

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;
Richard Glick, Bernard L. McNamee,
and James P. Danly.

PJM Interconnection, LLC

Docket No. EL14-37-000

ORDER ON SECTION 206 INVESTIGATION AND DIRECTING COMPLIANCE

(Issued July 16, 2020)

1. On August 29, 2014, the Commission instituted an investigation, pursuant to section 206 of the Federal Power Act (FPA),¹ concerning how uplift is, or should be, allocated to all virtual transactions in PJM Interconnection, L.L.C. (PJM)² as well as considering PJM's different treatment of UTCs as compared to INCs and DEC's for purposes of allocating uplift.³ On October 17, 2019, the Commission issued an order requiring additional briefing to update the record with respect to these issues.⁴ In this order, we find that PJM's current uplift allocation rules are unjust, unreasonable, and unduly preferential because they do not allocate uplift to UTCs. Accordingly, we direct PJM to submit a replacement rate that revises PJM's current uplift allocation rules to allocate uplift to UTCs in a manner that treats a UTC, for uplift allocation purposes, as if the UTC were equivalent to a DEC at the sink point of the UTC, as discussed below. We direct PJM to make a compliance filing implementing this determination within 45 days

¹ 16 U.S.C. § 824e (2018).

² As described further below, there are three types of virtual transactions in PJM: Incremental Offers (INC's), Decrement Bids (DEC's), and Up-to-Congestion (UTC) transactions.

³ *PJM Interconnection, L.L.C.*, 148 FERC ¶ 61,144 (2014) (August 29, 2014 Order). The section 206 investigation also addressed the application of PJM's Financial Transmission Rights (FTR) forfeiture rule to UTCs, which the Commission determined was no longer just and reasonable and required PJM to submit revised tariff provisions in the January 19, 2017 Order. *PJM Interconnection, L.L.C.*, 158 FERC ¶ 61,038, at P 2 (2017) (January 19, 2017 Order).

⁴ *PJM Interconnection, L.L.C.*, 169 FERC ¶ 61,047 (2019) (October 17, 2019 Order).

of the date of this order. The Commission will establish an effective date for these provisions after reviewing the compliance filing.

I. Background

A. PJM's Filing in Docket Nos. ER13-1654-000 et al.

2. On June 10, 2013, in Docket No. ER13-1654-000, PJM filed revisions to its Open Access Transmission Tariff (Tariff) and Amended and Restated Operating Agreement (Operating Agreement) to define UTC transactions as virtual transactions and to clarify the rules concerning the use of such transactions.⁵ In addition, PJM proposed to extend the application of the FTR forfeiture rule from INCs and DECc to also apply to UTCs.⁶

3. On August 9, 2013, the Commission accepted PJM's proposed tariff revisions conditioned upon PJM's submission of a compliance filing further explaining how it intended to apply the FTR forfeiture rule to UTC transactions.⁷ The Commission also required PJM to make an informational filing within six months describing the financial performance of UTCs, INCs, and DECc, as well as these transactions' effects on uplift.

⁵ A UTC is a bid in the day-ahead market to buy congestion and losses between two points. In its filing, PJM proposed to define a UTC as a virtual transaction that combines an offer to simultaneously sell energy at a specified source with a bid to buy the same megawatt quantity of energy at a specified sink in the day-ahead market, where such transaction specifies the maximum difference between the Locational Marginal Prices (LMP) at the source and sink that the market participant is willing to pay. PJM Operating Agreement, Attachment K – Appendix, § 1.10.1A(c-1).

⁶ An INC is a virtual offer to sell energy at a specified source location in the day-ahead market. A cleared INC results in scheduled generation at the specified location in the day-ahead market. A DEC is a bid to purchase energy at a specified sink location in the PJM day-ahead market. A cleared DEC results in scheduled load at the specified location in the day-ahead market. PJM, Operating Agreement, Schedule 1, §§ 1.3.1E, 1.3.9A.

⁷ *PJM Interconnection, L.L.C.*, 144 FERC ¶ 61,121 (2013) (August 9, 2013 Order).

