C. Circuit remanded the FTR Forfeiture Rule for further explanation of the Commission's decision to exclude consideration of leverage, i.e., whether a transaction creates net profit for the FTR holder, as a required element of the rule.³
2. As discussed below, upon further review of the record, we affirm the Commission's prior decision in the January 2022 and May 2022 Orders that PJM's current FTR Forfeiture Rule is just and reasonable, even though it does not include the test for leverage proposed by XO Energy, LLC and XO Energy MA, LLC (XO Energy).⁴

¹ See PJM, Intra-PJM Tariffs, OA Schedule 1 Sec 5.2, OA Schedule 1 Sec 5.2 (Transmission Congestion Credit Calculation) (19.0.0), §§ 5.2.1(b)-(c).

² *XO Energy MA, LP v. FERC*, 77 F.4th 710 (D.C. Cir. 2023) (Remand Order). The remanded orders are *PJM Interconnection, L.L.C.*, 178 FERC ¶ 61,079 (January 2022 Order), *order on reh'g*, 179 FERC ¶ 61,010 (2022) (May 2022 Order).

³ See Remand Order, 77 F.4th at 713 (“Specifically, according to XO Energy, the Commission erred by failing to require that the RTO consider traders’ entire FTR portfolios and whether a transaction is “leveraged,” that is, whether it creates net profit for the FTR holder.”).

⁴ See XO Energy, Complaint, Docket No. EL20-41-000, at 3 (Apr. 8, 2020); XO Energy August 9, 2021 Protest at 10; XO Energy March 2, 2022 Request for

Under XO Energy’s proposed leverage test, the FTR Forfeiture Rule would apply only where a market participant has financial leverage (i.e., the net benefits of a market participant’s portfolio of FTRs exceed the net losses of its portfolio of virtual transactions on a given constraint) and would not apply to non-leveraged positions (i.e., when the net losses of a market participant’s virtual transaction portfolio exceed the net benefits to that participant’s FTR portfolio on a given constraint).⁵ We also affirm the Commission’s finding that the current FTR Forfeiture Rule strikes the appropriate balance between preventing manipulative conduct and not hindering legitimate hedging activity.⁶

I. Background

A. FTRs

3. FTRs are financial products that allow market participants to hedge the costs of day-ahead transmission congestion, and thus offset potential charges related to the price risk of delivering energy to specific locations on the transmission system.⁷ FTRs entitle their holders to payments as measured by the difference between the price at the location at which power is injected into the system (source or receipt point) and the location at which it is withdrawn (sink or delivery point) multiplied by the MW associated with the FTR.⁸

Rehearing at 11. *See also* XO Energy, Complaint, Docket No. EL20-41-000, at 22 (“[i]f a market participant seeks to manipulate its FTR profits, it must have an FTR position on a constraint that exceeds its virtual position. If an FTR position is less than or equal to a participant’s virtual position, the losses on the virtual position will outweigh the perceived increase in profits on the FTR position.”).

⁵ January 2022 Order, 178 FERC ¶ 61,079 at P 43; May 2022 Order, 179 FERC ¶ 61,010 at P 19.

⁶ January 2022 Order, 178 FERC ¶ 61,079 at P 40-42.

⁷ *See* PJM Manual 06 (Financial Transmission Rights), § 1.1 (July 26, 2023).

⁸ *See id.* § 1.2.1; PJM, Intra-PJM Tariffs, OA Schedule 1 Sec 5.2, OA Schedule 1 Sec 5.2 (Transmission Congestion Credit Calculation) (19.0.0), § 5.2.2(b).

B. Virtual Transactions

4. In PJM, virtual transactions include Increment Offers (INC),⁹ Decrement Bids (DEC),¹⁰ and Up-to-Congestion transactions (UTC).¹¹ Virtual transactions can be used to arbitrage price differences between the day-ahead market and real-time market and hedge financial exposure to physical positions.¹² This is accomplished by a market participant taking a financial position in the day-ahead market, agreeing to buy or sell energy at a specific location, and then liquidating this position in the real-time market.¹³ The Commission has previously found that virtual transactions may provide reliability benefits, may improve day-ahead and real-time price convergence, may provide price discovery and liquidity to the market, and may lower incentives for buyers and sellers to forgo bidding physical schedules in day-ahead markets in expectation of better prices in real-time markets.¹⁴

⁹ An INC is a type of Virtual Transaction that is an offer to sell energy at a specified location in the Day-ahead Energy Market. A cleared Increment Offer results in scheduled generation at the specified location in the Day-ahead Energy Market. PJM, Intra-PJM Tariffs, I-L, OA Definitions I - L (20.0.0).

¹⁰ A DEC is type of Virtual Transaction that is a bid to purchase energy at a specified location in the Day-ahead Energy Market. A cleared Decrement Bid results in scheduled load at the specified location in the Day-ahead Energy Market. PJM, Intra-PJM Tariffs, C-D, OA Definitions C - D (32.0.0).

¹¹ A UTC is a bid to purchase transmission congestion and losses at or below a stated price spread between two specified nodes in the PJM day-ahead market. *See* PJM, Intra-PJM Tariffs OA Schedule 1 Sec 1.10, OA Schedule 1 Sec 1.10 - Scheduling (46.0.0), §1.10.1A(c-1).

