UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

XO Energy LLC, together with XO Energy MA, LP and XO Energy MA2, LP	)	Docket Nos. EL20-41-000
v.	)	
PJM Interconnection, L.L.C.	)	

PROTEST AND MOTION FOR REJECTION OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rules 211 and 212 the Commission's Rules and Regulations,[1] Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor ("Market Monitor") for PJM Interconnection, L.L.C. ("PJM"), protests and moves for the rejection of the complaint submitted on April 8, 2020, by XO Energy LLC, together with XO Energy MA, LP and XO Energy MA2, LP (collectively, "XO Energy") against PJM ("Complaint").[2] [3]

The Complaint requests that the Commission direct PJM not to implement the FTR Forfeiture Rule ("Forfeiture Rule") in the form in which the Commission specifically directed that PJM implement it by order issued January 19, 2017 ("Forfeiture Rule

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1 18 CFR §§ 385.211 & 385.212 (2019).

2 Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff ("OATT"), the PJM Operating Agreement ("OA") or the PJM Reliability Assurance Agreement ("RAA").

3 The Complaint includes an Exhibit A, Affidavit of Andrew Engle ("Engle Affidavit"), and Exhibit B, Affidavit of Matthew Thompson ("Thompson Affidavit").

Directive").[4] The Complaint further requests that PJM be directed to implement a replacement rule in the form specifically considered and rejected in the Forfeiture Rule Directive.

The Complaint is a collateral attack on the Forfeiture Rule Directive. The public interest is not served by endlessly litigating the form of a rule that has efficiently protected the markets from manipulation and permitted the business of financial trading to continue without undue risk to the public interest in competitive electric power markets. The Complaint should be rejected, with prejudice.

I. ANSWER

A. The Complaint Is an Impermissible Collateral Attack on the Findings in the Forfeiture Rule Directive as Well as on the Concept of the Rule.

The Complaint requests (at 1) an order "reject[ing] PJM's implementation of the FTR Forfeiture Rule." The Complaint requests (at 1–2) an order directing PJM either to "replace the [FTR Forfeiture Rule] with a structured market monitoring scheme, or (b) modify the existing rule and the market monitoring function." The "scheme" that the Complaint proposes as a replacement to the Forfeiture Rule is case by case monitoring and referral of each participant's virtual transaction intended to influence the value of on one or more of its FTR positions.[5] The modifications requested in the alternative include: (i) revising the Forfeiture Rule to allow "a portfolio approach to FTRs, (ii) revising the "The FTR Impact Test," (iii) eliminating the approach that allows forfeitures based upon the total day-ahead marginal congestion component ("MCC") and total FTR cost; and (iv) revising the rule's application to counterflow FTRs. The arguments raised in the Complaint attack the current Forfeiture Rule in the form approved in 2017, the concept of an FTR forfeiture rule, and the

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[4] PJM Interconnection, L.L.C., 158 FERC ¶ 61,038.

[5] *See* Complaint at 51–57.

decisions that have approved the current rule and similar rules.[6] The issues raised in the Complaint have all been fully litigated and circumstances have not changed. Accordingly, the Complaint should be dismissed under collateral estoppel doctrine.[7]

1. The Complaint Is a Collateral Attack on the Forfeiture Rule Directive, Which Considered and Correctly Rejected Reliance on Case by Case Monitoring of Transactions.

In the Forfeiture Rule Directive, the Commission correctly affirmed its rejection of case by case monitoring of individual transactions and approved an objective and efficiently administered protective rule that avoids case by case monitoring.[8] The Forfeiture Rule Directive also reaffirmed PJM's proper reliance on the approach represented by the rule to protect the integrity of PJM's markets.

In the Forfeiture Rule Directive, the Commission determined that the Forfeiture Rule is just and reasonable and "…serves to deter such manipulation" related to virtual transaction cross product manipulation.[9] The Commission identified four main tenets with which the Forfeiture Rule must comply, including that it: (i) deter manipulation, (ii)

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6 Forfeiture Rule Directive at P 34 ("The notice of technical conference sought input from parties on every major aspect of the FTR forfeiture rule's design. Specifically: (1) whether to review individual transactions or portfolios; (2) which virtual transactions may instigate FTR forfeiture, or be part of a portfolio; (3) whether the FTR forfeiture rule should continue to look at the "worst-case" scenario bus; and (4) at what level should the trigger threshold for FTR forfeiture be set. As further discussed below, we find that a portfolio approach, as proposed by the PJM Market Monitor, is just and reasonable."). The Forfeiture Rule Directive notes (at P 25) that a version of the FTR forfeiture rule has been an established feature of the PJM market design since 2000.

7 *See La. Pub. Serv. Comm'n v. Entergy Corp.*, 149 FERC P 61,245, at P 25 (2014) ("…[A]pplies where the issues presented have been fully litigated and decided on the merits, and no new circumstances would justify relitigation.") (quoting Entergy Servs, Inc., Opinion No. 514-A, 142 FERC ¶ 61,013 at P 26 (2013)).

8 Forfeiture Rule Directive at P 80 ("We decline EDTF's proposal to replace the FTR forfeiture rule with a series of enforcement actions to be initiated when appropriate by PJM or the PJM Market Monitor.").

9 Forfeiture Rule Directive at P 33.

provide transparency allowing participants to modify their behavior, (iii) base forfeitures on an individual participant's actions and (iv) is not punitive.[10]

The Complaint repeatedly criticizes the Forfeiture Rule because it does not include a finding of manipulative intent. The point of the Forfeiture is to avoid inefficient and costly process and to establish instead an objective rule that prevents profiting from virtual trading on one's own FTR positions. The Forfeiture Rule operates to remove the incentive to engage in manipulation; the rule does not involve findings of manipulation. Without the rule, continue inclusion of virtual trading in the PJM market design would not be efficient and would not serve the public interest.

Because of the Forfeiture Rule, behavior of participants resulting in forfeitures is not routinely referred to the Commission as manipulation cases. The rule operates to disgorge profits and imposes no fines or other punitive measures.[11] Generally, PJM relies upon the Forfeiture Rule to remove the incentive to use virtual trading to manipulate the values of associated FTR positions. Use of the rule also avoids the need for the Market Monitor to refer all such behavior to the Commission's Office of Enforcement and the need for the Office of Enforcement to engage in investigations in each case. Such reliance assumes, of course, that the Forfeiture Rule remains in place, undisturbed. If the FTR Forfeiture Rule is retroactively replaced with a case by case rule, then it will become necessary to investigate the behavior during the applicable period.

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[10] Forfeiture Rule Directive at P 62.

[11] Application of the Forfeiture Rule does not mean that in certain circumstances, virtual trading activity to intentionally influence on FTR positions would not be subject to referral. *See* Forfeiture Rule Directive at P 80 ("[W]e acknowledge that the FTR forfeiture rule does not preclude any enforcement actions involving virtual transactions and FTR positions."); *see also* OATT Attachment M–Appendix § VI ("Nothing in this section shall preclude the Market Monitoring Unit from action to recover inappropriate benefits from the subject activity if the amount forfeited is less than the benefit derived by the Effective FTR Holder.").

2. The Complaint Is a Collateral Attack on the Forfeiture Rule Directive, Which Considered and Correctly Rejected Alternative Approaches.

The Complaint includes arguments for alternatives to the Forfeiture Rule that were considered and rejected in the Forfeiture Rule Directive. In some cases, the Complaint attempts to repackage arguments under new terminology, but the argument remains the same. In each case the proposed alternative has been rejected and collateral estoppel applies.

The Complaint states (at 12): "The FTR Forfeiture Rule fails to consider a portfolio approach to FTRs, which is inconsistent with FERC's principles regarding the use of a portfolio approach for virtual transactions." The Complaint phrases its argument (at 22–24) as the need to incorporate in the rule an analysis of a participant's "leverage." At issue is whether the participant benefits if only a portion of its FTR portfolio is affected. The Forfeiture Rule Directive determined the answer in the affirmative, resolving the issue.[12] The Complaint improperly raises the same argument.

The Complaint states (at 12): "The FTR Impact Test used in the FTR Forfeiture Rule is inherently flawed." The impact test used in the Forfeiture Rule is addressed in the Forfeiture Rule Directive.[13] The same argument raised in the Complaint is considered and rejected. The Complaint improperly raises the same argument.

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[12] Forfeiture Rule Directive at P 80 ("We disagree with EDFT's support for a tiered evaluation of the FTR forfeiture rule. It is not necessary to first consider each transaction on its own, as it is the net impact of market participant's entire portfolio of virtual transactions that most accurately measures the impact on a constraint. We also decline to exempt leveraged positions from the FTR forfeiture rule. EDFT points out that the revenue derived from a suspected manipulation benefiting position must exceed any losses incurred for the manipulation to be profitable overall. In this case, the losses would be incurred on the virtual transactions, with the FTR serving as the benefiting position. We acknowledge that leverage may play a part in a cross-product manipulation but it is not a necessary condition. ").