4. On September 6, 2013, PJM submitted its compliance filing to the August 9, 2013 Order in Docket No. ER13-1654-001.⁸ On February 7, 2014, PJM submitted the informational filing on uplift, the PJM Report on the Impact of Virtual Transactions.⁹

B. Section 206 Investigation in Docket No. EL14-37-000 and Technical Conference

5. In the August 29, 2014 Order, in instituting its section 206 investigation, the Commission stated that PJM's filings in Docket No. ER13-1654 raised, but did not resolve, issues concerning its proposed treatment of UTCs as virtual transactions, in particular, the proposed application of the FTR forfeiture rule differently to UTCs and to INCs and DECs. With regard to uplift, the Commission noted that PJM stated in the PJM Report on the Impact of Virtual Transactions that both UTCs and INCs/DECs affect uplift; however, only INCs and DECs are currently subject to uplift charges. Accordingly, the Commission stated that the section 206 proceeding should also examine how uplift is, or should be, allocated to all virtual transactions.¹⁰

6. As part of the section 206 investigation, the Commission convened a technical conference on January 7, 2015, to explore the issues further. On the topic of uplift, the Notice of Technical Conference stated that the technical conference would explore whether PJM's current uplift allocation rules associated with UTC transactions and INCs/DECs are just and reasonable.¹¹

C. January 19, 2017 Order, Uplift NOPR, and Order No. 844

7. In the January 19, 2017 Order, the Commission held the issue of how uplift is, or should be, allocated to all virtual transactions in abeyance, pending the outcome of any

⁸ The Commission later accepted PJM's compliance filing effective August 9, 2013. *PJM Interconnection, L.L.C.*, 158 FERC ¶ 61,039 (2017).

⁹ *Report on the Impact of Virtual Transactions*, Docket No. ER13-1654-000 (February 7, 2014) (also filed on May 29, 2015 as an attachment to PJM's comments in Docket No. EL14-37-000) (PJM Report on the Impact of Virtual Transactions).

¹⁰ August 29, 2014 Order, 148 FERC ¶ 61,144 at P 13.

¹¹ Post-technical conference comments were filed by various entities. *See* October 17, 2019 Order, 169 FERC ¶ 61,047 at 4 n.14.

final rule resulting from the Notice of Proposed Rulemaking (NOPR) issued concurrently with the January 19, 2017 Order.¹²

8. In the Uplift NOPR, the Commission proposed to require each regional transmission organization (RTO) and independent system operator (ISO) that allocates the costs of real-time uplift due to deviations to allocate such real-time uplift costs only to those market participants whose transactions are reasonably expected to have caused the real-time uplift costs. The Commission also proposed to revise its regulations to enhance transparency.¹³

9. On April 19, 2018, the Commission issued Order No. 844, which adopted the Uplift NOPR's transparency proposals, with certain modifications.¹⁴ Relevant to the instant 206 proceeding, the Commission declined to adopt the uplift cost allocation reforms proposed in the NOPR. The Commission stated that it continued to believe that uplift ideally should be allocated to those market participants whose transactions caused the uplift and that allocations of uplift costs should avoid penalizing behavior that can improve price formation. However, based on the record in that proceeding, the Commission found commenters' substantial concerns about the NOPR proposal sufficiently persuasive to decline to take generic action at the time.¹⁵

D. October 17, 2019 Order

10. In the October 17, 2019 Order, the Commission noted that the issue of how uplift is, or should be, allocated to all virtual transactions in PJM in the section 206 investigation remained pending following the issuance of Order No. 844. The Commission stated that since the technical conference on January 7, 2015, after which various parties submitted comments and reply comments on the issue of uplift, there had been several proceedings that may have resulted in changed circumstances relevant to the

¹² January 19, 2017 Order, 158 FERC ¶ 61,038 at P 3 (citing *Uplift Cost Allocation & Transparency in Mkts. Operated by Reg'l Transmission Organs. & Indep. Sys. Operators*, 158 FERC ¶ 61,047 (2017) (Uplift NOPR)). The Commission also determined that PJM's current application of its FTR forfeiture rule to virtual transactions was no longer just and reasonable and directed PJM to submit a compliance filing implementing the order's determinations. *Id.* P 2.

¹³ Uplift NOPR, 158 FERC ¶ 61,047 at P 82.

¹⁴ *Uplift Cost Allocation & Transparency in Mkts. Operated by Reg'l Transmission Organs. & Indep. Sys. Operators*, Order No. 844, 163 FERC ¶ 61,041, at PP 1-5 (2018).

¹⁵ *Id.* P 29.

inquiry in the 206 proceeding. In light of the potential changed circumstances since the time that pleadings were last submitted in the proceeding, the Commission sought to update the record by requiring PJM to submit a brief answering several questions and permitting parties to file reply briefs thereafter.¹⁶

II. PJM's Brief and Reply Briefs

11. PJM filed its brief on November 18, 2019 (PJM Brief). On December 18, 2019, comments were filed by XO Energy, LLC (XO Energy); Financial Marketers Coalition; Appian Way Energy Partners, LLC (Appian Way); FirstEnergy Utilities, East Kentucky Power Cooperative, Inc, and Duke Energy Corporation (together, PJM Utilities Coalition); and Monitoring Analytics, LLC, in its capacity as the Independent Market Monitor for PJM (Market Monitor). On January 14, 2020, the Market Monitor filed an answer.

