

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

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| PJM Interconnection, L.L.C. | ) | Docket Nos. EL14-37-001 |
|                             | ) | and ER17-1433-000       |
|                             | ) |                         |

**ANSWER OF THE INDEPENDENT MARKET MONITOR FOR PJM**

Pursuant to Rule 213 of the Commission’s Rules and Regulations,<sup>1</sup> Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM<sup>2</sup> (“Market Monitor”), submits this answer to the motion to lodge and supplemental comments filed by Exelon Corporation and NextEra Energy Marketing, LLC on July 1, 2019 (“Exelon/NextEra”). Exelon/NextEra’s supplemental comments are, of course, irregular and constitute a collateral attack on the Commission’s order issued January 19, 2017, directing PJM to reform its FTR forfeiture rule. However, the Market Monitor urges rejection of the arguments raised by Exelon/NextEra for lack of merit and issuance of an order approving PJM’s compliance filing of June 2, 2017.<sup>3</sup> Based on the record of this proceeding and experience with the operation of the reformed rule over two years, the current FTR forfeiture has worked as intended and has protected the integrity of PJM markets. An order approving the rule on its merits would appropriately discourage further attempts to undermine it.

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<sup>1</sup> 18 CFR § 385.213 (2018).

<sup>2</sup> Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff (“OATT”).

<sup>3</sup> January 19<sup>th</sup> Order at P 60.

## I. BACKGROUND

The original FTR forfeiture rule was implemented in 2000 to prevent and deter manipulation of FTR values through the use of virtual trades. On January 19, 2017, the Commission issued an order finding certain aspects of PJM's application of the FTR forfeiture rule to be unjust and unreasonable.<sup>4</sup> The Commission required revisions to the FTR forfeiture rule (i) to include the use of a portfolio approach to virtual transactions, which includes increment offers, decrement bids and up to congestion transactions; and (ii) to measure a portfolio's net impact on a constraint that makes an FTR more valuable and considers all FTRs including counter flow FTRs.

The Commission's order specified that in order to trigger a forfeiture, "the net flow across a given constraint attributable to a participant's portfolio of virtual 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 of the physical limit of a binding constraint."<sup>5</sup> As FERC recognized in their order, the threshold test for forfeiture is whether the impact of the virtual portfolio is to increase the value of an FTR. If the net virtual portfolio makes the FTR more valuable, then the forfeiture rule is triggered. When the FTR forfeiture rule is triggered, the profit of the FTR, that is the day-ahead path value minus the hourly auction price, is not paid to the participant.

The current FTR forfeiture rule, reflecting the April 18<sup>th</sup> Compliance Filing, meets the Commission's requirements. Consistent with the Commission's order to incorporate a portfolio approach to the rule, PJM's current FTR forfeiture rule calculates the net impact of each participant's virtual portfolio on each constraint and determines whether that impact exceeds 10 percent of the day-ahead constraint limit. If the portfolio flow impact exceeds 10

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<sup>4</sup> *Id.* at P 2.

<sup>5</sup> *Id.* at P 60.

percent of the day-ahead constraint limit and the direction of the portfolio's net flow is consistent with increasing the value of the FTR by at least \$0.01 and congestion on the FTR path value in the day-ahead market is greater than in the real-time market, the profit on that FTR is forfeited for that hour. PJM's FTR forfeiture rule is therefore consistent with the Commission's order that limited an FTR forfeiture to the case where the net flow of a participant's portfolio across a given constraint must increase the value of an FTR (the \$0.01 positive value test) and the net flow must exceed a certain percentage (10.0 percent) of the day-ahead limit of a binding constraint.

It is particularly ironic that some are arguing to weaken a rule against manipulating the FTR market given the current issues facing the FTR market. A weaker rule would apply to all participants and not just to those complaining in this proceeding. Exelon/NextEra have not explained why that would be a good idea and have not apparently considered the possible consequences of such weakening.