¹² *PJM Interconnection, L.L.C.*, 162 FERC ¶ 61,139, at P 2 (2018).

¹³ For example, if a market participant believes the day-ahead price is lower than it will be in real-time, it will buy power by clearing DECs in the day-ahead market. If the market participant is correct, the real-time price will exceed the day-ahead price, and the market participant will then sell power at the real-time price, making a profit. In this simple example, the DECs result in converging the day-ahead and real-time prices. *See ISO New England, Inc.*, 113 FERC ¶ 61,055, at P 33 (2005) (“financial trading does provide benefits to the market by increasing price convergence between the Day-Ahead and Real-Time markets and increasing liquidity.”).

¹⁴ *PJM Interconnection, L.L.C.*, 162 FERC ¶ 61,139, at P 43 (2018) (citing *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, FERC Stats. & Regs. ¶ 31,281 (2008), *order on reh’g*, Order No. 719-A, FERC Stats.

5. Virtual transactions may, however, also be placed in a manner to change dispatch, skew transmission flows and congestion patterns in a manner inconsistent with real-time system operations.¹⁵ Similarly, the Commission has found that “the use of virtual transactions with the intent to benefit FTR positions constitutes cross-product manipulation.”¹⁶

C. Case History

6. PJM established its FTR Forfeiture Rule in 2000 to apply to its then-existing virtual transactions, i.e., INCs and DECAs, in order to prevent market participants from using virtual transactions to create congestion that benefits their related FTR positions. The rule required an FTR holder to forfeit the profit from its FTR when it submitted a virtual transaction at or near the source or sink location of the FTR that resulted in a higher locational marginal price (LMP) spread in the day-ahead energy market than in the real-time energy market.¹⁷

7. In 2013, PJM filed tariff revisions to define UTCs as virtual transactions and to extend the application of the FTR Forfeiture Rule to apply to UTCs. The Commission accepted PJM’s compliance filing related to that proposal effective August 9, 2013.¹⁸

& Regs. ¶ 31,292, *order on reh’g*, Order No. 719-B, 129 FERC ¶ 61,252 (2009); *ISO New England, Inc.*, 113 FERC ¶ 61,055, at P 30 (2005); *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at P 450-451 (2006)).

¹⁵ See *PJM Interconnection, LLC*, 172 FERC ¶ 61,046, at P 30 (“Thus the record supports our finding that UTCs, like INCs and DECAs, can impact resource commitment and dispatch.”); *MISO Virtual and FTR Trading*, 146 FERC ¶ 61,072, at P 13 (“The Commission emphasizes that using virtual trades to create artificial congestion in the Day-Ahead market for the purpose of enhancing the value of FTR positions violates the Commission’s Anti-Manipulation Rule.”).

¹⁶ *PJM Interconnection, L.L.C.*, 158 FERC ¶ 61,038, at P 33 (2017) (January 2017 Order); see also *MISO Virtual and FTR Trading*, 146 FERC ¶ 61,072, at P 13 (2014) (“The Commission emphasizes that using virtual trades to create artificial congestion in the Day-Ahead market for the purpose of enhancing the value of FTR positions violates the Commission’s Anti-Manipulation Rule.”).

¹⁷ See PJM, *Intra-PJM Tariffs*, OA Sched 1 Sec 5.2, OA Sched 1 Sec 5.2 (Transmission Congestion Credit Cal (11.1.3)), § 5.2.1(b).

¹⁸ *PJM Interconnection, L.L.C.*, 158 FERC ¶ 61,039 (2017).

8. On August 29, 2014, the Commission instituted an investigation pursuant to Federal Power Act (FPA) section 206¹⁹ into the justness and reasonableness of PJM's tariff provisions relating to the application of the FTR Forfeiture Rule to UTC transactions.²⁰ On January 19, 2017, the Commission found that PJM's application of the FTR Forfeiture Rule to virtual transactions was no longer just and reasonable and that a revised version of the FTR Forfeiture Rule would be a just and reasonable way of addressing concerns that a market participant's virtual transactions will benefit its FTRs.²¹ Thus, the Commission directed PJM to revise its FTR Forfeiture Rule to, among other things, consider the net impact of a market participant's overall portfolio of virtual transactions on a constraint related to an FTR position and implement a trigger threshold based on the total MW limit of a binding constraint related to the FTR path, to be made effective as of the date of the January 2017 Order (i.e., January 19, 2017).²²

9. On April 18, 2017, and later amended on June 2, 2017, PJM proposed revisions to the existing FTR Forfeiture Rule (2017 FTR Forfeiture Rule).²³ Consistent with the January 2017 Order's directive, PJM proposed to use a portfolio approach to a market participant's virtual transactions. PJM also included a two-step process to respond to the January 2017 Order's directive to implement a trigger for FTR forfeiture, where PJM would determine whether: (1) the absolute value of the net flow of an FTR holder's portfolio of virtual transactions exceeds the physical limit of a day-ahead energy market binding constraint between the FTR delivery and receipt buses by the greater of 0.1 MW or 10%, or such other percentage under certain circumstances further defined in the PJM manuals (Constraint Impact Test); and (2) the net flow impacts the absolute value of an FTR (between the FTR delivery and receipt buses) by one cent (\$0.01) or greater (one-cent FTR Impact Test). PJM requested that the 2017 FTR Forfeiture Rule become effective on January 19, 2017, consistent with the January 2017 Order.