12. PJM explains that it still believes that its tariff is unjust and unreasonable because it does not allocate uplift to UTCs.¹⁷ PJM further explains that because UTCs, like all other virtual transactions in the day-ahead market, directly affect: (1) the commitment and dispatch of resources; (2) flows on transmission lines; (3) LMP levels; and (4) the revenues that resources collect from the market, UTCs contribute to uplift in essentially the same way as INCs and DECs, and accordingly should be treated comparably.¹⁸ PJM asserts that it still believes that it would be appropriate to treat a UTC as a “paired” INC and DEC for purposes of allocating uplift, even though the Commission rejected that approach.¹⁹ However, PJM states that if the Commission were to adopt a single transaction framework for allocating uplift, PJM would prefer it to be based on a DEC.²⁰ PJM explains that treating UTCs as DECs at the sink points of each UTC would allocate both day-ahead and real-time uplift to UTCs, which would acknowledge the impact of the UTC in the day-ahead market.²¹

¹⁶ October 17, 2019 Order, 169 FERC ¶ 61,047 at PP 41-42.

¹⁷ PJM Brief at 3, 11-12.

¹⁸ *Id.* at 4.

¹⁹ *Id.* at 4-5, 11, 15.

²⁰ *Id.* at 5-6.

²¹ *Id.*

13. PJM states that there is no way to determine the impact on uplift of a single transaction or type of transactions.²² PJM also states that it is not possible for PJM to distinguish the impact to uplift from different deviations between the day-ahead and real-time.²³ However, PJM explains that it did analysis to provide some insight into how day-ahead uplift could change if certain transaction types were removed and the market clearing re-executed.²⁴ PJM explains that the removal of each identified transaction type is not the only thing that changes when the market is re-cleared because removing a transaction type results in other changes in the market.²⁵ Therefore, PJM concludes that removing a transaction type is not the only change reflected in the results PJM provided.²⁶

14. PJM explains that it simulated the day-ahead market in three scenarios: (1) with all virtual transactions included; (2) without INCs and DECs; and (3) without UTCs.²⁷ PJM clarifies that it is not able to determine the impacts of real-time lost opportunity cost payments or real-time uplift and that its simulation results should not be considered to be reflective of any impact to real-time uplift in any manner.²⁸ PJM also clarifies that its simulations do not account for market participants' changes in behavior, which would be reasonable to expect.²⁹ PJM shows that removing only INCs and DECs from the day-ahead market clearing and only removing UTCs both result in higher average daily day-ahead uplift than the case where all virtual transactions are included.³⁰

15. PJM explains that it also used the simulation results to analyze the impact INCs and DECs, as well as UTCs, have on unit commitment. PJM concludes based on its analysis of the absolute change in each generator's output that UTCs have a greater impact on unit commitment and dispatch in the day-ahead market as compared to INCs

²² *Id.* at 2.

²³ *Id.* at 13.

²⁴ *Id.* at 2.

²⁵ *Id.* at 2-3.

²⁶ *Id.* at 3.

²⁷ *Id.* at 7.

²⁸ *Id.*

²⁹ *Id.* at 7-8.

³⁰ *Id.* at 9.

and DECs.³¹ PJM explains that the impact on unit commitment and dispatch cannot be determined by simply comparing total cleared MWh.³²

16. PJM states that while it believes that UTCs should be allocated uplift, UTCs should not be assessed a flat fee.³³ PJM explains that charging a known, flat fee to UTCs while assessing an unknown, variable fee to all other transactions would be unduly discriminatory and would give UTC traders a competitive advantage over other virtual traders using INCs and DECs.³⁴ PJM asserts that there is no analysis of which PJM is aware that supports providing UTCs with the benefit of a flat fee over other transaction types.³⁵

17. In regard to creating an allocation factor for UTCs, PJM states that while it could implement this method, the set of rules that would separate uplift into the two buckets – energy and transmission - would be based on intuition rather than any rigorously-defined method.³⁶ PJM explains that because resources are committed and dispatched for energy and transmission constraints simultaneously to minimize overall production cost, it is not possible to determine what amount of uplift is created by each independently.³⁷ PJM asserts that this would result in inconsistency in the uplift allocation rules.³⁸

18. XO Energy asserts that, unlike INCs and DECs, a UTC is a transmission product that does not include an energy component and therefore only affects transmission uplift and has no effect on energy-based uplift.³⁹ XO Energy argues that this distinction is the root of PJM's flawed proposal, specifically that PJM proposes to allocate energy-related uplift to UTCs by treating them as energy deviations even though UTCs do not have an

³¹ *Id.* at 10.

