

156 FERC ¶ 61,180
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;
Cheryl A. LaFleur, Tony Clark,
and Colette D. Honorable.

PJM Interconnection, L.L.C.

Docket Nos. EL16-6-001
ER16-121-000

ORDER ADDRESSING FILING AND ISSUES
RAISED AT TECHNICAL CONFERENCE

(Issued September 15, 2016)

1. In an order issued December 28, 2015,¹ the Commission set for a technical conference two filings, submitted by PJM Interconnection, L.L.C. (PJM), proposing to minimize or eliminate certain alleged cost shifts, or cross-subsidies, between and among the holders of Auction Revenue Rights (ARR) and the holders of Financial Transmission Rights (FTR).² The technical conference was held on February 4, 2016, with interested parties invited to submit post-technical conference comments and reply comments.
2. For the reasons discussed below, we find that PJM has met its section 206 burden, in part, by demonstrating that certain aspects of its existing ARR/FTR market design have been rendered unjust and unreasonable due, among other things, to the modeling

¹ *PJM Interconnection, L.L.C.*, 153 FERC ¶ 61,344 (2015) (December 28 Order).

² In its filing, in Docket No. ER16-121-000, PJM acknowledged that its proposed revisions to its Open Access Transmission Tariff (OATT) require parallel revisions to its Amended and Restated Operating Agreement (Operating Agreement). PJM stated, however, that its Operating Agreement changes, as submitted in Docket No. EL16-6-000, had received one less vote than the supermajority stakeholder vote needed to authorize a filing made pursuant to section 205 of the Federal Power Act (FPA), 16 U.S.C. § 824d (2012). Accordingly, PJM's integrated filings are reviewed herein pursuant to FPA section 206. *Id.* at § 824e.

assumptions adopted by PJM in recent years to address FTR revenue inadequacy.³ We agree with PJM that these modeling revisions, while promoting revenue adequacy, have nonetheless resulted in unwarranted cost shifts between ARR holders and FTR holders.⁴

3. However, we reject PJM's proposed remedy, which PJM characterizes as a targeted reform intended to sidestep the underlying allocation dispute (and corresponding stakeholder impasse). Specifically, we reject PJM's proposal to reduce Stage 1A infeasible ARRs by increasing its zonal load forecast growth rate. For the reasons discussed below, we find that PJM's proposed escalation factor would trigger unnecessary transmission enhancements based on a model that relies on historical (outdated) source and sink points. Instead, to address infeasible Stage 1A ARRs, we require PJM to revise its tariff to remove the use of historical generation resources for requested ARRs in Stage 1A of the allocation process if those resources are no longer in service and develop a just and reasonable method of allocating Stage 1A ARRs based on source points that reflect actual system usage.

4. We also reject, as unsupported, PJM's proposal to eliminate the step by which negatively valued FTRs are netted against positively valued FTRs within an FTR holder's portfolio. For the reasons discussed below, we find that PJM has not met its burden in establishing that PJM's existing rules with respect to portfolio netting are unjust and unreasonable.

5. Finally, we agree with the position advocated by PJM at the technical conference that FTR underfunding can be reduced by excluding from the FTR settlement process the real-time cost of a congestion imbalance, i.e., a cost that is not related to day-ahead congestion. Accordingly, we find that the inclusion of balancing congestion in the definition of FTRs is unjust and unreasonable as it contributes to the identified unjust and unreasonable cost shift. We therefore require PJM to allocate balancing congestion to

³ FTR revenue inadequacy, as explained more fully below, occurs when there is insufficient revenue to fund all the prevailing flow (positive flow) FTRs. When FTRs are revenue inadequate, the prevailing flow FTR holder receives a reduced amount of Transmission Congestion Credits.

⁴ PJM's modeling revisions, as explained more fully below, attempted to mitigate the effects of one of the causes of revenue inadequacy, namely a PJM requirement that PJM allocate, as part of its initial, or Stage 1A, ARR allocation, a minimum amount of ARRs for a 10-year period, even if infeasible (a requirement that leads to an over-allocation of ARRs and thus underfunding). To compensate for this over-allocation of Stage 1A ARRs, PJM implemented reforms to minimize its allocation Stage 1B ARRs.

real-time load. To address the tariff changes ordered herein, we require PJM to submit a compliance filing within 60 days of the date of this order.