[13] Forfeiture Rule Directive at P 60 ("[W]e find it appropriate to use a trigger based on a percentage of the total binding MW limit of the constraint related to the FTR path. We find this method

The Complaint argues (at 12): "forfeitures that are based upon the total day-ahead marginal congestion component ("MCC") and total FTR cost are not just and reasonable." The basis for calculating forfeitures in the Forfeiture Rule is addressed in the Forfeiture Rule Directive.[14] The same argument raised in the Complaint is considered and rejected. The Complaint improperly raises the same argument.

The Complaint states (at 12): "The FTR Forfeiture Rule's counterflow FTR implementation violates the PJM Compliance Filing and is significantly flawed." The inclusion of counterflow FTRs is addressed in the Forfeiture Rule Directive.[15] The same argument raised in the Complaint is considered and rejected.[16] The Complaint improperly raises the same argument.

The Complaint alleges (at 12) that PJM's application of the Forfeiture Rule's virtual portfolio test has significant inconsistencies. PJM applies the rule as required by the Forfeiture Rule, including the aspects involving alleged inconsistencies. The allegation of "inconsistencies" is in reality an attack on the findings in the Forfeiture Rule Directive. The

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appropriate because it measures actual flow across a constraint and compares it to the total limit, which allows the rule to exempt flows that have small impacts on constraints.").

[14] Forfeiture Rule Directive at P 82

[15] Forfeiture Rule Directive at P 73 ("We find that counterflow FTRs and virtual transactions that relieve congestion should not remain exempt from the FTR forfeiture rule. Holders of counterflow FTRs are able to manipulate congestion to benefit their FTR position and should be subject to forfeiture. As described above, a portfolio approach accurately reflects a set of virtual transactions' effect on the value of a related FTR position. We find that counterflow FTRs should also be included in a portfolio's evaluation because their value can be increased by virtual transactions just like prevailing flow FTRs. Therefore, as part of the compliance filing directed here, PJM must submit tariff revisions to apply the FTR forfeiture rule to counterflow FTRs.").

[16] *Id*.

argument concerning application of the virtual portfolio test has been considered and rejected.[17] The Complaint improperly raises the same argument.

The alleged lack of transparency to the data used in the application of the FTR Forfeiture Rule was raised in the proceeding leading to the Forfeiture Rule Directive. The Forfeiture Rule rejects the argument that that Forfeiture Rule lacks transparency and that a participant cannot reasonably respond to forfeitures incurred.[18] The Complaint improperly raises the same argument.

Collateral estoppel doctrine is purposed to protect the finality of decisions and to avoid continued wasteful litigation of the same issues. The Complaint identifies no change in circumstance or other basis upon which the Commission would reach different conclusions on the Forfeiture Rule as it currently exists or about reliance on market protection rules generally. Established precedent protects and promotes the inclusion of administratively efficient and objective protective market rules.[19] Accordingly, the Complaint should be rejected under collateral estoppel, and it lack of merit need not be further litigated.

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[17] Forfeiture Rule Directive at P 81 ("[W]e expect the revised FTR forfeiture rule developed in this proceeding to help address the transparency and consistency concerns expressed by parties such as Vitol.").

[18] Forfeiture Rule Directive at P 63 ("Lastly, with the elimination of the worst-case scenario bus, the methodology is transparent, as market participants will be able to monitor their own activity to determine if they are significantly impacting a constraint related to an FTR position."); at P 64 ("[The Rule] will also reduce the risk of a virtual traders triggering forfeiture for reasons outside their control."); at PP 72, 81.

[19] *See, e.g., PJM Interconnection, L.L.C.*, 129 FERC ¶ 61,250 (2009) ("We find that PJM's proposed FTR Forfeiture Rule in Attachment M—Appendix VI. is consistent with the context and clarity required for the centralized MMU section in Order No. 719. We also agree with the MMU's clarification to Duke's concern that the purpose of this provision is not to discuss settlements, but to provide for retrospective adjustment based on the application of an objective retroactive mitigation rule, as is done currently. Order No. 719 provides that RTOs and ISOs may allow their MMUs to conduct retroactive mitigation.").

B. The Filed FTR Forfeiture Rule is Just and Reasonable.

The Forfeiture Rule implemented by PJM conforms in every aspect to the rule found to be just and reasonable in the Forfeiture Rule Directive.[20]

The submitted forfeiture rule first considers the net impact on every constraint of a single participant's, at the parent level, virtual portfolio for a given hour. INC offers and the source side of UTCs are treated as injections and DEC bids and the sink side of UTCs are treated as withdrawals. The total portfolio is netted on each constraint and compared to the

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[20] The language included in the compliance filing submitted in Docket No. ER17-1433-000 on April 18, 2017, as amended June 2, 2017, is within the scope of the Forfeiture Rule Directive. The FTR Forfeiture Rule (OA § 5.2.1(b)–(d)) implemented by PJM 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 Energy Market, whereby the Effective FTR Holder's Virtual Transaction portfolio resulted in (i) a difference in Locational 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 increase in 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, in excess of one divided by the number of hours in the applicable month multiplied by the amount that the Market Participant paid for the Financial Transmission Right in the Financial Transmission Rights auction. For the purposes of this calculation, all Financial Transmission Rights of an Effective FTR Holder shall be considered.
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> (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, or such other percentage under certain circumstances further defined in the PJM Manuals.
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> (d) For purposes of section 5.2.1(c), a binding constraint shall be considered if the binding constraint has a $0.01 or greater impact on the absolute value of the difference between the Financial Transmission Right delivery and receipt buses.

constraint limit. If the net virtual portfolio is over a certain threshold it is considered for forfeiture on that constraint. FTR values are determined by day-ahead market prices, which are established by day-ahead market line limits. The limits used for comparison in this step must be the same that the day-ahead market uses to calculate LMPs, otherwise there is not a direct comparison between the FTR values used in the forfeiture rule and those used to determine FTR forfeitures. This step directly relates to FERC's order to "(1) evaluate the net impact of a market participant's entire portfolio of virtual transactions on its FTR positions" and "(2) measure the portfolio's net impact using the load-weighted reference bus".[21] Additionally, comparison of the portfolio's net impact to the day-ahead limit directly stems from FERC's order that "the net flow must exceed a certain percentage of the physical limit of a binding constraint" in recognition of the fact that increased volumes of virtuals "are more symptomatic of transactions that increase the value of an FTR."[22]

The previous rule excluded INCs, DECs and FTRs outside of a certain dfax threshold. The thresholds were replaced with an improved rule that included all virtuals and FTRs in a participant's portfolio.[23]

If the day-ahead difference between the sink and source price of the FTR is greater than the real-time difference, the FTR is included in consideration for forfeiture. In order to meet FERC's order that "the net flow must be in the direction to increase the value of an FTR" there must be some measurement of the value of the FTR.[24] This evaluation is accomplished by taking the difference between the sink and source CLMP, and if this difference is at least $0.01, the "penny test," then net flow is in the direction to increase the value of the FTR and the FTR is a candidate for forfeiture. The previous rule did not include

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21 Forfeiture Rule Directive at P 62.

22 *Id*. at P 60.

23 *Id*. at P 34.

24 *Id*. at P 60.

a threshold measure for an increase in the value of an FTR, so one was included in the submitted rule. The goal of the rule is to ensure that when a participant has a significant impact on a constraint (10 percent or more of the enforced limit), and that constraint makes an FTR more valuable (by at least $0.01), the FTR profits are forfeited. Having an established rule, as recognized by FERC, is intended to prevent manipulation. Having a de minimis value to define the impact of the constraint on the FTR ensures that a participant's FTR profits are not subject to forfeiture when there is no measurable impact on the FTR value. No manipulation is acceptable.

The final step in the forfeiture process is that the candidate FTRs and the virtual portfolios for each participant are mapped to their constraints. Each individual candidate FTR will be impacted by multiple constraints, but only those constraints over the virtual line limit threshold will be eligible for forfeiture, and an FTR can only forfeit hourly profits, and profits only, one time per hour. If the FTR and net virtuals met forfeiture criteria, then it must be determined if the net virtual portfolio benefited the FTR. If the net virtual portfolio was in the direction to benefit the given FTR, then there is a forfeiture of the entire profit of that FTR for that hour. This applies to both prevailing and counterflow FTRs, as ordered by FERC and includes reducing losses on counterflow FTRs as well as profiting from positive target allocations.