10. On April 8, 2020, XO Energy²⁴ filed a complaint (Complaint), stating that while the 2017 FTR Forfeiture Rule remained pending at the Commission, PJM implemented

¹⁹ 16 U.S.C. § 824e.

²⁰ *PJM Interconnection, L.L.C.*, 148 FERC ¶ 61,144 (2014).

²¹ January 2017 Order, 158 FERC ¶ 61,038 at P 29.

²² *Id.* PP 4, 57, 58, 60.

²³ PJM April 18, 2017 Compliance Filing at 4-6.

²⁴ The complainants were XO Energy LLC, XO Energy MA, LP, and XO Energy MA2, LP.

the rule since January 2017.²⁵ XO Energy argued that, as implemented, the 2017 FTR Forfeiture Rule was unjust and unreasonable because it: (1) was so broad that it captured competitive market conduct and led to less efficient market outcomes; and (2) could not detect financial leverage or assess intent to profit from illegitimate trading activity. As relief, XO Energy sought refunds dating back to the 2017 FTR Forfeiture Rule's implementation.

11. On May 20, 2021, the Commission rejected PJM's proposed 2017 FTR Forfeiture Rule, finding that the one-cent FTR Impact Test was not just and reasonable because it included a *de minimis* one-cent threshold that would likely result in an overly broad application of the FTR Forfeiture Rule.²⁶ While the Commission found that the Constraint Impact Test satisfied directives in the January 2017 Order,²⁷ it rejected PJM's proposed revisions since the one-cent FTR Impact Test was a major component of the proposal.²⁸ The Commission directed PJM to propose either a different threshold than the *de minimis* one-cent threshold for the FTR Impact Test, or an alternative approach to triggering forfeiture that, like PJM's proposed FTR Impact Test, sufficiently deterred manipulative behavior, but unlike PJM's proposal, did so without so significantly burdening legitimate hedging activity.²⁹ The Commission also dismissed XO Energy's Complaint as moot, finding that since the Commission was rejecting the 2017 FTR Forfeiture Rule, the Complaint was challenging a rate not in effect.³⁰ Finally, because the Commission found that PJM began implementing the 2017 FTR Forfeiture Rule prematurely in violation of the filed rate doctrine, the Commission directed PJM to provide information related to potential refunds but reserved judgment on the issue.³¹

12. On July 19, 2021, in compliance with the May 2021 Order, PJM proposed a revised FTR Forfeiture Rule (2021 FTR Forfeiture Rule).³² PJM proposed to retain

²⁵ XO Energy, Complaint, Docket No. EL20-41-000, at 1-11, 19.

²⁶ *PJM Interconnection, L.L.C.*, 175 FERC ¶ 61,137, at P 52 (2021) (May 2021 Order).

²⁷ *Id.* P 34.

²⁸ *Id.* P 27.

²⁹ *Id.* P 52.

³⁰ *Id.* P 108.

³¹ *Id.* PP 110-111.

³² PJM July 19, 2021 Compliance Filing at 1.

several revisions included in the 2017 FTR Forfeiture Rule, including the Constraint Impact Test, and to replace the one-cent FTR Impact Test with a test that is evaluated at each constraint individually.³³ PJM also stated that it was not capable of providing details regarding the specific parties who would receive refunds or be charged surcharges absent considerable software development and testing work.³⁴

13. On January 31, 2022, the Commission accepted PJM's proposed 2021 FTR Forfeiture Rule as a just and reasonable replacement rate, finding that it reflected a reasonable balance to sufficiently deter manipulative behavior without significantly burdening legitimate hedging activity.³⁵ The Commission also declined to require refunds.³⁶ On May 5, 2022, the Commission addressed arguments raised on rehearing, finding that the 2021 FTR Forfeiture Rule satisfied the directives in May 2021 Order and was a just and reasonable replacement FTR Forfeiture Rule and that the Commission appropriately exercised its remedial discretion in declining to direct refunds.³⁷

D. PJM's Currently Effective FTR Forfeiture Rule

14. As noted, the purpose of the FTR Forfeiture Rule is to prevent a market participant from using virtual transactions to create congestion that benefits that market participant's related FTR positions.³⁸ The current 2021 FTR Forfeiture Rule states:

(b) If an Effective FTR Holder between specified delivery and receipt buses acquired the Financial Transmission Right in a Financial Transmission Rights auction (the procedures for which are set forth in *section 7* of this Schedule 1) and had a *Virtual Transaction portfolio which includes Increment Offer(s), Decrement Bid(s), and/or Up-to Congestion Transaction(s)* that was accepted by the Office of the Interconnection for an applicable hour in the Day-ahead

³³ *See id.* at 3-5.

³⁴ *Id.* at 13-14.

³⁵ January 2022 Order, 178 FERC ¶ 61,079 at P 40.

³⁶ *Id.* PP 57-59.