³² *Id.* at 10-11

³³ *Id.* at 12, 14.

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.* at 13.

³⁷ *Id.*

³⁸ *Id.* at 14.

³⁹ XO Energy Reply Brief at 2-3.

energy component.⁴⁰ XO Energy contends that PJM failed to provide any valid data to support imposition of energy-based uplift charges on UTCs.⁴¹ XO Energy supports the Uplift NOPR's proposal to divide real-time uplift costs allocated to deviations into two categories: system-wide capacity and congestion management, noting that this granular approach has been taken in other ISOs.⁴² Further, XO Energy argues that PJM's simulations indicate that without UTC transactions in the day-ahead market, day-ahead uplift increases by \$28.1 million, but counterintuitively, rather than incenting transactions that help lower system costs, PJM proposes to allocate uplift charges to UTCs in excess of 177% of the profits they earned in 2018.⁴³ XO Energy estimates that UTCs would be allocated between 10% and 70% of daily uplift if UTCs are allocated uplift charges, which XO Energy argues would be inconsistent with economic fundamentals because UTCs reduce market pricing inefficiencies.⁴⁴ XO Energy believes that there are other causal factors that contribute to energy and transmission related uplift that far surpass UTC transactions, particularly inflexible generator operating parameters (e.g., minimum runtime, downtime, start time, and notification time).⁴⁵

19. Appian Way argues that PJM's analysis demonstrates that virtual transactions, in aggregate, do not materially increase the level of uplift.⁴⁶ Appian Way asserts that because UTCs promote price convergence and help with price formation, allocation of uplift to UTCs disincentivizes UTCs' efficiency enhancing characteristics on high priced days when there is risk of high uplift.⁴⁷ Appian Way contends that it would be more efficient to impose a fixed fee on all virtual transactions in lieu of PJM's current uplift allocation rules because a fixed fee would be sufficient to discourage the types of transactions PJM deemed problematic in its Virtual Transactions White Paper.⁴⁸ Further, Appian Way questions why uplift should be allocated to virtual transaction or other

⁴⁰ *Id.* at 2.

⁴¹ *Id.* at 7.

⁴² *Id.* at 3.

⁴³ *Id.* at 4-5, 7-8.

⁴⁴ *Id.* at 23.

⁴⁵ *Id.* at 5, 10-11.

⁴⁶ Appian Way Reply Brief at 1.

⁴⁷ *Id.* at 2-3.

⁴⁸ *Id.* at 2-4.

schedule deviations at all, rather than allocated to load, given PJM's consistent position that it is not possible to apportion uplift based on cost causation principles.⁴⁹ On another note, Appian Way argues that it does not make sense to treat UTCs equivalent to load or DEC's because UTCs do not add net demand to the day-ahead market.⁵⁰

20. Financial Marketers Coalition states that the only change that has occurred since 2015 is that PJM has reduced the availability of nodes for virtual transactions to be placed, but that has not changed the fundamental character of, and lack of uplift causation associated with, UTCs.⁵¹ Financial Marketers Coalition argues that UTCs are a transmission product without an energy component that do not cause uplift and that PJM did not provide any additional analysis or evidentiary support to support uplift cost allocating uplift to UTCs as a single deviation.⁵² Rather, Financial Marketers Coalition argues that PJM's analysis shows that UTCs can help reduce uplift and, accordingly, should not be allocated uplift costs.⁵³ Financial Marketers Coalition asserts that PJM provided analysis regarding changes in unit commitment as a result of virtual transactions, but that analysis did not provide conclusive evidence that such transactions cause uplift.⁵⁴ For instance, Financial Marketers Coalition argues that PJM's use of absolute values in determining the change in unit commitment fails to provide concrete data because it does not show whether those changes were in a direction that helped reduce uplift during a period of congestion, or harmed the market by increasing uplift.⁵⁵ Financial Marketers Coalition contends that PJM incorrectly considers virtual transactions to be deviations because that they are actually scheduled deviations, such that their "deviation" is an inherent part of the transaction, and not an unexpected change in schedule, whereas unscheduled deviations are associated with physical load. Financial Marketers Coalition explains that the inherent difference between scheduled versus unscheduled deviations provides an economic rationale or justification for different treatment in terms of uplift allocation.⁵⁶ Financial Marketers Coalition argues that UTCs

⁴⁹ *Id.* at 2, 5.

⁵⁰ *Id.* at 5.

⁵¹ Financial Marketers Coalition Reply Brief at 4-5.

⁵² *Id.* at 2-5.

⁵³ *Id.* at 6, 12.

⁵⁴ *Id.* at 6.

⁵⁵ *Id.* at 13.