Only the profit of the FTR is forfeit if these conditions are met. The rule submitted by PJM is a distinct and coherent rule, and attempts to graft other rules and arbitrary thresholds onto it will only serve to weaken the rule.

C. An FTR Forfeiture Rule that Deters Manipulation is Just and Reasonable.

In the proceeding leading up to the Forfeiture Rule Directive, parties opposing an FTR Forfeiture Rule, including XO Energy, argued there was no need for the FTR Forfeiture Rule because any automatic rule will deter legitimate business activity. XO Energy and others argued, to the extent that FTR forfeitures are considered, that a cases by case, ex post approach should be used under which the intent to manipulate the market must be proven.

The Complaint repeats arguments that were considered and rejected by the Commission in its Forfeiture Rule Directive.

In the Forfeiture Rule Directive, the Commission found that a bright line FTR forfeiture rule is a just and reasonable way to address the impact of market participants' virtual transactions on its FTRs. With a bright line rule, there is no need to prove intent, as there is no prosecution for triggering the rule, no penalties, no legal and administrative costs and no uncertainty about retroactive disgorgement of profits years after an offense. Feedback is effectively immediate and data is provided upon request so that a participant can adjust behavior to avoid triggering the rule in the future.

As noted by the Commission, a properly defined FTR forfeiture rule is an efficient, effective means of deterring market manipulation of FTR positions through the use of virtual bids. The goal of the rule is to ensure that when a participant has a significant impact on one or more constraints and those constraints make an FTR more valuable, the FTR profits are forfeited. Only the hourly profits are forfeited, so an FTR holder is never penalized by the application of the rule. The rule provides appropriate, transparent incentives to avoid manipulation and, if behavior triggers a forfeiture of profits of a benefited FTR position, incentives to avoid that behavior in the future. The objective of an efficient and effective rule is not to attempt to specifically prove intent, the rule is designed to deter manipulation and the damage to the competitive market that could result from manipulation.[25]

XO Energy provides no evidence that the FTR forfeiture rule results in inefficient or uncompetitive market outcomes.

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[25] Forfeiture Rule Directive at P 33.

D. Leveraged Positions Can Manipulate FTRs and/or can Benefit from the Manipulation of FTRs.

According to XO Energy, a leveraged FTR position exists when the net profits from the FTR exceed the net losses of the associated participant's virtual transactions on a constraint. XO Energy suggests that in the absence of a leveraged FTR position there cannot be evidence of manipulation.[26] XO Energy would extend this idea, asserting (at 2) that a leveraged portfolio exists when 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. XO Energy's assertion (at 22–23) is that unless the FTR position(s) or portfolio is worth more than a participant's virtual and/or physical portfolio (profitable or not), there can be no evidence of intent to manipulate the FTR position. XO Energy asserts (at 23) further that even a leveraged position alone is insufficient to draw any inference of a market participant's bad intent. XO Energy's fundamental position (at 2, 6–8, 11) is: "[t]here is no such thing as a properly designed automatic forfeiture rule" because there is no quantifiable definition for a leveraged position or, more broadly, a legitimate hedging activity. In other words, XO Energy is arguing (at 6–8) that if there is a legitimate business reason (it was intended to profit the participant), as defined by the participant, for affecting the value of an FTR, there cannot be the intent to manipulate the value of an FTR. XO Energy's position would make manipulation acceptable.

This argument was rejected in the Forfeiture Rule Directive. In the Forfeiture Rule Directive (at P 80), the Commission declined to exempt leveraged positions from the FTR Forfeiture Rule. The Commission correctly found (*id*.) that leverage may play a part in a cross-product manipulation but it is not a necessary condition for manipulation. The Commission rejected (*id*.) calls to replace the FTR Forfeiture Rule with a series of enforcement actions to be initiated when appropriate by PJM or the PJM Market Monitor.

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[26] Complaint at 1, 2, 5, 6, 10, 11, 20–22.

There is no basis for XO Energy's view (at 21) 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." The assertion is mathematically and logically incorrect. A market participant can increase the value of its FTRs through its virtual activity, regardless of the relative sizes of the portfolios or whether the participant is a virtual or physical player.

In its examples (at 20–24) XO Energy states that on September 30, 2019, a leveraged position did not exist because its virtual positions were bigger than its FTR positions. XO Energy claims (at 23–24) that because it was not leveraged in these hours and lost more money on its virtual bids than it gained on its FTR positions, it did not benefit from manipulating the value of the FTR. XO Energy asserts (at 24) that this is evidence that a lack of a test for leverage, which XO Energy claims cannot be defined, is a flaw in the current FTR Forfeiture Rule.

XO Energy is incorrect. The result in XO Energy's referenced case reflects the correct application of the FTR Forfeiture Rule, which is designed to deter virtual activity that artificially increases the value of a participant's FTR and is inconsistent with convergence. Whether the virtual portfolio or FTR portfolio, in 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. There is no guarantee that manipulative behavior will be profitable.

Take the case where an FTR could be used to mitigate losses when virtual bids lose money. The examples are just a repetition of the already rejected leverage argument. Activity 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.

In all of XO Energy's 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. Under the current rule, a participant's

virtual activity that fails the constraint flow thresholds would only result in forfeiture of the specifically affected FTR's profits if the virtual activity increased the value of the FTR and, just as important, the resulting day-ahead spread was greater than the real time spread on the FTR path. In this case the participant's virtual activity was not contributing to price convergence and was not efficiency improving. Instead, the participant's activity increased the value of the participant's FTR position and contributing to price divergence.

In addition, the FTR Forfeiture Rule results in the forfeiture only of the profit of the specifically benefited FTR and only for the specific hour where the test was failed. The profits of the participant's virtual portfolio, whether it was economically rational or not, are not forfeited or affected. The profits of the participant's other FTRs within its portfolio are not forfeited or affected. Forfeiting the profit of the FTR that resulted from the virtual activity is an intended design feature of the rule, not a flaw. The purpose of the rule is 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 when that virtual activity is not consistent with convergence and is not efficiency improving. Removing the profit of the affected FTR when that virtual activity is not consistent with convergence and is not efficiency improving provides this deterrent. Removing the profit of the FTR is not punitive. The profit of the FTR is reduced to zero thereby removing the incentive to manipulate the FTR's value by the participant.

E. Profitable UTCs Are Not Proof of Convergence Bidding or a Lack of Manipulation.

In its examples (at 20–24), XO Energy states that a leveraged position did not exist for defined hours on September 30, 2019, because in those hours its virtual activity was net profitable on the constraints that triggered FTR forfeitures. XO Energy also claims that across all hours on September 30, 2019, XO Energy's virtual positions were profitable overall. XO Energy claims (at 23–24) that because the virtual activity in the period was net profitable it was efficiency enhancing and economically rational and inconsistent with any intent to manipulate.

XO Energy is incorrect. Virtual activity involving INCS and DECS that is consistent with convergence will tend to be profitable. That is not true of UTCs. The profitability of a UTC transaction is the net of the separate profitability of the component INC and DEC. A UTC can be net profitable if the profit on one side of the UTC transaction exceeds the losses on the other side. XO fails to report whether the UTC in question lost money on one side.

Table 1 shows the number of cleared UTC transactions, the number of profitable cleared UTCs, the number of cleared UTCs that were profitable at their source point and the number of cleared UTCs that were profitable at their sink point in 2018 and 2019. In 2019, only 49.1 percent of all cleared UTC transactions were net profitable. Of cleared UTC transactions, 68.3 percent were profitable on the source side and 32.3 were profitable on the sink side but only 6.8 percent were profitable on both the source and sink side. Even when profitable, UTCs are typically unprofitable on one end (either the source or the sink) or the other. Overall, 93.2 percent of UTC MW in 2019 were inconsistent with convergence at either their sink or their source in 2019 because they were unprofitable at either source or sink.

Table 1 Cleared UTC profitability by source and sink point: 2018 and 2019[27]

	Cleared UTCs	Profitable UTCs	UTC Profitable at Source Bus	UTC Profitable at Sink Bus	UTC Profitable at Source and Sink	Profitable UTC	Profitable Source	Profitable Sink	Profitable at Source and Sink
2018	9,782,432	4,810,016	6,372,542	3,470,802	555,684	49.2%	65.1%	35.5%	5.7%
2019	9,274,991	4,558,269	6,332,711	2,995,264	629,304	49.1%	68.3%	32.3%	6.8%

XO Energy's statement that it engages in efficiency improving virtual trades is not supported. XO Energy does not support its assertion that its relevant UTC transactions were profitable. XO energy provides no evidence to support the assertion that XO Energy's UTC virtual activity was consistent with convergence in the hours where it forfeited FTR profits. XO Energy did not support their claims (at 23–24) that their UTC activity was

[27] Calculations exclude PJM administrative charges.

efficiency enhancing and economically rational and inconsistent with any intent to manipulate.