## **II. COMMENTS**

### **A. Participation Remains Steady in FTR and Virtual Markets.**

Exelon/NextEra argue (at 5) that PJM's current FTR forfeiture rule exceeded the Commission's directives and, as a result, "are discouraging market participants from placing legitimate and beneficial transactions."

There is no basis for this assertion. The current rule is fully consistent with the Commission's directives. The transactions are not legitimate if they violate the FTR forfeiture rule. Making these transactions legitimate by weakening the rule is not a legitimate objective. The fact that market participants may benefit from violating the rule is hardly a reason to allow transactions where virtuals are permitted to affect the value of FTRs. There is no evidence that the FTR forfeiture rule has adversely affected legitimate transactions. Exelon has provided an assertion that one specific transaction is legitimate. The Market Monitor disagrees; if the transaction fails the test, it is not legitimate and the rule worked as intended. There is no evidence of any detrimental

impact on either the FTR market or the Day-Ahead and Real-Time Energy Markets. The FTR forfeiture cannot have a detrimental impact on either the FTR market or the energy market because the rule protects markets and other market participants from the detrimental impacts of a small number of market participants affecting the value of FTRs through the use of virtuals.

FTRs are used by both physical and financial companies for a variety of reasons. All participants in the FTR market and all participants that use virtual transactions would be expected to state that these activities are legitimate parts of their business practices. But, market participants must also recognize that, regardless of motives, virtual transactions can and do have an impact on the value of FTRs. The purpose of the FTR forfeiture rule is to define that impact quantitatively and algorithmically and to ensure that no market participants can profit from this behavior. The FTR rule is not punitive. The FTR forfeiture rule is not about the legitimacy of any specific transaction. The FTR rule ensures that no party can earn FTR profits as a result of transactions in another market, using virtuals in the energy market. This rule protects the integrity of the FTR market and ensures that all market participants can have confidence in the markets. This rule ensures that no market participant, no matter how large, is permitted to affect the profits earned on their FTRs through their virtual activity.

FERC previously heard arguments that the FTR forfeiture rule reduces liquidity and participation in the FTR market and rejected those arguments due to lack of evidence. FERC stated in an order issued January 19, 2017:

Certain parties argue that the forfeiture rule discouraged virtual transactions in PJM's markets. We disagree. Although 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. We find that the revisions to the FTR forfeiture rule, as described below, will increase transparency in the rule's application by better allowing virtual traders to

monitor their transactions and avoid unnecessary or accidental forfeitures.<sup>6</sup>

Here the Commission specifically addressed, and rejected, the argument that the FTR forfeiture rule discourages virtual transactions and decided that the current implementation increases transparency for participants to change their bidding behavior as desired. Exelon/NextEra have provided no additional evidence to refute the Commission's finding.

The FTR forfeiture rule, as submitted by PJM, provides participants a transparent method to understand the basis for and to predict potential forfeitures. The FTR forfeiture rule as implemented is not punitive and does not result in referrals or penalties. The FTR forfeiture rule simply prevents the payment of hourly profits to FTRs when the value of the FTR resulted from virtual activity. Participants have opportunities to modify their behavior to avoid FTR forfeitures. Exelon/NextEra provide an example (at 9) of an hour Exelon was serving 12,000 MW of load and submitted a 200 MW virtual trade. Exelon/NextEra fail to note the share of their FTR activity represented by their example. The amount of load being served is irrelevant to the FTR forfeiture rule and this discussion. Load is not the beneficiary of Exelon's gains on its FTRs. All that is relevant is the net flow of the participant's virtual portfolio on a constraint and whether that flow is consistent with increasing the value of the FTR and the value of that constraint on their FTR position. The identified virtual behavior violates the forfeiture rule, increases the value of the FTR and is and should be subject to forfeiture. In the discussion of their example, Exelon/NextEra demonstrate their understanding of the rule and their ability to change their virtual bidding behavior and to avoid the FTR forfeiture rule if desired. This forfeiture occurred in the period where the new rule was applied retroactively, before the new rule was known and before Exelon had an opportunity to change its behavior to avoid violating the FTR

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<sup>6</sup> *Id.* at P 79.

forfeiture rule. That issue no longer exists as market participants now understand how the rule works. It should not be a surprise that a very large virtual bid had an impact on one or more constraints and therefore on related FTRs.