⁵⁶ *Id.* at 15.

have a very low profit margin and allocation of uplift would render UTCs entirely unprofitable and illiquid.⁵⁷

21. PJM Utilities Coalition state that they agree with PJM's position.⁵⁸ PJM Utilities Coalition contend that failure to allocate uplift charges to UTC transactions unfairly increases costs to other markets participants, including customers.⁵⁹ PJM Utilities Coalition conclude that because UTCs are transacting in the markets, they should receive their respective share of the costs that result from market operations.⁶⁰

22. The Market Monitor argues that, despite certain changes in circumstances for UTCs, PJM's Tariff continues to be unjust and unreasonable because it does not allocate uplift to UTCs. The Market Monitor states that while the issue of false arbitrage from UTCs has been reduced as a result of the reduction in bid points for UTCs, it has not been eliminated, and the nature of the product has not changed.⁶¹ The Market Monitor contends that, as a result, UTCs still affect day-ahead market-based unit commitment, resources that PJM has to manually commit to maintain reliable operation in real-time, day-ahead dispatch, day-ahead LMPs, day-ahead settlements, and day-ahead flows on PJM's transmission system, whether line limits are enforced, and congestion and FTR target allocations.⁶²

23. The Market Monitor agrees with PJM that UTCs affect uplift as both an injection and withdrawal and that they should be treated comparably to INCs and DEC. The Market Monitor also agrees that UTCs do not have special properties that justify not allocating them uplift costs. The Market Monitor contends that the profit incentives associated with UTCs make them a largely counterproductive false arbitrage product from a system efficiency perspective. Specifically, the Market Monitor argues that while INCs and DEC are profitable if they clear consistent with price convergence, a UTC can be net profitable if the profit on one side of the UTC transaction exceeds the losses on the other side.⁶³ In support of this argument, the Market Monitor provides data from the first

⁵⁷ *Id.* at 15.

⁵⁸ PJM Utilities Coalition Reply Brief at 2-4.

⁵⁹ *Id.* at 2.

⁶⁰ *Id.*

⁶¹ Market Monitor Reply Brief at 1-3.

⁶² *Id.* at 2.

⁶³ *Id.* at 3.

nine months of 2018 and 2019, which shows the percentages of all cleared UTC transactions that are profitable on both sides of the transaction are very low. For example, the Market Monitor represents that in 2019 48.9% of all cleared UTC transactions were net profitable, but only 6.5% were profitable on both sides.⁶⁴ The Market Monitor also provides an analysis showing that there have been several instances where UTC trading activity decreases in response to Commission orders, which appear to have led to a decrease in day-ahead congestion event hours.⁶⁵

24. The Market Monitor states that its analysis shows that UTCs contribute to physically infeasible market flows in the PJM day-ahead market because of differences in the day-ahead and real-time market models.⁶⁶ The Market Monitor explains these modeling differences result in UTCs, not load, being the net cause of negative balancing (real-time) congestion costs in the PJM market that are borne by load.⁶⁷ Specifically, the Market Monitor argues that the modeling differences cause PJM to have more system flow capability in the day-ahead market than in the real-time market. The Market Monitor asserts that UTCs profit from these modeling differences while not providing any benefit to the rest of the market because UTCs generate flows in the day-ahead market that are not physically possible in the real-time market. The Market Monitor provides a graph that shows that UTC balancing congestion charges and credits correlate closely with total monthly balancing congestion costs. The Market Monitor argues that the graph demonstrates that a majority of the monthly balancing congestion costs paid to UTCs took the form of negative balancing congestion credits. The Market Monitor contends that the graph displays that UTCs are the cause of balancing congestion in PJM.⁶⁸

⁶⁴ The Market Monitor 2019 data shows of all cleared UTC transactions, 67% profitable on the source side and 33.5% profitable on the sink side. *Id.* at 4.

⁶⁵ The Market Monitor presents data that has largely already been presented in this procedural record. *Id.* at 5-7.

⁶⁶ A key modeling difference, the Market Monitor explains, is that certain transmission constraints are not modeled in the day-ahead market but exist in the real-time market, leading to less actual transmission transfer capability in the real-time market than in day-ahead market. *Id.*

⁶⁷ The Market Monitor explains that negative balancing congestion generally results from the use of relatively higher cost generation in real-time compared to day-ahead, holding load constant (i.e., the value of the generation at a pricing node is higher than the cost of the load at the same pricing node). *Id.*

⁶⁸ *Id.* at 9-11.