F. The Portfolio Approach in the FTR Forfeiture Rule Is Consistent with the Commission's Principles and Order.

XO Energy argues (at 24–25) that the FTR Forfeiture Rule is inconsistent with the Commission's directive to apply a portfolio approach. XO Energy recognizes (at 25) that PJM modified the FTR Forfeiture Rule to include all virtual transactions and to evaluate the net impact of a virtual portfolio on a binding constraint in its Compliance Filing, but then claims (*id*.) that the rule falls short of the Commission's directive because it did not apply the same approach in order to measure the net impact (i.e., benefit or harm) on a participant's portfolio of FTRs with respect to a binding constraint. XO Energy argues (*id*.) that PJM should have followed the same principles that the Commission ordered with respect to virtual transactions to the FTR positions of a participant.

XO Energy is repeating arguments from the initial proceeding that FTRs should be treated on a total portfolio basis when determining FTR forfeitures.[28] XO Energy is arguing that a participant's total virtual portfolio's effect on its total FTR portfolio should be the basis for any forfeiture under a FTR Forfeiture Rule. In applying such a rule XO is arguing that only the net profits of the total FTR portfolio should be considered for a potential forfeiture, not the individual profits of individually affected FTRs. XO Energy is arguing that if the overall FTR portfolio is unprofitable, an FTR forfeiture rule should not result in forfeitures for individually profitable FTRs.

XO Energy's assertions are incorrect.

The appropriate way to calculate FTR forfeitures is on an individual FTR basis. The issue is whether a participant's virtual activity affected the value of an individual FTR and

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[28] Protests of VECO and XO Energy, LLC, Docket Nos. EL14-37-001, ER17-1433-000, -001 (June 2, 2017) at 10.

not whether the participant made money overall on its entire portfolio. Unlike virtual transactions, FTRs have no impact on the flow of energy or dispatch of the system. Considering a participant's whole FTR portfolio would create opportunities to mask the manipulation of individual FTRs and would result in the discriminatory treatment of specific FTRs paths based on whether they were part of a portfolio. Under XO Energy's suggested approach, an FTR in a portfolio could be shielded from forfeiture despite manipulative behavior although the same FTR outside a portfolio would not be shielded.

The Commission was clear on this issue:

> We find that a just and reasonable FTR forfeiture rule must accurately reflect a participant's virtual transactions' net impacts on constraints because forfeits should be limited to those who actually increase the value of their FTR positions through their portfolio of virtual transactions. Under the current rule, when individual transactions are evaluated in isolation, the forfeitures are based on a single transaction's contribution to flow across a constraint. This may lead to forfeitures from some participants who have offsetting positions elsewhere and thus whose virtual transactions did not actually impact the constraint.[29]

Contrary to XO Energy's assertions, the Commission is discussing the focus on the impact of individual virtual transactions in the prior rule, and not on whether the values of individual FTRs were affected.

G. PJM's FTR Forfeiture Rule Correctly Addresses Counterflow FTRs and Is Consistent with the Commission's Principles and Order.

XO Energy argues that a counterflow FTR with negative target allocations cannot have profit to forfeit and also argues that counterflow FTRs with positive profits should not forfeit profits.[30] XO Energy argues that PJM's current implementation of the FTR Forfeiture

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[29] Forfeiture Rule Directive at P 58.

[30] Complaint at 26, 39; Engle Affidavit at 18.

Rule confuses auction revenues from counterflow FTRs with Transmission Congestion Credits.

The Commission recognized (at P 73) that "holders of counterflow FTRs can manipulate congestion to benefit their FTR position and should be subject to forfeiture." As applied in the PJM market, there is one FTR Forfeiture Rule. The same logic and thresholds that are applied to a prevailing flow FTR are applied to a counter flow FTR. The current FTR Forfeiture Rule, as it applies to prevailing and counterflow FTRs is consistent with the Forfeiture Rule Directive's requirements that "to trigger a forfeiture, the transactions must meet two criteria: (1) the net flow must be in the direction to increase the value of an FTR; and (2) the net flow must exceed a certain percentage…" Under the FTR Forfeiture Rule, for a forfeiture to occur, the participant's virtual portfolio must have net flow of 10 percent or more of the limit on a constraint that affects the value of the FTR, the direction of the net flow from the virtual portfolio on the constraint must be consistent with increasing the value of the FTR, the value of the constraint on the FTR must be at least $0.01 (which is a limit on the sensitivity of the value screen, contrary to assertions by XO Energy (at 33)), and the day-ahead CLMP spread must be greater than the real-time CLMP spread (the positive price effect was consistent with increased price differences and the day-ahead price difference observed was greater than the real-time price difference). The forfeitures associated with XO Energy's individual FTRs, both prevailing and counter flow, met these criteria. The requirement was that the behavior was consistent with increasing the value of the FTR, whether it be prevailing flow or counterflow.

In every case where there was a forfeiture, whether for a prevailing flow or counterflow FTR, only the profit of the individual FTR was forfeited, where profit is the positive difference between the target allocation of the FTR and the cost of the FTR for that hour. This too is consistent with the Forfeiture Rule Directive (at P 82). Counterflow FTRs, even if they have a negative auction cost, can be and are still profitable and that is what the FTR forfeiture rule is designed to forfeit. XO Energy's assertions (at 42) to the contrary, counterflow FTRs are no more or less risky than prevailing flow FTRs. XO Energy's

assertions (at 42) that it is rare for a constraint to flip value between the FTR auction and day-ahead, and that this invalidates the forfeiture process when applied to affected FTRs, is irrelevant, as it does not matter how often this happens. The forfeiture of a counterflow FTR's profits is logical and consistent with the FTR Forfeiture Rule.

H. The Current Rule Is Transparent.

XO Energy argues (at 4, 48) that the proposed rules are not transparent and that the thresholds are not appropriate. XO Energy is incorrect. The thresholds are transparent, appropriate and consistent with the requirements outlined in the Forfeiture Rule Directive.[31]

The thresholds are transparent. The $0.01 threshold for FTR value, and the 0.1 MW threshold for virtual impact both provide clear metrics for participants to monitor their own transactions. The activity that triggers the rule is the participant's own portfolio of virtual bids and the participant's own FTR positions. This clarity and transparency were improvements approved by the Commission in the Forfeiture Rule Directive. The Commission specifically found that under the FTR Forfeiture Rule it directed "the methodology is transparent, as market participants will be able to monitor their own activity to determine if they are significantly impacting a constraint related to an FTR position."[32]

Further, the detailed (but misleading) analysis provided by XO Energy in its complaint is clear indication that there is sufficient information available to participants to determine the cause of their forfeiture and the interaction between their virtual portfolios and their FTRs. The Market Monitor has regularly provided detailed information upon request to market participants about the details of their FTR forfeitures. This has been true since the

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31 Forfeiture Rule Directive.

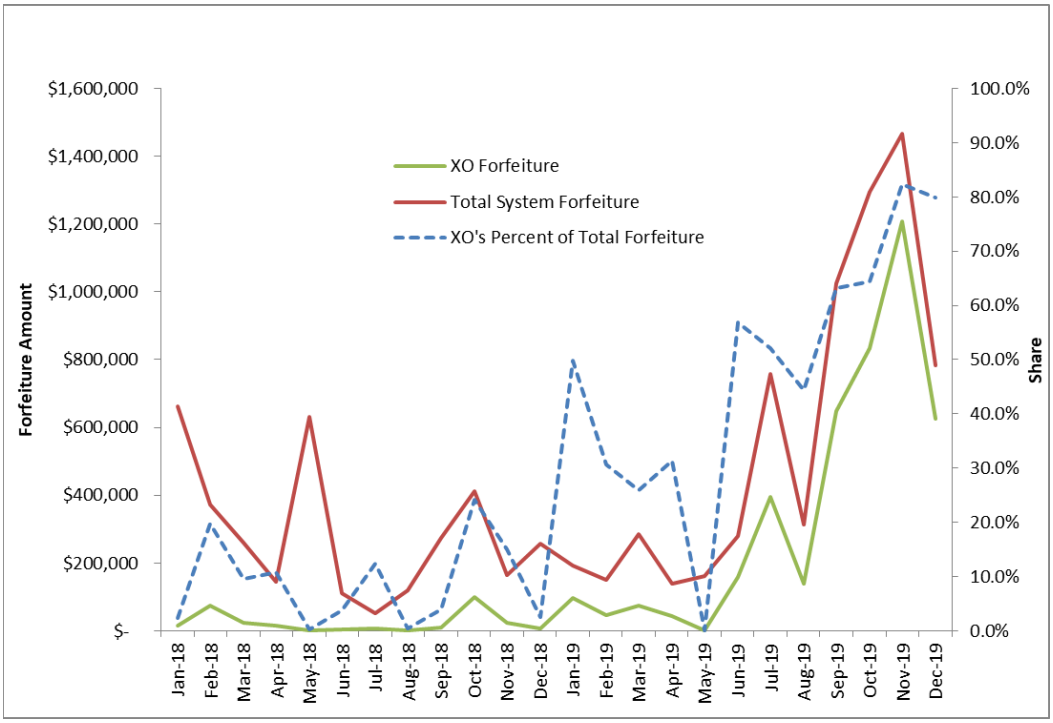
32 *Id*. at P 63.