³⁷ *See* May 2022 Order, 179 FERC ¶ 61,010 at PP 14, 19.

³⁸ The virtual transactions would create congestion by affecting the prices at either the source of the flow or the sync or delivery point of the flow, or perhaps both, to widen the differential between the two points.

Energy Market, whereby the Effective FTR Holder's Virtual Transaction portfolio resulted in (i) a difference in Location Marginal Prices in the Day-ahead Energy Market between such delivery and receipt buses which is greater than the difference in Locational Marginal Prices between such delivery and receipt buses in the Real-time Energy Market, and (ii) an increasing [sic] the value between such delivery and receipt buses, then the Market Participant shall not receive any Transmission Congestion Credit associated with such Financial Transmission Right in such hour, that is attributable to the absolute value (i.e., the product of the constraint's shadow price times the distribution factor ($dfax$) of the difference between the Financial Transmission Right delivery and receipt buses) of the relevant Day-ahead Energy Market binding constraint (as further discussed in section 5.2.1(c) below), but no more than the excess of one divided by the number of hours in the applicable period multiplied by the amount that the Market Participant paid for the Financial Transmission Right in the Financial Transmission Rights auction (i.e., FTR profit). For the purposes of this calculation, every individual Financial Transmission Right of an Effective FTR Holder shall be considered.

(c) For purposes of section 5.2.1(b), an Effective FTR Holder's Virtual Transaction portfolio shall be considered if the absolute value of the attributable net flow across a Day-ahead Energy Market binding constraint relative to the Day-ahead Energy Market load weighted reference bus between the Financial Transmission Right delivery and receipt buses exceeds the physical limit of such binding constraint by the greater of 0.1 MW or ten percent.³⁹

15. Thus, under the current 2021 FTR Forfeiture Rule, three essential criteria must be met for a market participant's virtual transaction portfolio to trigger forfeitures of profits from related FTR positions. First, that the net flow of the portfolio of virtual transactions must exceed a certain percentage (or MW) of the physical limit of a binding constraint related to the FTR path (i.e., the Constraint Impact Test).⁴⁰ Second, that the net flow of

³⁹ See PJM, Intra-PJM Tariffs, OA Schedule 1 Sec 5.2, OA Schedule 1 Sec 5.2 (Transmission Congestion Credit Calculation) (19.0.0), §§ 5.2.1(b)-(c).

⁴⁰ According to PJM, the Constraint Impact Test would determine whether the net flow resulting from the portfolio of virtual transactions has an "appreciable impact" on a

the portfolio of virtual transactions causes price divergence between the day-ahead and real-time prices across the FTR path such that the day-ahead price spread is greater than the real-time price spread (i.e., the Convergence Test).⁴¹ Third, that the net flow across a binding constraint attributable to a market participant's portfolio of virtual transactions must be in the direction to increase the value of the FTR (i.e., the FTR Impact Test). Finally, if all the above three criteria are met, the market participant will forfeit the increase in value contributed to the FTR from each specific qualifying binding constraint.⁴² That value is calculated as the binding constraint's shadow price multiplied by the net FTR (sink – source) DFAX. The amount a market participant forfeits may never exceed the total profit of the FTR path for that hour.

E. Consideration of Leverage in this Proceeding

16. The Commission did not require a separate leverage test in the FTR Forfeiture Rule in addition to the three criteria. In the January 2017 Order, the Commission declined to exempt non-leveraged positions from the FTR Forfeiture Rule in response to comments that “revenue derived from a suspected manipulation benefiting position must exceed any losses incurred for the manipulation to be profitable overall.”⁴³ The

binding constraint on the FTR path. *See* PJM April 18, 2017 Compliance Filing at 4; PJM June 2, 2017 Amended Compliance Filing at 2-3 (defining “appreciable impact” as the greater of 0.1 MW or ten percent). Under this test, if the net flow resulting from the virtual portfolio is over a certain percentage of the physical limit of the binding constraint, it is considered for forfeiture on that constraint. *See* January 2022 Order, 178 FERC ¶ 61,079 at P 41. Each individual FTR will be impacted by multiple constraints, but only those constraints over the threshold will be eligible for forfeiture.

⁴¹ In this circumstance, the virtual transaction causes divergence between the day-ahead and real time prices and therefore is not profitable for the trader. The Convergence Test determines whether the net flow resulting from the portfolio of virtual transactions results in a higher congestion locational marginal price (CLMP) spread in the day-ahead energy market than in the real-time energy market. January 2022 Order, 178 FERC ¶ 61,079 at P 10.

⁴² In contrast to the prior rule where the entire FTR's profit would be subject to forfeiture, the current rule selects a subset of qualifying constraints that contribute to the increase in the FTR's profit.

⁴³ EDF Trading North America, LLC, Post-Technical Conference Comments, Docket No. EL14-37-000, attach. A at 7 (May 29, 2015).