I. Background

6. PJM introduced its competitive auction-based market for FTRs on May 1, 1999.⁵ FTRs are financial contracts that entitle their holders to day-ahead hourly congestion revenue (a Transmission Congestion Credit), as measured between the location at which power is injected into the system and the location at which it is withdrawn. The hourly economic value of an FTR is based on the FTR MW reservation and the difference between day-ahead congestion prices at the sink point (point of delivery) and the source point (point of receipt) designated in the FTR. A prevailing flow FTR is positively valued, meaning that the stream of revenues to which the holder is entitled is a positive value given the difference between the day-ahead congestion price at the sink point of the FTR and the day-ahead congestion price at the source. Prevailing flow FTRs have a source and sink that are in the same direction of congestion on the transmission system. A counterflow FTR is negatively valued meaning that the day-ahead congestion price at the point of receipt is higher than the day-ahead congestion price at the point of delivery. Counterflow FTRs have a source and sink that are in the opposite direction of congestion on the transmission system. FTRs may be purchased by market participants in PJM's FTR auctions or obtained through the conversion of an ARR.

7. In 2003, PJM created ARRs, in conjunction with its establishment of an annual FTR auction.⁶ ARRs are allocated to PJM's network customers and firm point-to-point transmission customers for a term covering 10 consecutive planning periods. ARRs are allocated in a two-step process. In Stage 1, ARRs are allocated based on native load as of a fixed (historical) reference year, as assessed first in reference to base load (a Stage 1A allocation) and then second, in reference to peak load (a Stage 1B allocation).⁷ In Stage 2, PJM allocates its remaining system capability to qualifying network transmission customers and firm point-to-point transmission customers.

⁵ See *Pennsylvania-New Jersey-Maryland Interconnection*, 81 FERC ¶ 61,257, at 62,241 (1997).

⁶ See *PJM Interconnection, L.L.C.*, 102 FERC ¶ 61,276, at P 18 (2003).

⁷ See PJM Operating Agreement at Schedule 1, section 7.4.2(b).

A. FTR Revenue Inadequacy

8. When FTRs are fully funded, load serving entities and firm point-to-point transmission customers are better situated to manage their exposure to congestion costs in the day-ahead market. PJM states, however, that when there is not enough revenue to fund all prevailing flow FTRs, the holder of these rights will receive a reduced pro-rata allocation of Transmission Congestion Credits. PJM states that while reduced allocations historically have been typical in a small amount (in the range of about five percent), PJM experienced higher than usual reductions for three consecutive years from 2010-11 through 2013-14, when revenue adequacy ranged from 69-85 percent.

9. PJM cites four factors which have contributed to this FTR revenue inadequacy. First, PJM cites the Operating Agreement provision noted above (section 7.4.2) requiring PJM to allocate at least a minimum amount of ARR for a 10-year period, even if these ARRs are not “feasible.”⁸ PJM states that, in allocating Stage 1A ARRs regardless of feasibility, PJM over-allocates ARRs. Second, PJM cites unexpected transmission outages as a contributing cause to FTR revenue inadequacy, to the extent such outages reduce PJM’s transmission system capability under real-time operations relative to the assumed levels reflected in its FTR allocations and/or auction processes. Third, PJM cites assumptions that might be made in its day-ahead modeling (the projections on which FTRs are based), to the extent these modeling assumptions may prove incorrect relative to real-time performance. Finally, PJM cites non-participation of interregional coordinated transmission facilities in its FTR and day-ahead markets, due to existing entitlements, or the addition of new coordinated facilities.