The desire of Exelon/NextEra to engage in virtual behavior that violates the FTR forfeiture rule is not a reason to change the rule to permit the behavior. It is a reason for Exelon/NextEra to reconsider their behavior. But the rule is not punitive. At most, Exelon/NextEra will not receive profit on a specific FTR for a small subset of hours. The FTR forfeiture rule simply removes profit for specific hours, but market participants retain the price they paid for the FTRs, which in a competitive market is equal to their expected congestion.

Even if Exelon/NextEra's intentions were completely pure, Exelon/NextEra's proposal would permit large participants to increase the value of their FTRs through virtual positions. This would very likely change participants' incentives. By their own admission, Exelon's behavior has been affected by the FTR forfeiture rule. The Market Monitor agrees that Exelon's behavior has been affected by the FTR forfeiture rule and the Market Monitor agrees that this is exactly the point of the rule. Another large market participant might have different intentions. Another very small market participant might have different intentions. Exelon/NextEra have not explained how they would distinguish between market participants with good and bad intentions. Exelon/NextEra have not explained why that distinction matters to those hurt by the results, which are manipulative, regardless of intention. That is the point of having a rule rather than attempting to judge intent for every FTR trade, which is impossible.

**B. The FTR Forfeiture Rule Thresholds are Defined, Transparent and Appropriate to Deter Market Manipulation.**

Exelon/NextEra argue (at 5–6) that the currently implemented FTR forfeiture test is too sensitive and causes a significant risk of inadvertent forfeitures. Exelon/NextEra base this argument on a comparison of the magnitude of FTR forfeitures under the current rule, for the period when the new rule was retroactively applied to FTR positions (January

through September of 2017), to what FTR forfeitures would have been in that same period under the prior rule, found to be unjust and unreasonable, and under different threshold levels. Exelon/NextEra argue (at 7) that since forfeitures observed in the January through September of 2017 period under the new rule are larger than would have occurred under the prior rule, and higher than under weaker thresholds, the current rule is too sensitive. Exelon/NextEra provide no basis for their simple assertion that the relative magnitude of forfeitures under an FTR forfeiture rule is an indicator of the correct level of sensitivity or whether the rule is just and reasonable. Exelon/NextEra simply assume that a lower magnitude of forfeitures would be just and reasonable because it is in their financial interest to do so. The magnitude of forfeitures is an inappropriate metric for determining whether an FTR forfeiture rule is working as intended or is unjust and unreasonable.

The new rule is compliant with the Commissions' directives and the old rule was not. The old rule did not correctly or explicitly capture the effect of a participant's virtual activity on the value of associated FTRs. The new rule explicitly and correctly captures the effect of a participant's virtual activity on the value of associated FTRs. Further, the old rule did not apply to counterflow FTRs, while the new rule corrects that oversight. A change in the level of forfeitures should therefore be expected in the transition from the old to the new rule. The results to date are also a misleading indicator of expected results under the new rule, as a direct result of how the new rule was initially applied. Per Commission order, the new rule was applied retroactively. As a result, participants could not see their new forfeitures or adjust their behavior to avoid forfeiture.