FTR Forfeiture Rule was implemented. The Market Monitor has provided such detailed information to XO Energy. Other participants have been able to alter their behavior to avoid forfeitures.

As shown in XO Energy's testimony (at Table 10, at 58), XO Energy actually increased the amount of their forfeitures from January 2018 through December 2019, despite requesting and receiving detailed information about the cause of their forfeitures. For whatever reason, based on the data provided by XO in its filing, XO Energy not only increased the amount of its forfeitures in the period, it increased its share of total market forfeitures.

Figure 1 compares XO Energy's publically provided forfeitures from January 2018 through December 2019 (XO Energy at Table 10, at 58) to total forfeitures of all participants and shows XO Energy's forfeitures as a proportion of total forfeitures. All of this data is publically available, either from XO Energy's filing or from the PJM State of the Market Reports. Figure 1 shows that XO Energy significantly increased their level of forfeitures in the period. XO Energy went from making up only 2.4 percent of all forfeitures in January 2018 to making up 82.3 percent of all forfeitures in November 2019, when their proportion of forfeitures peaked. Excluding XO Energy's monthly forfeitures, monthly forfeitures of all other participants fell from $644,814.30 in January 2018 to $259,966.11 in November 2019, a reduction of $384,848.19 or 59.7 percent. This failure to change behavior based on detailed feedback was outside of the January 17, 2017 through September 2017 period when the FTR Forfeiture Rule was retroactivity applied via the Commission's Forfeiture Rule Directive.

Figure 1 XO Energy Forfeitures, Total System Forfeitures and XO Energy's Proportion of All Monthly Forfeitures: January 2018 through December 2019



XO offered no explanation for their behavior. XO Energy's experience relative to the FTR Forfeiture Rule is not evidence of a lack of transparency of the current rule as evidenced by the behavior of other market participants.

I. The Current Thresholds in the FTR Forfeiture Test Are Appropriate.

XO Energy argues (at 31) the introduction of the $0.01 positive threshold test resulted in substantial increases in FTR forfeitures under the new rule. XO Energy argues (at 30) that the $0.01 threshold test is extreme and claims that it lowers the dfax threshold to zero. XO Energy points to data presented at the January 18, 2018, meeting of the PJM Market Settlement Subcommittee (MSS) (at 32) comparing monthly forfeitures from February through December 2016 to monthly forfeitures from February through December

of 2017.[33] XO Energy claims (at 32) the data show that the new rule caused over $9.1 million increase in forfeiture from year to year. XO Energy indicates that subsequent sensitivity analysis that arbitrarily weakened the threshold screens of the rule, such as replacing the $0.01 test with a dfax cut off test of 5 or 10 percent, would reduce the forfeiture on a year over year basis. XO Energy argues (at 32–34), as a subset of stakeholders did in the PJM stakeholder meetings, that a reasonable test would cause roughly the same magnitude of forfeitures as the old rule did.

XO Energy's assertions are incorrect and irrelevant.

While stakeholders voted for a problem statement at the Market Implementation Committee (MIC) on March 3, 2018, to take up further analysis of the issue based on the data from the period from January 17, 2017, through September 2017 when the Commission's FTR Forfeiture Rule Directive was retroactively applied to FTRs, the same stakeholders rejected pursuing any changes to the rule at the November 7, 2018 MIC meeting based on the results of subsequent analysis that was performed as a result of that vote.[34] There were a number of reasons for the rejection of any changes to the rule.

The Commission determined, in the Forfeiture Rule Directive, that the original FTR Forfeiture Rule as applied to INCs, DECs and UTCs was unjust and unreasonable.[35] Any results under the original rule were, therefore, unjust and unreasonable. The results under the original rule provide no basis, therefore, for determining the efficacy of the new rule that adhered to the Commissions newly stated requirements. In the Forfeiture Rule Directive, the Commission directed that the net impact of a participant's entire portfolio of

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[33] *See* PJM, FTR Forfeiture Monthly Comparison 2016 & 2017 (January 18, 2018), available at <*https://www.pjm.com/-/media/committees-groups/subcommittees/mss/20180118/20180118item-01b-ftr-forfeiture-monthly-totals-comparison-2016-2017.ashx*>.

[34] *See* PJM, FTR Forfeiture Rule Matrix (November 7, 2018), available at <*https://www.pjm.com/-/media/committees-groups/committees/mic/20181107/20181107-item-05b-ftr-forfeiture-rule-matrix.ashx*>.

[35] *See* Forfeiture Rule Directive.

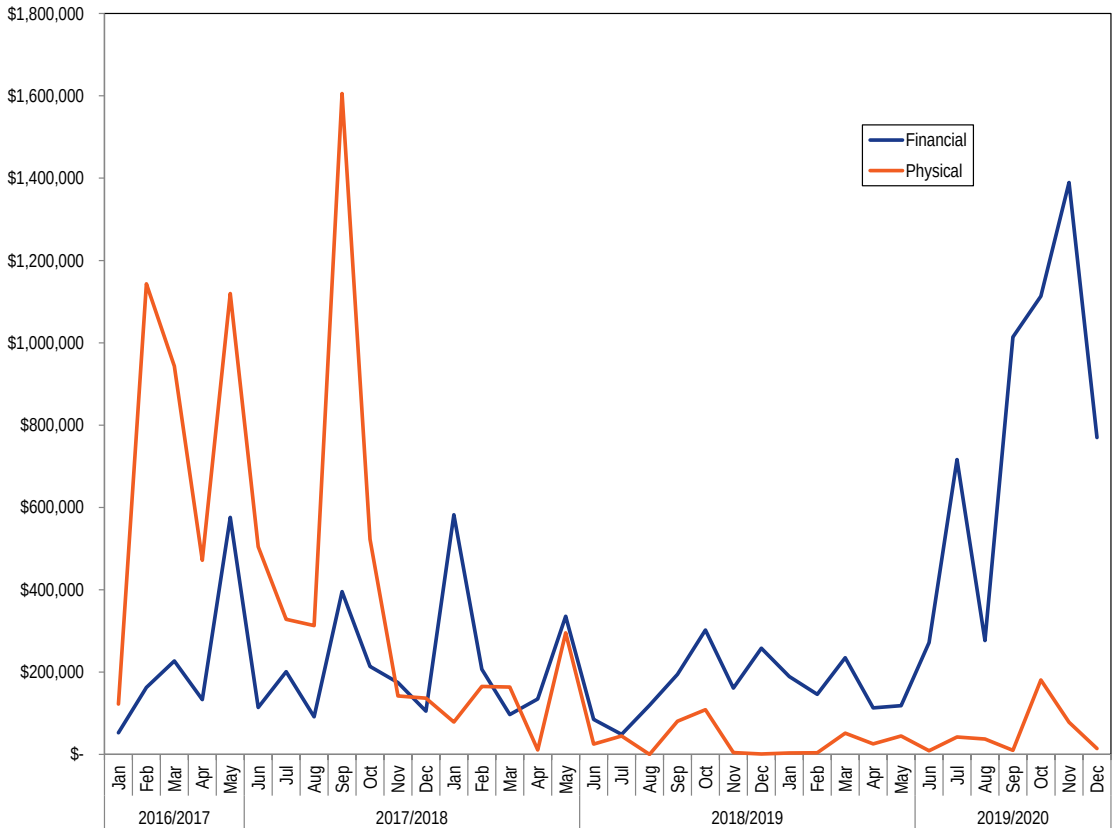
virtual bids on a constraint related to an FTR position and ordered that counter flow FTRs be included in FTR forfeiture calculations. As a result of these changes in requirements, it was expected that the results of a new test, following a new set of requirements would have different results. Some prior activity subject to forfeiture would no longer be, and some activity not subject to forfeiture would be.