25. The Market Monitor takes issue with PJM's counterfactual analysis to measure how uplift changes in the day-ahead market without virtual transactions. The Market Monitor argues that the artificial price sensitivity that is introduced through virtual transactions causes physical resources to be displaced from being dispatched in the day-ahead market to meet physical load, or causes physical resources to be dispatched where no physical generation will be needed.⁶⁹ The Market Monitor contends that this does not translate into more efficient, cost effective commitment solutions relative to the actual physical system requirements in the real-time market because such displaced physical generation may be needed in the real-time solution. The Market Monitor argues that the counterfactual analysis does not capture this effect and therefore does not provide insight into the effect of UTCs on market efficiency and uplift.⁷⁰ The Market Monitor also argues that the counterfactual analysis is meaningless because it did not include an examination of the resulting real-time market outcomes so that the complete day-ahead and real-time effect could be measured to determine whether the resulting market results are better or worse due to the elimination of certain types of transactions.⁷¹

26. The Market Monitor states the even if UTC trading levels were to decrease as a result of uplift cost allocation, the fact that UTCs should pay uplift would not change. The Market Monitor states it agrees with PJM responses that the PJM Tariff is unjust and unreasonable because it provides unfair treatment to certain deviations without sufficient economic justification, and does not allocate uplift to all deviations.⁷² The Market Monitor states that it agrees with PJM that allocating uplift costs through a flat fee is inappropriate as it is inconsistent with the market design for uplift cost allocation, and it would also be inappropriate to allocate uplift differently across different types of transactions that cause deviations.⁷³ The Market Monitor argues that assessing a fixed fee to UTCs continues to provide UTCs preferential treatment, as it would assess a guaranteed fee to UTCs while assessing variable fees to all other transactions.⁷⁴

27. In an answer, the Market Monitor rebuts arguments raised by XO Energy. Primarily, the Market Monitor emphasizes that just because UTCs have an injection that matches with a withdrawal to be energy neutral does not provide that market clearing is

⁶⁹ *Id.* at 13-14.

⁷⁰ *Id.*

⁷¹ *Id.* at 14-17.

⁷² *Id.* at 17-18.

⁷³ *Id.* at 18-19.

⁷⁴ *Id.* at 19.

unaffected. Rather, the Market Monitor explains, UTCs would only be truly energy neutral if the injection and withdrawal are at the same location. The Market Monitor states that if the injection and withdrawal for a UTC is not at the same location it creates energy flows that create differences from day-ahead and real-time dispatch if those flows do not occur in the real-time market.⁷⁵ The Market Monitor states that XO Energy incorrectly draws a distinction between transmission and energy costs and confuses a balanced system with the absence of energy flow that effects a system solution. The Market Monitor argues that UTCs create energy flow in the day-ahead market that does not materialize in real time, and that these injections and withdrawals are not being made from the same bus. Thus, the Market Monitor argues UTCs cause significant differences between day-ahead and real-time congestion events.⁷⁶

28. The Market Monitor argues that there is no basis to distinguish between uplift caused by energy or transmission constraints because as PJM has explained the resources are simultaneously dispatched for energy and transmission constraints in order to reduce total system production costs.⁷⁷ The Market Monitor argues contrary to XO Energy, that if it were true UTCs do not cause uplift, then it would be true that UTCs could not have any effect on the day-ahead market. The Market Monitor argues UTCs affect day-ahead market solutions, and that both the Market Monitor and PJM have provided analysis that show UTCs contribute to uplift similarly to INCs and DEC.⁷⁸

III. Commission Determination

29. We find that PJM's current uplift allocation rules are unjust, unreasonable, and unduly preferential because they do not allocate uplift to UTCs. Accordingly, we direct PJM to submit, in a compliance filing within 45 days from the date of this order, a replacement rate that revises PJM's current uplift allocation rules to allocate uplift to UTCs in a manner that treats a UTC, for uplift allocation purposes, as if the UTC were equivalent to a DEC at the sink point of the UTC. As a result, under the replacement rate, UTCs will be allocated both real-time uplift and day-ahead uplift.

30. In support of our finding that PJM's current uplift allocation rules are unjust, unreasonable, and unduly preferential, we find that UTCs can impact unit commitment by affecting the dispatch of supply resources in the day-ahead market, as shown by data submitted in this record. Specifically, the PJM Report on the Impact of Virtual

⁷⁵ *Id.* at 2-3.

⁷⁶ Market Monitor Answer at 4-5.

⁷⁷ *Id.* at 5-6.

⁷⁸ *Id.* at 6-7.