Exelon/NextEra also cite (at 7) to a "sensitivity study" that PJM conducted through the stakeholder process as proof that the FTR forfeiture test is too sensitive and unjust and unreasonable. This study involved relaxing the parameters around the current FTR forfeiture rule by excluding the positive value test of \$0.01 and replacing it with an arbitrary 0.10 FTR dfax difference test, of the FTR source and sink, that is alleged to indicate a constraint that is too far away to affect the value of an FTR. It is unsurprising that arbitrarily eliminating the impact of some affected constraints will reduce the number of FTRs that

trigger the forfeiture rule. But using the proposed dfax difference test is not consistent with the Commission's order and not consistent with a logical application of the FTR forfeiture rule. A constraint with a shadow price of \$500.00 and a 0.10 dfax difference to an FTR has a \$50.00/MW positive effect on the value of a prevailing flow FTR. Unsurprisingly, relaxing the parameters merely weakens the test. The proposed dfax test has no logical basis. Constraints that pass the proposed dfax test (dfax difference less than .10) have a demonstrably significant impact on the FTR value. Ultimately, if a participant's virtual portfolio has a greater than 10 percent impact on a constraint and the constraint affects the value of the FTR, the participant's virtual portfolio is appropriately defined to be subject to the rule. There is no basis for providing a safe harbor for manipulation through the replacement of a positive value test with an arbitrary dfax test.

FERC has already directly addressed and rejected the "distance" argument in its original order (at P 63), ruling that:

We disagree with commenters' concerns that a portfolio approach will discourage transactions with small impacts on FTR prices and at liquid locations...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.

Per the Commission's requirements, the currently implemented FTR forfeiture rule only triggers when the impact of a company's virtual portfolio on one or more constraints clearly increases the value of the FTR. This test for the increased value is measured by the FTR forfeiture rule's \$0.01 positive value threshold test. The \$.01 test directly incorporates the value of the affected constraint on the FTR position through a combination of the shadow price of the constraint and the dfax impacts of that constraint with an FTR. The shadow price of the constraint times the FTR dfax difference is the constraint's effect on the value of the FTR per MW of the FTR. For example, a constraint with a shadow price of \$500.00 and a 0.10 dfax difference to an FTR has a \$50.00/MW positive effect on the value of a prevailing flow FTR. The \$0.01 positive value threshold meets the Commission's



requirement that “forfeits should be limited to those who actually increase the value of their FTR positions through their portfolio of virtual transactions.”<sup>7</sup> As the Commission stated, because the current implementation is mathematically based on a constraint impact, it will only capture those transactions that have a positive impact on the FTR value, regardless of how far the FTR may be from a constraint. Without the \$0.01 positive value threshold test there would be no threshold test within the FTR forfeiture rule that measures whether an affected constraint had a positive value change on an FTR. A distance cutoff threshold based on dfax alone provides no indication of the positive value of the constraint on an FTR.

Simply put, the \$.01 defines a positive impact. The \$.01 value is the smallest dollar denominated value possible. While it would be possible to use a smaller fraction of a dollar, the additional complexity was not necessary.