Commission stated that, “[w]e acknowledge that leverage may play a part in a cross-product manipulation, but it is not a necessary condition.”⁴⁴

17. XO Energy raised similar comments in response to PJM’s proposed 2017 and 2021 FTR Forfeiture Rules, as well as in its Complaint. XO Energy defined a leveraged portfolio as one where “the net benefits to a market participant’s portfolio of FTRs exceeds the net losses of its portfolio of virtual transactions on a given constraint.”⁴⁵ XO Energy advocated for a separate leverage test for the FTR Forfeiture Rule to apply and, correspondingly, an exemption for non-leveraged positions that would not subject FTRs to forfeiture when the net losses of a market participant’s virtual transaction portfolio on a given constraint exceed the net benefits to that participant’s FTR portfolio.⁴⁶ XO Energy argued that a FTR forfeiture rule that does not distinguish between leveraged and non-leveraged positions is overbroad. Further, noting that leverage is revealed when evaluating FTRs and virtual transactions together as portfolios, XO Energy argued that because the 2021 FTR Forfeiture Rule fails to check for leverage and fails to assess transactions on a portfolio basis, it will capture legitimate activity where the market participant cannot possibly benefit from its virtual activity.⁴⁷

18. In addition, XO Energy stated that it provided statistical evidence in its Complaint, which demonstrated that an FTR forfeiture rule that does not differentiate between leveraged and non-leveraged positions will capture entirely legitimate hedging activity. Specifically, XO Energy asserted that it provided data demonstrating that in 2019 alone, it forfeited \$4.3 million, “while its gross FTR revenue over the same period

⁴⁴ January 2017 Order, 158 FERC ¶ 61,038 at P 80.

⁴⁵ XO Energy, Complaint, Docket No. EL20-41-000, at 3; XO Energy August 9, 2021 Protest at 10. *See also* XO Energy, Complaint, Docket No. EL20-41-000, at 22 (“[i]f a market participant seeks to manipulate its FTR profits, it must have an FTR position on a constraint that exceeds its virtual position. If an FTR position is less than or equal to a participant’s virtual position, the losses on the virtual position will outweigh the perceived increase in profits on the FTR position.”).

⁴⁶ *See e.g.*, XO Energy August 9, 2021 Protest at 10; XO Energy March 2, 2022 Request for Rehearing at 11.

⁴⁷ XO Energy March 2, 2022 Request for Rehearing at 11.

was \$1.4 million, resulting in a net FTR loss of \$2.9 million.”⁴⁸ XO Energy stated that, in addition to the loss demonstrated, it provided data of forfeitures at a single position.⁴⁹

19. In response, Monitoring Analytics, LLC, acting in its capacity as PJM’s Independent Market Monitor (Market Monitor) stated that the Commission had correctly found that leverage may play a part in a cross-product manipulation but it is not a necessary condition for manipulation.⁵⁰ The Market Monitor argued that XO Energy’s view that “a market participant can only increase the value of its FTRs using virtual transactions if its FTR portfolio on a given constraint is larger than its virtual portfolio,” is mathematically and logically incorrect.⁵¹ The Market Monitor explained that a market participant can increase the value of its FTRs through its virtual activity, regardless of the relative sizes of the portfolios.⁵² The Market Monitor stated that whether the virtual portfolio or FTR portfolio, on net, is profitable or not is irrelevant to whether the profitable interaction between the portfolio of virtual activity and individual FTRs can be distortionary and costly to the market at large. The FTR Forfeiture Rule, according to the Market Monitor, was designed to determine whether a participant’s

⁴⁸ *Id.* at 12-13.

⁴⁹ *Id.* at 13.

⁵⁰ Market Monitor, Protest to XO Complaint, Docket No. EL20-41-000, at 12 (June 2, 2020) (citing January 2017 Order, 158 FERC ¶ 61,038 at P 80).

⁵¹ *Id.* at 13 (citing XO Energy, Complaint, Docket No. EL20-41-000, at 21).

⁵² *Id.*

virtual bidding activity in the day-ahead market benefits the participant's FTR positions by contributing to greater nodal price differences in the day-ahead market than in the real-time market; thus, the relative size of the virtual portfolio relative to an individual FTR is not relevant.⁵³

20. Further, the Market Monitor stated, there is no guarantee that manipulative behavior will be profitable, noting that FTRs could be used to mitigate losses when virtual bids lose money.⁵⁴ Pointing to the examples provided by XO Energy to show that a forfeiture rule that does not differentiate between leveraged and non-leveraged positions will capture entirely legitimate hedging, the Market Monitor stated that, in these examples, the FTR Forfeiture Rule is only triggered if the virtual behavior is consistent with price divergence between day-ahead and real-time, not in the cases where it is consistent with convergence.

21. The Commission rejected XO Energy's argument that a measure of leverage is necessary to judge manipulation.⁵⁵ Noting that the Commission rejected a request to require PJM to evaluate the net effect of a market participant's FTR portfolio to determine leveraged FTR positions, the Commission stated that it similarly did not find a leverage test to be "a necessary component for a just and reasonable replacement rate that complies with the Commission's directives under the May 2021 Order."⁵⁶

⁵³ Market Monitor March 18, 2022 Answer at 2. *See also* Market Monitor Brief at 7, Remand Order, 77 F.4th 710 ("What is relevant is whether or not the virtual activity has a material effect on the value of an FTR and whether or not virtual activity is consistent with day-ahead and real-time market divergence. To that end, the [current 2021 FTR Forfeiture Rule] only triggers a forfeiture when three criteria are met: the value of the day-ahead market price spread is greater than the real-time market price spread for the FTR for the affected hour; the net flow across a constraint attributable to a participant's portfolio of virtual transactions is in the direction that increases the value of an FTR; and the net flow across a constraint attributable to a participant's portfolio of virtual transactions exceeds a defined percentage of the physical limit of a binding constraint.").