Transactions demonstrates that when UTCs were removed from the day-ahead market, several generating units were de-committed while other units were committed, indicating that UTCs can impact unit commitment decisions. In addition, while PJM's Report on the Impact of Virtual Transactions only considered the day-ahead market, the changes in commitment decisions that were shown by removing UTCs represent the types of commitment and re-dispatch decisions that could be needed to adjust for the removal of UTC MWs on certain nodes in the real-time market. The change in commitment decisions can impact uplift. For example, a resource that receives a day-ahead schedule to relieve a binding transmission constraint caused by UTCs and is then de-committed in real-time when the constraint does not bind would receive uplift to compensate it for its day-ahead position as well as any real-time market charges the resource incurred as a result.⁷⁹ In addition, the PJM Brief illustrates that the change in the absolute number of MWhs of total cleared energy impacted by UTCs is much greater than MWhs impacted by other virtual transactions.⁸⁰ Thus the record supports our finding that UTCs, like INCs and DECs, can impact resource commitment and dispatch, thereby causing uplift.

31. Moreover, the Market Monitor's analysis shows that most real-time congestion charges are allocated to UTCs. The Market Monitor provides an example of how UTCs can collect negative balancing congestion on the sink side of the transaction and argues that UTCs cause negative balancing congestion charges by contributing to physically infeasible market flows in the PJM day-ahead market. Additionally, the Market Monitor provides analysis that shows that day-ahead congestion event hours decreased after Commission orders that led to decreases in UTC activity. We find that the Market Monitor's analysis and supporting examples provide further support for our finding that UTCs can cause uplift in both the day-ahead and real-time markets.

32. Based on the evidence described above, we conclude that PJM's tariff is unjust and unreasonable and unduly preferential because it does not allocate uplift to UTCs. Under PJM's current uplift allocation methodology, PJM allocates day-ahead uplift to withdrawals in the day-ahead energy market and a portion of real-time uplift to both virtual transactions (i.e., INCs and DECs) that reflect deviations from their day-ahead position as well as to other deviations (e.g. a generator deviation from its day-ahead schedule that does not follow PJM dispatch instructions). Nonetheless, PJM does not allocate uplift to UTC transactions. We find this failure to allocate uplift to UTC transactions unjust and unreasonable because UTC transactions can cause uplift similar to other deviations from day-ahead schedules. Furthermore, we find that for purposes of uplift cost allocation, affording differential treatment for UTCs compared to DECs

⁷⁹ See PJM Interconnection LLC, OATT Attachment K Appendix Sec 3.2.3 (f-1)(ii) - Market Buyers, (45.2.2).

⁸⁰ PJM Brief at 10.

provides undue preference to UTC transactions. UTC transactions are similarly situated to INC and DEC transactions for the purposes of uplift allocation in that both sets of transactions cause uplift. Although the Commission has recognized that UTCs have certain characteristics that distinguish them from INCs and DECs, we find that those characteristics do not justify failing to allocate uplift to UTC transactions.⁸¹ Though UTCs and INCs/DECs are different financial products, each are deviations from day-ahead positions that can impact uplift. Therefore, we find that while it may be just and reasonable to treat UTCs differently than INCs/DECs with respect to the number of available bidding locations, that is not relevant to whether UTCs should be allocated uplift.

33. Having determined that PJM's current uplift allocation rules are unjust and unreasonable and are unduly preferential, we must determine a replacement rate that is just, reasonable and not unduly preferential.⁸² Therefore, we direct PJM to submit, in a compliance filing within 45 days from the date of this order, a replacement rate that revises PJM's current uplift allocation rules to allocate uplift to UTCs in a manner that treats a UTC, for uplift allocation purposes, as if the UTC were equivalent to a DEC at the sink point of the UTC, as recommended by PJM. As a result, under the replacement rate, UTCs will be allocated both real-time uplift and day-ahead uplift. We find that it is just and reasonable to use this DEC uplift allocation methodology to determine the amount of uplift that should be allocated to UTCs because UTCs can cause uplift in both the day-ahead and real-time markets, as discussed above.

34. The Financial Marketers Coalition argues that the analysis in the PJM Brief suggests that UTCs can help reduce uplift in certain situations in the day-ahead market. We disagree that this evidence supports a finding that UTCs should not be allocated uplift costs. PJM's analysis shows that UTCs can impact uplift similar to INCs and DECs,

⁸¹ Specifically, the Commission previously found that UTCs and INCs/DECs are different financial products and noted several differences between these products that warrant different treatment with respect to the number of available bidding locations. *PJM Interconnection, L.L.C.*, 162 FERC ¶ 61,139, at P 112 (2018).