10. PJM notes that the fundamental reforms required to address FTR revenue inadequacy have raised allocation issues and resulted in a stakeholder impasse.⁹ PJM states that in the absence of a stakeholder consensus, it has been required to implement a

⁸ PJM conducts several tests to ensure FTRs and ARRs are simultaneously feasible, meaning that the system must be able to physically accommodate the flows associated with these products during the applicable planning year. This requirement ensures that system constraints will be complied with and that there will be enough revenue to cover FTR and ARR entitlements. If, as a result of the annual Simultaneous Feasibility Test, the allocation of a requested Stage 1A ARR is infeasible, PJM will be required to increase the capability limits on the relevant facilities. *See* PJM Operating Agreement at Schedule 1, section 7.4.2(b).

⁹ PJM notes that, since March 2011, it has held three separate stakeholder processes to address FTR revenue adequacy.

series of short-term changes.¹⁰ PJM states that these measures have restored FTR revenue adequacy to better than historical levels.¹¹ PJM adds, however, that reducing Stage 1B ARR allocations has shifted revenues from ARR holders to FTR holders, as explained below. PJM further notes that when it is required to issue a pro-rata reduction in Transmission Congestion Credits due to underfunding, its netting policy (allowing a holder to net the value of negatively valued FTRs against the value of its positively valued FTRs), results in a cost shift from participants with larger shares of positive target allocation FTRs to participants with larger shares of negative target allocation FTRs. PJM states that the current netting policy therefore minimizes the hedging value of prevailing flow FTRs.

B. PJM's Proposals

11. To address the cost shifts summarized above, and the underlying issues related to FTR revenue inadequacy, PJM proposes to: (i) escalate current ARR results using a zonal load forecast growth rate of +1.5 percent in the Stage 1A 10-year simultaneous feasibility process, for the purpose of giving PJM more advance notice of the need to enhance its transmission system; and (ii) eliminate netting of negatively valued FTRs against positively valued FTRs within an FTR holder's FTR portfolio. PJM's proposals are described in more detail below.

C. December 28 Order

12. In the December 28 Order, the Commission found that the issues presented by PJM's filings could not be resolved based on the existing record. Accordingly, the December 28 Order directed Commission staff to convene a technical conference. The December 28 Order instructed that the issues to be addressed include, but need not be limited to: (i) ARR modeling and allocation processes; (ii) treatment of portfolio

¹⁰ Specifically, PJM notes that it has: (i) taken a more conservative approach to allocating Stage 1B ARRs by modeling a greater number of transmission outages in its simultaneous feasibility review process; (ii) used enhanced measures of financial and flow impacts to more precisely model electrical (non-market) loop flow, identify modeling discrepancies, and better align FTR, day-ahead and real-time energy markets; (iii) achieved better market-to-market coordination in collaboration with the Midcontinent Independent System Operator, Inc. (MISO); and (iv) cleared more counterflow FTRs.

¹¹ PJM states that it achieved revenue adequacy at 110 percent during the 2014-15 planning period, and 116 percent for the 2015-16 planning period.

positions in allocating underfunding; and (iii) the inclusion of balancing congestion costs, as incurred in the FTR settlement process.

II. Technical Conference

13. The technical conference was held February 4, 2016, with post-technical conference comments and reply comments due March 15, 2016 and March 29, 2016, respectively.¹²

14. Comments were timely filed by PJM; Appian Way Energy Partners, LLC (Appian); Dominion Resources Services, Inc. (Dominion); Elliott Bay Energy Trading, LLC (Elliott Bay); Exelon Corporation (Exelon); J. Aron & Company (J. Aron); DC Energy, LLC, Inertia Power, LP, Saracen Energy East LP, and Vitol Inc. (Financial Marketers); PJM's Independent Market Monitor (Market Monitor); the New Jersey Board of Public Utilities (New Jersey Board); Old Dominion Electric Cooperative and American Electric Power Service Corporation (ODEC/AEP); and the PJM Industrial Customer Coalition (PJM-ICC).