⁵⁴ Market Monitor, Protest to XO Complaint, Docket No. EL20-41-000, at 13.

⁵⁵ January 2022 Order, 178 FERC ¶ 61,079 at P 43; May 2022 Order, 179 FERC ¶ 61,010 at P 19.

⁵⁶ January 2022 Order, 178 FERC ¶ 61,079 at P 43.

II. Remand Order

22. In the Remand Order, the D.C. Circuit granted in part and denied in part XO Energy's petition for review of the January and May 2022 Orders. The D.C. Circuit affirmed the Commission's determinations to deny refunds and to not require PJM to consider a market participant's entire FTR portfolio under the FTR Forfeiture Rule.⁵⁷ The D.C. Circuit remanded the orders without vacating the 2021 FTR Forfeiture Rule for further explanation of the Commission's decision to exclude consideration of "leverage" as a required element of the rule.⁵⁸

23. The D.C. Circuit noted XO Energy's argument that the Commission erred when it failed to consider leverage or require PJM to exempt non-leveraged positions from the 2021 FTR Forfeiture Rule because they provide no economic incentive to engage in manipulative conduct.⁵⁹ The D.C. Circuit described XO Energy's position as both arguing that leverage is a necessary condition to market manipulation and that the required balance between preventing manipulative conduct and not burdening legitimate hedging activity can be achieved only if non-leveraged positions are exempted from the 2021 FTR Forfeiture Rule.

24. The D.C. Circuit stated that the Commission offered a brief, but inadequate, explanation of why it declined to order a forfeiture exemption for non-leveraged transactions.⁶⁰ The D.C. Circuit stated that while finding that leverage might be one way to determine cross-product manipulation (but opting to allow PJM to employ other means to detect this conduct rather than require exemptions based on leverage), the Commission "does not address XO Energy's position that market manipulation cannot occur when the net losses of a trader's virtual transaction portfolio exceed the net profits from its FTR portfolio."⁶¹ Further, the D.C. Circuit found that the Commission also does not "explain why the exclusion of this requirement strikes the appropriate balance between preventing manipulative conduct and not hindering legitimate hedging activity."⁶² Absent such

⁵⁷ Remand Order, 77 F.4th at 717-18.

⁵⁸ *See id.* at 718-19.

⁵⁹ *Id.* at 718.

⁶⁰ *Id.*

⁶¹ *Id.* at 719.

⁶² *Id.*

explanation, the D.C. Circuit stated, the Commission's failure to order a leverage exemption appears arbitrary and capricious.

25. The D.C. Circuit found that vacatur of the 2021 FTR Forfeiture Rule was not appropriate in this case, noting that, on remand, the Commission can redress the deficiency of its reasoning by providing a more fulsome explanation for its decision not to order PJM to account for leverage and finding "a significant possibility that the Commission may find an adequate explanation for its actions."⁶³ Further, the D.C. Circuit noted that vacatur of the order approving the 2021 FTR Forfeiture Rule would also unduly disrupt PJM's markets, as market participants have relied on the Commission's approval of the 2021 FTR Forfeiture Rule.

III. Discussion

26. The D.C. Circuit stated that the Commission failed to: (1) "address XO Energy's [leverage test proposal, i.e., its] position that market manipulation cannot occur when the net losses of a trader's virtual transaction portfolio exceed the net profits from its FTR portfolio"; and (2) "explain why the exclusion of this requirement strikes the appropriate balance between preventing manipulative conduct and not hindering legitimate hedging activity."⁶⁴ Upon review of the record, we continue to find that the current 2021 FTR Forfeiture Rule is just and reasonable even though it does not include XO Energy's proposed leverage test. We address each of the two issues as identified by the D.C. below.

A. Whether Market Manipulation Cannot Occur Without Leverage

27. We find that market manipulation can occur in the absence of leverage, i.e., market manipulation can occur when the net losses of a trader's virtual transaction portfolio exceed the net profits from its FTR portfolio. As we explain further immediately below, exempting non-leveraged transactions can potentially overlook and/or mask manipulative behavior.

28. Including a leverage test would not capture situations in which traders submit virtual transactions to increase the value of FTRs and reduce their losses, as the Market Monitor has argued.⁶⁵ As an example, if a market participant owns a month-long FTR contract that starts incurring losses in the middle of the month, the market participant may begin trading virtual transactions in a direction *to offset or reduce* those FTR losses

⁶³ Remand Order, 77 F.4th at 719.