In the Forfeiture Rule Directive, the Commission directed PJM to make a compliance filing implementing the Commission's determinations upon which it would be retroactively effective as of the date of the Forfeiture Rule Directive (January 19, 2017). PJM made it compliance filing in September of 2017. This meant that participants would be retroactively billed their FTR forfeiture amounts based on the reformed FTR Forfeiture Rule once it was in place. In the interim period from January 2017 through September 2017 participants did not know what behaviors were causing FTR forfeitures, so they had no way to modify their bidding behavior to avoid FTR forfeitures. This meant that the market participants had no way of adjusting their behavior in response to the new rule in the period when the new rule was to be retroactively applied. This period is the period in which there was an increase in forfeitures cited in the Complaint (at 32–36). Contrary to XO Energy's intended point, retroactive changes do not provide evidence of behavior based on expectations for how the rule would apply. After September 2017, FTR forfeitures were down significantly, and stabilized, as participants could now see the effect of their activities on FTR forfeitures. This change in FTR forfeitures was ignored by XO Energy in its complaint.

Figure 2 shows the monthly FTR forfeitures under the newly established FTR Forfeiture Rule from January 19, 2017, through December 31, 2019. PJM began retroactively billing FTR forfeitures with the September 2017 bill. In the interim period from January 2017 through September 2017 participants did not know what behaviors were causing FTR forfeitures, so they had no way to modify their bidding behavior to avoid FTR forfeitures. After September 2017, FTR forfeitures were down significantly, and stabilized, as participants could now see the effect of their activities on FTR forfeitures. Beginning with

the September 2019 bill, PJM began billing using the correct hourly cost calculation. For the period of January 19, 2017, through December 31, 2019, total FTR forfeitures were $20.1 million. The increase in FTR forfeitures for financial participants observed from June through December of 2019 period is due almost entirely to XO Energy's behavior (at 59 and see Figure 1).

Figure 2 Monthly FTR forfeitures for physical and financial participants



The data and arguments provided by XO Energy provide no basis for assertions that the thresholds in PJM's current FTR Forfeiture Rule are inappropriate. To the contrary, PJM's current FTR Forfeiture Rule meets the threshold requirements delineated in the Forfeiture Rule Directive. The Forfeiture Rule Directive states (at P 60), "Specifically, to trigger a forfeiture, the transactions must meet two criteria: (1) the net flow must be in the direction to increase the value of an FTR; and (2) the net flow must exceed a certain percentage…" The $0.01 threshold meets criteria (1) and eliminates FTRs that may have benefited less than $0.01 from consideration, thus significantly reducing the quantity of potential FTR

forfeitures. The 0.1 MW threshold also may eliminate very small net virtual impacts on constraints, again reducing the quantity of potential FTR forfeitures. Both of these thresholds are clear and transparent and allow participants to gauge their own risks when assessing their virtual and FTR portfolios.

The $0.01 level is a component of the threshold test that directly determines whether the net flow is in the direction consistent with increasing the value of the FTR. The reason that a de minimis value is added to define the impact of the constraint on the FTR is to ensure that a participant's FTR profits are not subject to forfeiture when there is no measurable impact on the FTR.

The Forfeiture Rule Directive states (at P 63), "We disagree with commenters' concerns that a portfolio approach will discourage transactions with small impacts on FTR prices… use of a threshold based on a percentage of the total MW limit of a binding constraint related to an FTR path will only capture portfolios of transactions that have a clear impact on the FTR path, and therefore the value of FTRs." The Commission recognized that when the percentage threshold for the impact of virtuals is violated, that is a clear indication of impact on FTRs. The $0.01 and 0.1 MW thresholds, considered after the percentage threshold has been calculated, remove the least impactful FTRs and virtual portfolios from consideration for the forfeiture rule. FTRs remaining after these thresholds have, by definition, been materially affected by the participant's virtual activity in order to be considered for forfeiture. Contrary to XO Energy's assertions (at 30), a virtual injection or withdrawal with a dfax of zero would have no effect on contributing flow to a reviewed constraint and would therefore not be included in this test.

J. The FTR Forfeiture Rule Does Not and Has Not Inefficiently Deterred Virtual Activity in the Market.

XO Energy argues (at 4–6) that the FTR forfeiture rule has deterred virtual activity by penalizing profitable virtual activity. XO Energy argues (at 6) that the FTR Forfeiture Rule will result in a reduction in virtual activity that will harm the efficiency of the PJM market.

XO Energy indicates (at 9) that the FTR Forfeiture Rule has negatively affected the ability of physical players to make use of virtuals.

XO Energy's assertions are not supported or supportable.

The FTR Forfeiture Rule does not penalize profitable virtual activity. The profits or losses of any virtual activity are unaffected by the FTR Forfeiture Rule. The FTR Forfeiture Rule, if triggered by a participant's virtual portfolio, results in forfeiting only FTR profits.

XO Energy provides no evidence that the FTR Forfeiture Rule has reduced virtual activity in the PJM market. Nor has any other party. The Commission noted in the Forfeiture Rule Directive (at P 79) that "[a]lthough PJM's forfeiture rule has been in existence since 2001, no convincing evidence was provided by parties that the FTR forfeiture rule has discouraged virtual transactions." The Commission concluded (*id*.) that the revisions that the Forfeiture Rule Directive required "will increase transparency in the rule's application by better allowing virtual traders to monitor their transactions and avoid unnecessary or accidental forfeitures." No evidence has been provided that the PJM FTR Forfeiture Rule has made it harder for a market participant to monitor their activity and avoid unnecessary or accidental forfeitures.

To the extent that virtual activity has changed, from 2017 and 2018, as referenced by XO Energy (at 9), these were due to other market rule changes approved by the Commission after the Forfeiture Rule Directive was enforced with PJM's associated Compliance filing in September 2017. On February 20, 2018, FERC issued an order limiting the eligible bidding points for up to congestion transactions to hubs, residual metered load and interfaces. This rule change reduced the total volume of virtuals in 2018 relative to 2017, due to the immediate reduction in UTC volume. However, since January 2018 there has been a steady increase in total virtual activity, including UTCs, as PJM market participants adapted to the new bid locations and appear to have substituted the use of INCS and DECs at some locations no longer available to UTC bids. This increase in virtual activity has occurred while PJM has been enforcing the new FTR Forfeiture Rule.

Table 2 shows the hourly average number of cleared and submitted increment offers and decrement bids by month from January 2018 through December 2019. The hourly average submitted and cleared increment MW increased by 13.5 percent and 8.0 percent, from 5,776 MW and 2,676 MW in 2018 to 6,558 MW and 2,889 MW in 2019. The hourly average submitted and cleared decrement MW increased by 6.4 percent and 27.5 percent, from 6,753 MW and 2,906 MW in 2018 to 7,186 MW and 3,704 MW in 2019.

Table 2 Average hourly number of cleared and submitted INCs and DECs by month: January 2018 through December 2019

	Increment Offers				Decrement Bids			
Year	Average Cleared MW	Average Submitted MW	Average Cleared Volume	Average Submitted Volume	Average Cleared MW	Average Submitted MW	Average Cleared Volume	Average Submitted Volume
2018 Jan	2,903	6,834	293	1,387	2,728	8,782	196	1,188
2018 Feb	2,519	5,415	280	1,160	2,418	5,857	136	634
2018 Mar	2,791	5,986	521	1,267	2,580	7,019	330	978
2018 Apr	3,060	5,848	222	792	2,555	6,919	197	801
2018 May	2,892	5,563	168	650	3,158	6,684	154	662
2018 Jun	2,444	5,601	142	662	3,041	6,460	147	609
2018 Jul	1,829	4,984	130	642	2,721	6,028	145	622
2018 Aug	2,114	5,214	179	744	2,821	6,439	144	618
2018 Sep	2,653	6,252	192	803	3,619	7,631	171	674
2018 Oct	3,230	6,328	281	1,021	3,106	6,714	162	788
2018 Nov	3,258	5,980	287	958	3,020	6,416	154	817
2018 Dec	2,428	5,293	242	951	3,080	6,008	169	736
2018 Annual	2,676	5,776	245	919	2,906	6,753	176	762
2019 Jan	2,934	6,777	282	1,122	3,856	7,149	215	834
2019 Feb	2,895	5,776	260	1,029	3,441	6,115	197	781
2019 Mar	2,973	5,961	268	1,057	3,319	6,830	181	859
2019 Apr	3,048	6,008	286	1,060	3,104	6,226	154	733
2019 May	3,107	6,468	273	1,082	4,236	6,903	178	726
2019 Jun	2,892	6,363	226	977	4,408	7,245	226	863
2019 Jul	2,655	6,712	202	1,051	4,544	9,223	251	1,086
2019 Aug	2,577	6,573	220	1,100	3,744	7,056	217	860
2019 Sep	2,715	6,737	221	972	5,046	8,790	255	900
2019 Oct	3,034	6,967	283	1,141	3,218	7,226	186	776
2019 Nov	3,373	7,896	304	1,261	2,745	6,930	187	831
2019 Dec	2,482	6,398	232	995	2,782	6,455	191	694
2019 Annual	2,889	6,558	255	1,071	3,704	7,186	203	829

Table 3 shows the average hourly number of up to congestion transactions and the average hourly MW for January 2018 through December 2019. In 2019, the average hourly submitted and cleared up to congestion MW increased by 10.7 percent and 18.4 percent, compared to 2018.