⁸² See August 29, 2014 Order, 148 FERC ¶ 61,144 at PP 13-14. FPA section 206 requires that when the Commission finds a rate subject to its jurisdiction to be "unjust, unreasonable, unduly discriminatory or preferential, the Commission shall determine the just and reasonable rate, charge, classification, rule, regulation, practice, or contract to be thereafter observed and in force, and shall fix the same by order." 16 U.S.C. § 824e. See *Del. Pub. Serv. Comm'n v. PJM Interconnection, L.L.C.*, 166 FERC ¶ 61,161, at P 16 (2019) ("In finding [certain tariff provisions] unjust and unreasonable . . . pursuant to FPA section 206, the Commission is required to establish the just and reasonable replacement rate.").

including increasing uplift in the day-ahead market and, in certain situations, decreasing uplift in the day-ahead market. The analysis did not show that UTCs would reduce uplift in the day-ahead market all the time nor did it show that UTCs would reduce uplift aggregated across both the day-ahead and real-time. Therefore, based on the entirety of the record, we do not find that PJM's results referenced by the Financial Marketers Coalition support a finding that the current uplift allocation rules that do not allocate uplift to UTCs are just and reasonable.

35. The Financial Marketers Coalition also argues that PJM's findings regarding the changes in unit commitment as a result of virtual transactions did not provide conclusive evidence that the changes would cause uplift because PJM did not show whether the changes were in a direction that caused an increase in uplift. We disagree with the Financial Marketers Coalition that PJM was required to show that commitment and dispatch changes would have caused an increase or decrease in uplift to provide the necessary evidence that UTCs can cause uplift. PJM's evidence demonstrates that UTCs can impact uplift. Uplift can be caused by transmission line flows and LMPs, which are impacted by unit commitment and dispatch decisions. PJM's Brief and Report on the Impact of Virtual Transactions demonstrates the change in dispatched and committed energy caused by virtual transactions, including UTCs. This evidence, taken together with the other evidence in the record, is sufficient to demonstrate that UTCs can cause uplift similar to INCs and DECAs, and thus the PJM Tariff is unjust and unreasonable and unduly preferential because it does not allocate uplift to UTCs.⁸³ Financial Marketers Coalition contends that, because virtual transactions are deviations that are scheduled in the day-ahead market, they are not the same as unscheduled deviations that are associated with physical load not showing up in real-time and thus should not similarly be charged uplift. We disagree. While the operator's knowledge of a deviation at an earlier point in time is helpful in providing the necessary time required for scheduling the lowest cost solution, it does not change the need for the operator to find a solution that could require the dispatch, commitment, or de-commitment of a resource that could create uplift costs.

36. We disagree with XO Energy's and Financial Marketers Coalition's assertion that, because UTCs are a transmission product, they should be allocated only those uplift charges incurred to manage transmission constraints and not uplift related to system-wide capacity. There are substantial challenges to independently evaluating the effects of any single transaction on energy and transmission constraints within the day-ahead or real-time markets due to the dynamics of the markets and the operation of the system (e.g., each transaction impacts and influences other transactions, which influence how PJM

⁸³ To the extent the Financial Marketer Coalition argues that PJM needed to be able to differentiate between whether the commitment and dispatch changes reduced or increased uplift to support an allocation of uplift costs to UTCs, we note that PJM does not make comparable comparisons in its uplift allocations for INCs and DECAs.

commits and dispatches resources). Furthermore, PJM does not have separate categories for uplift incurred to manage transmission constraints and uplift related to system-wide capacity and has not proposed to track them as part of this proceeding; we do not require PJM to do so here.

37. We disagree with Appian Way that UTCs should not be treated equivalent to load or DEC because UTCs do not add net demand to the day-ahead market. This argument is misplaced because the PJM's Report on the Impact of Virtual Transactions shows that though UTCs are energy neutral, they nonetheless can result in the incursion of day-ahead uplift similar to DECs. Moreover, as discussed above, we find that it is just and reasonable to allocate day-ahead uplift to UTCs.

38. We also disagree with arguments in favor of using a fixed fee uplift allocation for UTCs, finding that applying a fixed fee framework to allocate uplift to UTCs would treat UTCs differently from other virtual transactions, such as INCs and DECs, and that the parties supporting a fixed fee have not provided sufficient justification for treating UTCs differently in this context. Furthermore, the record contains no information that supports a specific value for a fixed fee.⁸⁴

The Commission orders:

(A) PJM's current uplift allocation rules that do not allocate uplift to UTCs are hereby found unjust, unreasonable, and unduly preferential, as discussed in the body of this order.

(B) PJM is directed to submit a compliance filing, within 45 days of the date of this order, that revises PJM's current uplift allocation rules to allocate uplift to UTCs in a manner that treats a UTC, for uplift allocation purposes, as if the UTC were equivalent to a DEC at the sink point of the UTC, as discussed in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

⁸⁴ Some protestors argued for the removal of uplift for all virtual transactions; however, for the reasons discussed herein, and based on the instant record, we instead direct a replacement rate that allocates uplift to UTCs similar to other virtual transactions.