⁶⁴ *Id.*

⁶⁵ See Market Monitor, Protest to XO Complaint, Docket No. EL20-41-000, at 13.

so – selecting random numbers for the purpose of providing a simple example – that it incurs an additional \$1000 loss in its virtual portfolio *to reduce losses* on that FTR contract by \$2000. In this example, the effect of placing an unprofitable virtual transaction results in substantive benefits to the FTR position by reducing losses. This type of transaction is not only not captured under XO Energy’s proposed leverage test since there could still be losses on the FTR path, simply fewer losses than if the manipulation had not occurred, but the Commission has found cross-product manipulation to exist in circumstances where an FTR trader engaged in virtual or physical trading to decrease expected losses on an FTR position.⁶⁶ As the Market Monitor explained, XO Energy’s test for leverage ignores manipulative behavior to reduce expected FTR losses.⁶⁷ As the Market Monitor further explained, “[a]ctivity that profits or mitigates losses from contributing to divergence *decreases the incentives to converge the day-ahead and real-time market, reduces market efficiency and negatively affects the financial positions of other market participants.*”⁶⁸ Thus, whether the virtual portfolio or FTR portfolio, on net, is profitable is irrelevant to whether the “profitable interaction” between the portfolio of virtual activity and individual FTRs can be distortionary and costly to the market at large.⁶⁹ This further explains how “leverage may play a part in a cross-product manipulation, but it is not a necessary condition,”⁷⁰ For this reason, we continue to find that the FTR Forfeiture Rule is just and reasonable.

⁶⁶ See *Vitol Inc. & Federico Corteggiano*, 169 FERC ¶ 61,070, at PP 56-57, 62, 93 (2019) (“The Commission has consistently found that ‘cross-market’ schemes in which market participants trade in one market with the intent to move prices in a particular direction to benefit positions in a related market are manipulative.”). See also *ETRACOM LLC*, 155 FERC ¶ 61,284, at PP 96, 155 (2016) (finding cross-product manipulation where trader began virtual trading strategy a few days after its CRR positions began to lose money); *Deutsche Bank Energy Trading, LLC*, 142 FERC ¶ 61,056, at P 1 (2013) (approving settlement in which Enforcement staff concluded that traders entered into physical trades to offset losses on its FTR position).

⁶⁷ Market Monitor, Protest to XO Complaint, Docket No. EL20-41-000, at 13.

⁶⁸ *Id.* (emphasis added).

⁶⁹ *Id.*

⁷⁰ January 2017 Order, 158 FERC ¶ 61,038 at P 80. See also *ETRACOM LLC*, 155 FERC ¶ 61,284 at P 104 (“profitability is not determinative on the question of manipulation and does not inoculate trading from any potential manipulation claim”) (internal quotations and citations omitted).

29. Moreover, given the complexity of the market where only a portion of the virtual positions in a trader's portfolio may affect only a single FTR constraint, a leverage test based on comparing the entire portfolio of virtual positions with the entire portfolio of FTR positions will still leave potential for market manipulation.⁷¹ XO Energy argues that if the market participant's net losses on its entire virtual transaction portfolio exceed the net benefits to that market participant's entire FTR portfolio, then the market participant has not used leverage and it is unlikely that the market participant intended to manipulate the market by taking an unprofitable virtual position because such a position will not result in greater gains in the FTR market.⁷² XO Energy's proposed leverage test, however, looks at the entirety of the participant's virtual and FTR positions and can mask a situation where the participant's losing virtual positions results in a positive benefit to a particular FTR affected by a constraint.⁷³ In this way, XO Energy's proposed leverage test could mask manipulation. The Commission previously found that it was just and reasonable to calculate FTR forfeitures by evaluating the effects of virtual transactions as a portfolio, while evaluating the profitability of each FTR individually because FTRs values can be affected by the result of the virtual transactions' cumulative effect, and using an FTR portfolio when determining FTR forfeitures would create opportunities to mask the manipulation of individual FTRs.⁷⁴ The D.C. Circuit affirmed the Commission's determination, finding that "[b]ecause the Rule's objective was to deter manipulation in the form of targeted virtual transactions that would affect grid congestion and benefit particular FTRs, it was not unreasonable for the Commission to

⁷¹ See XO Energy March 2, 2022, Request for Rehearing at 11 ("Leverage is revealed when evaluating FTRs and virtual transactions together as portfolios....Because the 2021 Forfeiture Rule fails to check for leverage and fails to assess transactions on a portfolio basis, it will capture legitimate activity where the market participant cannot possibly benefit from its virtual activity.").

⁷² See *id.*

⁷³ For example, the participant may have placed one or more virtual positions because they would result in gains on a particular FTR position. But that manipulative attempt could be masked by another FTR position that happened to lose money for reasons unrelated to the market participant's virtual market activity.

⁷⁴ May 2021 Order, 175 FERC ¶ 61,137 at P 76.

omit a requirement for PJM to take traders' entire FTR portfolios into account in addition to their virtual transaction portfolios."⁷⁵ This same logic also explains why the data that XO Energy provides⁷⁶ is unpersuasive in demonstrating that the current 2021 FTR Forfeiture Rule is not just and reasonable because it is inappropriately comparing net profits from virtual portfolios to FTR portfolios.