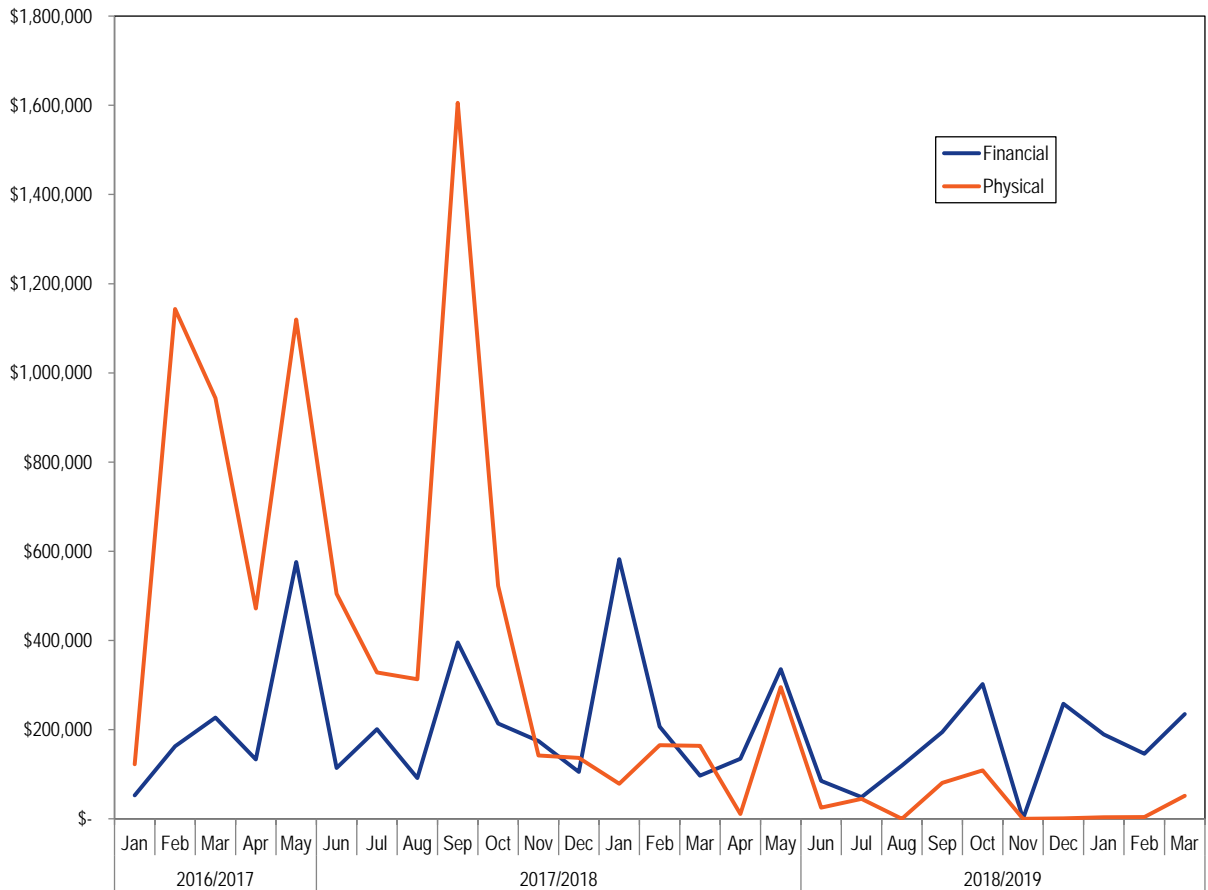
The currently implemented FTR forfeiture rule is significantly more transparent than the previous rule. For instance, the current forfeiture rule is based on the participant’s own portfolio effects which are knowable by the participant, not the interaction of the participant’s individual virtual positions and the worst case flow caused by any other virtual by any participant that cleared in the market, which is not knowable. This transparency allows participants to modify their behavior to avoid triggering the FTR forfeiture rule as evidenced by the current levels of FTR forfeitures. When the current FTR test was initially implemented it did result in higher forfeiture totals compared to what had occurred under the old rule. Given the circumstances, this result was not unexpected. PJM was required to retroactively bill forfeitures back to January 2017, and did not start enforcing the new FTR forfeiture rule until September 2017. As the final forfeiture rule was unknown in the period of January to September 2017, and participants could not modify their past behavior for the January to September 2017 period, there was no way for

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<sup>7</sup> January 19<sup>th</sup> Order at P 58.

participants to modify their behavior to avoid triggering the rule between January and September of 2017. The forfeiture results for January to September 2017 are reflective of a lack of information regarding the forfeiture rule that would apply retroactively to that period. However, as shown in Figure 1, after PJM started billing based on the new rule, there was a steady decline in monthly FTR forfeiture amounts due to participants appropriately modifying their market behavior to avoid triggering the FTR forfeiture rule.

**Figure 1 Monthly FTR Forfeitures: January 2017 through March 2019**



### III. CONCLUSION

The Market Monitor respectfully requests that the Commission afford due consideration to these comments as the Commission resolves the issues raised in this proceeding.

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Respectfully submitted,



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**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 17<sup>th</sup> day of July, 2019.



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