Table 3 Average hourly cleared and submitted up to congestion bids by month: January 2018 through December 2019

		Up to Congestion			
Year		Average Cleared MW	Average Submitted	Average Cleared Volume	Average Submitted Volume
2018	Jan	31,066	124,101	2,174	6,511
2018	Feb	25,543	94,687	1,857	4,703
2018	Mar	8,990	28,008	733	1,969
2018	Apr	11,930	43,989	877	2,001
2018	May	15,592	50,133	895	2,120
2018	Jun	15,227	46,207	827	1,794
2018	Jul	17,008	49,075	1,102	2,486
2018	Aug	17,658	53,077	997	2,317
2018	Sep	16,180	53,171	856	1,949
2018	Oct	16,284	49,862	939	2,115
2018	Nov	18,027	58,069	1,035	2,173
2018	Dec	18,446	55,795	1,152	2,254
2018	Annual	17,624	58,650	1,117	2,691
2019	Jan	20,624	65,533	1,219	2,489
2019	Feb	21,341	66,240	1,005	2,013
2019	Mar	23,205	75,760	1,045	2,144
2019	Apr	21,323	63,388	872	1,669
2019	May	19,407	59,684	862	1,713
2019	Jun	18,598	51,678	1,021	1,953
2019	Jul	19,197	56,161	1,128	2,265
2019	Aug	20,247	58,841	1,254	2,550
2019	Sep	20,005	74,494	1,136	2,523
2019	Oct	22,233	75,107	1,093	2,302
2019	Nov	23,678	77,890	1,019	2,265
2019	Dec	20,567	55,020	1,040	2,104
2019	Annual	20,864	64,952	1,059	2,168

Figure 3 shows the monthly volume of bid and cleared INC, DEC and up to congestion bids by month from January 2005 through December 2019.

Figure 3 Monthly bid and cleared INCs, DECs and UTCs (MW): January 2005 through December 2019

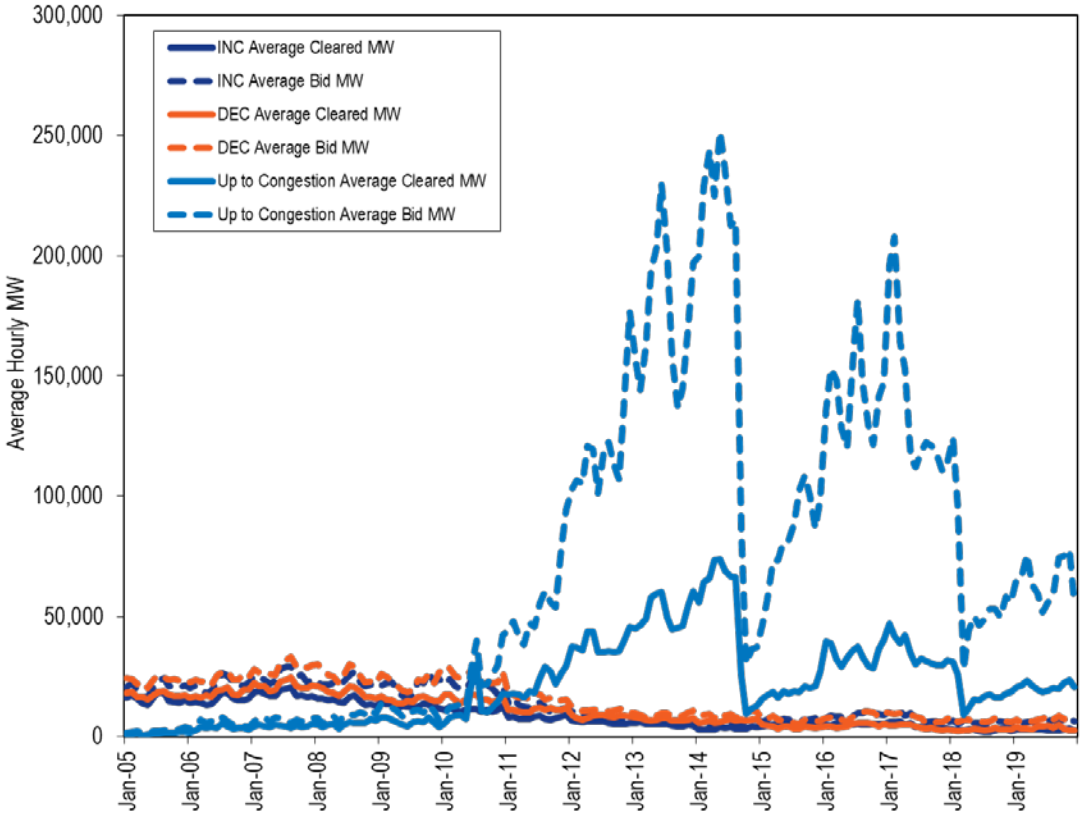


Figure 4 shows the daily volume of bid and cleared INC, DEC and up to congestion bids from January 1, 2018 through December 31, 2019.

Figure 4 Daily bid and cleared INCs, DECs, and UTCs (MW): January 2018 through December 2019

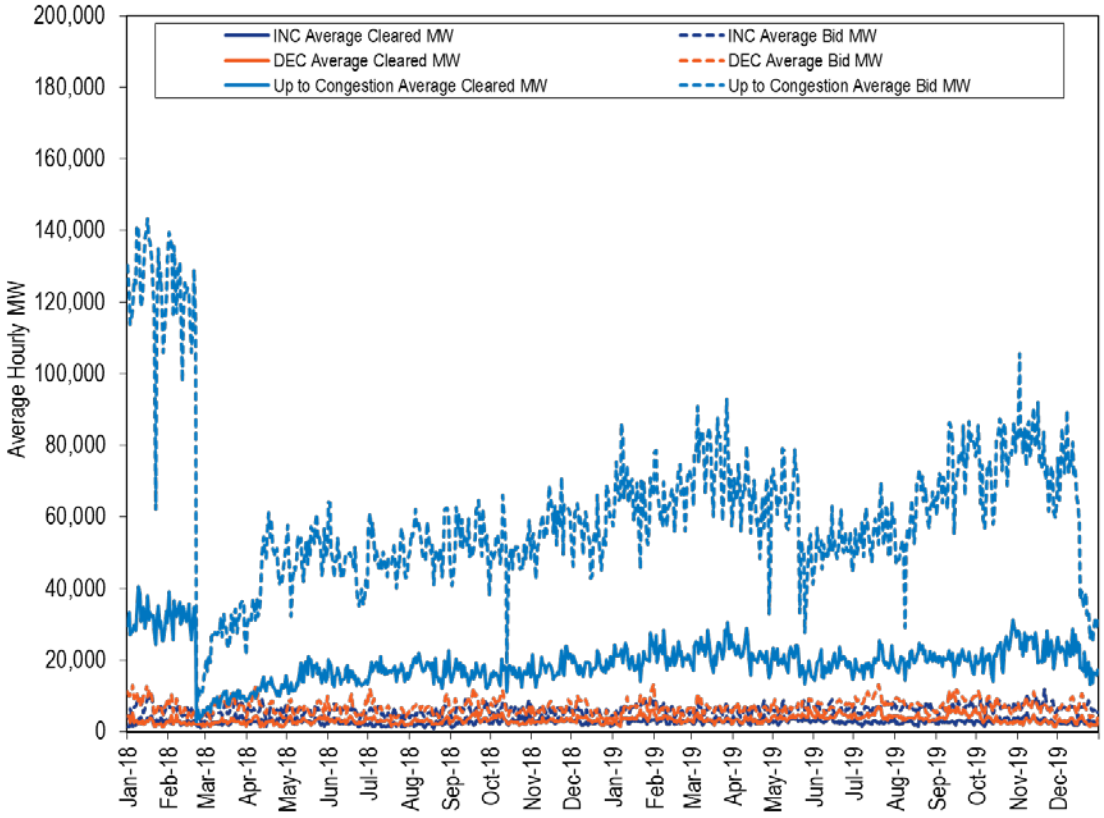


Table 4 shows, in 2018 and 2019, the total increment offers and decrement bids and cleared MW by type of parent organization. The table shows increasing volumes by both financial and physical participants. Contrary to XO Energy's assertions (at 6 and 9), there is no evidence that FTR Forfeitures have prevented the use of virtuals by either financial or physical players.