B. Whether Exclusion of XO Energy's Proposed Leverage Test Strikes the Appropriate Balance Between Preventing Manipulative Conduct and Not Hindering Legitimate Hedging Activity

30. We note that XO Energy does not dispute that, under the current FTR Forfeiture Rule, forfeiture applies if a market participant meets all three criteria: Constraint Impact Test, Convergence Test, and FTR Impact Test. XO Energy also does not dispute that no forfeiture would occur if a participant's market activity does not meet all three criteria, including where the market participant's activity: (1) does not meet the Convergence Test, meaning their virtual transactions converge prices on a FTR path, frequently making the virtual transactions profitable, or (2) does not meet the FTR Impact Test, meaning that the relevant FTR constraint does not increase in value regardless of virtual transactions converging prices or diverging prices (i.e., regardless of whether virtual transactions are generally profitable or unprofitable). Instead, XO Energy disputes how the FTR Forfeiture Rule should apply to narrow situations where a market participant meets all three criteria of the Virtual Impact, Convergence Test, and the FTR Impact Test, *but* their entire virtual transaction portfolio realizes more losses relative to the increase in value realized in their entire FTR portfolio.

31. We clarify that the criteria that trigger the current FTR Forfeiture Rule render the additional requirement of financial leverage, under XO Energy's proposed leverage test, unnecessary to establish the just and reasonable replacement FTR Forfeiture Rule. Specifically, the Convergence Test only targets the portfolio of virtual transactions that causes divergence, i.e., greater price differences in the day-ahead market than in the real-time market, regardless of the size or the losses incurred by the virtual portfolio. Causing divergence between the two markets, as discussed earlier, not only can be costly to the market at large but may accrue unjust benefits to a market participant's FTR position.

⁷⁵ Remand Order, 77 F.4th at 718 ("The Commission recognized...that considering a trader's entire virtual transaction portfolio was necessary...But it explained in its 2021 Order that the same is not true of entire FTR portfolios, because *whether a trader is making a net profit from its total FTRs has no bearing on whether its virtual transactions are causing or alleviating congestion in a manner benefiting a particular FTR...XO Energy shows no error.*") (emphasis added).

⁷⁶ See *supra* P 18.

The FTR profit that is forfeited under this scenario is narrowly limited to the increase in value of an FTR attributable to the specific qualifying constraint where the virtual transactions are causing a price divergence. Conversely, if the portfolio of virtual transactions results in convergence, then that virtual portfolio will be profitable and no FTR forfeiture occurs.⁷⁷ For these reasons, we find that the current 2021 FTR Forfeiture Rule creates the proper balance between deterring virtual transactions aimed at manipulating the FTR market and not discouraging legitimate virtual positions and, thus, it is unnecessary to include financial leverage, under XO Energy's proposed leverage test, to establish the just and reasonable replacement FTR Forfeiture Rule.

32. The current FTR Forfeiture Rule is designed to reduce the incentives to manipulate the value of a participant's FTR or to engage in activity that could increase the value of a participant's FTR in narrow circumstances. Again, to trigger forfeiture, a market participant must have met the three criteria discussed above for the Constraint Impact Test, Convergence Test, and FTR Impact Test. Because of these criteria, the current FTR Forfeiture Rule only results in forfeiture of the profit related to an individual constraint of an FTR path (and not necessarily all profits along the FTR path) caused by virtual transactions found to exceed a certain percentage of the constraint's physical limit and that cause divergence on the FTR path in question.⁷⁸ Additionally, forfeiture will occur only for the specific hour where the test was failed. The profits of the market participant's virtual portfolio are not forfeited or affected, neither are the profits of the market participant's other FTRs within its portfolio. Thus, the narrow circumstances under which the FTR Forfeiture Rule will trigger exist in the context of the broader incentives for market participants not to cause market inefficiencies in attempts to benefit their FTR positions. Moreover, because leverage under XO Energy's proposed leverage test is only one method of measuring manipulation, but is not a necessary condition of manipulation, as we discuss above, we find that the current rule sufficiently balances the interests of capturing manipulation but not unduly burdening legitimate activity.

⁷⁷ Under the Convergence Test, if the virtual portfolio at a constraint results in convergence between the day-ahead and real-time market, then that portfolio generally is profitable. Conversely, if the FTR portfolio causes divergence between the day-ahead and real-time market, the market participant generally loses money.

⁷⁸ See January 2022 Order, 178 FERC ¶ 61,079 at P 42 (“we expect that evaluating forfeiture at each individual constraint will substantially reduce the amount of money forfeited because it targets only the constraints at which violations occur. A reduction in expected forfeiture should help reduce the risk associated with, and therefore the burden on, legitimate hedging activities. At the same time, by maintaining a similarly sensitive threshold, the revised FTR Forfeiture Rule will provide a similar ability to deter manipulative behavior.”).

33. Thus, upon further review of the record, we find that XO Energy did not demonstrate that the current 2021 FTR Forfeiture Rule, without inclusion of its proposed leverage test, is not just and reasonable. We affirm the Commission's prior decision in the January 2022 and May 2022 Orders that PJM's current 2021 FTR Forfeiture Rule is just and reasonable.

The Commission orders:

The Commission affirms its earlier acceptance of PJM's 2021 FTR Forfeiture Rule, including the Commission's determination to not require an exemption of non-leveraged transactions.

By the Commission. Commissioner Rosner is not participating.

(S E A L)

Debbie-Anne A. Reese,
Acting Secretary.