Table 4 INC and DEC bids and cleared MWh by type of parent organization (MWh): 2018 and 2019

	2018				2019			
Category	Total Virtual Bid MWh	Percent	Total Virtual Cleared MWh	Percent	Total Virtual Bid MWh	Percent	Total Virtual Cleared MWh	Percent
Financial	97,204,459	88.6%	40,697,354	83.2%	103,128,977	85.7%	47,963,570	83.0%
Physical	12,547,900	11.4%	8,202,747	16.8%	17,268,623	14.3%	9,796,034	17.0%
Total	109,752,359	100.0%	48,900,101	100.0%	120,397,599	100.0%	57,759,604	100.0%

Table 5 shows, in 2018 and 2019, the total up to congestion bids and cleared MWh by type of parent organization.

Table 5 Up to congestion transactions by type of parent organization (MWh): 2018 and 2019

	2018				2019			
Category	Total Up to Congestion Bid	Percent	Total Up to Congestion Cleared MWh	Percent	Total Up to Congestion Bid	Percent	Total Up to Congestion Cleared MWh	Percent
Financial	502,640,657	97.8%	147,233,232	95.4%	555,951,114	97.7%	174,145,737	95.3%
Physical	11,131,422	2.2%	7,154,781	4.6%	13,031,324	2.3%	8,626,176	4.7%
Total	513,772,079	100.0%	154,388,014	100.0%	568,982,438	100.0%	182,771,913	100.0%

K. The FTR Forfeiture Rule Is Not Punitive Because Only Profits Are Forfeited.

XO Energy argues that the current FTR Forfeiture Rule is punitive because the FTR Forfeiture Rule causes a participant to forfeit the entire hourly profit of the affected FTR, not the profit associated with individual constraints that triggered the forfeiture.[36]

XO repeats arguments addressed in the Forfeiture Rule Directive. XO Energy argues (at 6) "that it is unreasonable to forfeit the entire profit from an FTR when PJM has calculated the exact impact the constraint impacted by the portfolio of virtual transactions had on the FTR path and that amount is de minimis." XO Energy argues that a constraint specific FTR cost can be calculated as the auction shadow price * dfax for each path and this should be the basis for any forfeiture.[37]

XO Energy's assertions regarding the Forfeiture Rule Directive are incorrect. Further, XO Energy's proposed constraint specific approach is flawed, is not superior to the currently enforced rule and, as described, would not be internally consistent with how the PJM FTR Market is constructed or how FTRs are valued

XO Energy and others raised the idea of the constraint specific forfeiture in the PJM Market Implenetation Committee (MIC) stakeholder process that discussed changing the FTR Forfeiture Rule.[38] The Market Monitor noted at the time that a constraint specific

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[36] Complaint at 4, 5, 23, 24, 36-38; Engle Affidavit at 18–20.

[37] Engle Affidavit at 20.

[38] See VECO. FTR Forfeiture Rule Discussion. (October 10, 2018) <https://www.pjm.com/-/media/committees-groups/committees/mic/20181010/20181010-item-06b-veco-forfeiture-presentation.ashx>.

approach to forfeiture could cause a participant to forfeit more than the profit of the FTR due to the interaction of multiple constraints with the value of an FTR. For example, an FTR could have a total target allocation effect of $10 from one constraint and -$5 from a second constraint, for a net target allocation impact of $5 for the hour. Assume the cost of the FTR was $4. If the FTR were subject to forfeiture, PJM's FTR Forfeiture Rule would cause the participant to forfeit the $1 profit of the affected FTR ($5-$4=$1). The constraint specific approach, on the other hand, would require the participant to forfeit the constraint specific effect of $10, which is more than the $1 in profit for the hour. The constraint specific approach could be punitive and would certainly be erratic relative to the actual profit of the affected FTR. While proposed during the MIC discussions, the constraint specific approach did not appear in the final set of options that was voted on at the November 7, 2018 MIC.[39]

XO Energy's proposal is a modification of the constraint specific proposal discussed at the PJM MIC, intended to address the identified issue. Under XO Energy's proposal, forfeitures would be the difference between the constraint specific CLMP contributions to the FTR target allocation from the day-ahead market results in a given hour and some yet to be determined FTR auction based constraint specific cost. XO Energy does not indicate what FTR auction price would be used in this evaluation, and it is not clear what auction price would be relevant, if any, under the XO Energy Approach.

Regardless of the auction based cost of the FTR, XO Energy's new proposal would have an effect that could be less than or greater than the actual profit of the FTR. For example, an FTR could have a total Target Allocation effect of $10 from one constraint (AB constraint) and -$5 from a second constraint (DC constraint), for a net target allocation of $5 for the hour. Assume the cost of the FTR was somehow established to be $12 from the AB constraint from FTR auction(s) and -$8 from the DC constraint from the FTR auction(s), for

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[39] See PJM. MIC Options Matrix (November 7, 2018) <https://www.pjm.com/-/media/committees-groups/committees/mic/20181107/20181107-item-05b-ftr-forfeiture-rule-matrix.ashx>.

a total FTR cost of $4. The profit of the FTR is $1, but XO's artificial constraint based break out for constraint AB's FTR auction based cost would claim that the FTR is somehow losing money ($10-$12=-$2) due to the manipulation of the AB constraint. XO Energy's proposed rule would therefore allow XO Energy to manipulate the AB constraint to increase the FTR's payout but not face a forfeiture of the FTR's actual $1 profit. On the flip side, if XO was manipulating the DC constraint, XO's approach should, if consistently applied, trigger a forfeiture of $3 for that constraint (-$5 – (-$8) = $3 profit), which is more than the actual $1 profit of the FTR.

XO Energy is proposing a test that masks profits and would reduce the effectiveness of the FTR Forfeiture rule as a deterrent to manipulation. XO Energy's proposal would provide erratic, and sometimes punitive, results relative to the actual profit of the affected FTR.

In addition, XO Energy's proposal is based on a number of incorrect presumptions about the FTR and PJM energy market.

XO Energy's examples appear to assume, for instance, that only one constraint is considered at a time in the FTR Forfeiture Rule. This is not true. While it takes one constraint based failure to cause a forfeiture of the FTR's profits under PJM's FTR Forfeiture Rule, the effect of multiple constraint failures under a constraint specific rule could have a different effect than XO was hoping to achieve under its proposed rule.

XO's Energy's proposal is also based on the premise that the FTR market model matches PJM's day-ahead market model and/or the physical real-time model. XO Energy's proposal assumes that the set of enforced constraints, line limits and dfax values in the day-ahead model and FTR market model are the same and that the same constraints that define the valuation of the FTRs in the day-head market are the same constraints that will bind and drive the price in the FTR market. These assumptions are not correct.

L. The Line Limits Used in the FTR Forfeiture Test Should Be the Market Limits as Enforced in the PJM Day-Ahead Energy Market.

XO Energy argues (at 45) that PJM should not use firm flow entitlement limits but should use the physical capacity ratings of jointly managed market to market (M2M) facilities as a basis for the 10 percent constraint threshold.[40] XO Energy's position is unsupported.

PJM should continue to use the actual limits used in the day-ahead energy market as the basis for determining whether a market participant accounts for more than 10 percent of the permitted flow on a constraint. The limits used in the day-ahead market frequently do not match the physical transmission system and/or Firm Flow Entitlement values. However, the prices and binding constraints established in the day-ahead market used to evaluate virtual portfolios and FTRs are based on the actual limits used in the PJM day-ahead market. This means that the actual day-ahead line limits used in the PJM day-ahead market and affecting the FTR target allocations and congestion actually collected from the day-ahead market are the only limits that are appropriate to use in the FTR forfeiture calculation.

M. The Complaint Fails to Support Asserted Harm.

XO Energy's assertions of harm (at 57–58) are unsupported. XO Energy refers to table (at 58) showing its forfeitures from January 2018 through December 2019. XO Energy's exhibits show no harm was suffered other than a reduction of profits from individual FTRs that it made more profitable through its virtual activity. These FTRs appear to have been intended to offset losses associated with virtual bidding activity. XO fails to address the fact that they could have chosen to reduce their FTR forfeitures like other market participants and therefore not have suffered even their asserted harm. Regardless of XO Energy's strategy, XO Energy's behavior appropriately triggered the forfeiture of profits, and just the

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[40] VECO at 8–12.

hourly profits, from its affected FTRs. The profits, or losses, on other FTRs in XO Energy's portfolio were not affected. The profits from XO Energy's virtual activity were not affected

II. CONCLUSION

The Market Monitor respectfully requests that the Commission consider its protest and grant its motion to reject the Complaint with prejudice.

Respectfully submitted,

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Dated: June 1, 2020

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Eagleville, Pennsylvania,
this 1th day of June, 2020.

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