15. Reply comments were timely filed by PJM; the Market Monitor; Appian; Financial Marketers; ODEC/AEP; J. Aron; Direct Energy Business, LLC and Direct Energy Business Marketing, LLC (Direct Energy); PJM-ICC; and the New Jersey Board, the North Carolina Utilities Commission, the Delaware Public Service Commission, the Public Service Commission of West Virginia, the New Jersey Division of Rate Counsel, and the Delaware Division of the Public Advocate (Joint State Commissions). Additional reply comments were submitted by the Market Monitor on April 8, 2016 and May 4, 2016 and by Elliott Bay on April 21, 2016.

III. Procedural Matters

16. On March 29, 2016, a motion to intervene out-of-time was submitted by the Delaware Public Service Commission (Delaware Commission). On September 12, 2016, a motion to intervene out-of-time was submitted by the Illinois Citizens Utility Board (CUB). Given their interests, the early stage of these proceedings, and the absence of undue prejudice or delay, we grant the Delaware Commission's unopposed, late-filed intervention and the Illinois CUB's late-filed intervention. We also reject, as untimely, the additional reply comments submitted by the Market Monitor and Elliott Bay.

¹² *PJM Interconnection, L.L.C.*, "Notice Inviting Post-Technical Conference Comments," Docket Nos. EL16-6-001, *et al.* (Feb. 23, 2016) (Post-Technical Conference Notice).

IV. Discussion

17. For the reasons discussed below, we find that certain aspects of PJM's existing OATT and Operating Agreement are unjust and unreasonable, as they relate to the ARR/FTR market. We also reject PJM's proposed remedies, and adopt additional revisions as just and reasonable, as specified herein. In addition, we require PJM to submit a compliance filing within 60 days of the date of this order.

A. ARR Stage 1A Over-Allocations

18. Under PJM's existing rules, as summarized above, PJM is required to conduct an analysis and plan transmission upgrades to ensure that Stage 1A ARR requests will be physically feasible at least 10 years into the future.¹³ In addition, PJM allocates a minimum amount of ARRs for a 10-year period, in its Stage 1A ARR process, even if they are infeasible.¹⁴

19. PJM asserts that the fact that some Stage 1A ARRs have been infeasible for the last several years indicates that the current, Stage 1A 10-year simultaneous feasibility analysis has not resulted in a sufficient plan for transmission upgrades far enough in advance to maintain Stage 1A ARR feasibility. Accordingly, and as summarized more fully below, PJM proposes to escalate current ARR results using a zonal load forecast growth rate of +1.5 percent in the Stage 1A 10-year simultaneous feasibility analysis.

20. In the Post-Technical Conference Notice, staff asked interested parties to address the appropriateness of using PJM's proposed zonal load forecast growth rate adder of +1.5 percent for all zones, regardless of the actual zonal load growth rate and negative load growth projections for some areas. Staff also asked interested parties to address the appropriateness of conducting the 10-year study with different growth rates as a sensitivity study, as utilized by PJM as part of its Regional Transmission Expansion Plan (RTEP). In addition, staff asked whether the added cost of building transmission, as attributable to PJM's proposal, would be justified by the benefit of being able to accommodate the current ARR allocations in Stage 1A.

¹³ See Operating Agreement at Schedule 1, section 7.5(b).

¹⁴ *Id.* at section 7.4.2(i).

21. PJM currently uses historical generators as FTR/ARR path source points to serve as a proxy for how load would be served, with Stage 1A ARR holders linked to a historical reference year of 1998, unless otherwise specified.¹⁵ Many of these generators, however, are no longer in service, such that PJM's existing source and sink pathways do not reflect the current use of PJM's system. In the Post-Technical Conference Notice, staff invited interested parties to address whether there are alternative options available to update PJM's Simultaneous Feasibility Test, including source and sink points, to better reflect current system usage and topology.¹⁶

1. PJM's Proposal and Comments

22. To address the cost shifts between ARR holders and FTR holders summarized above, PJM proposes to escalate the current ARR results using a zonal load forecast growth rate of +1.5 percent in its Stage 1A 10-year simultaneous feasibility process. PJM explains that, under its proposal, its 10-year simultaneous feasibility analysis will continue to utilize the PJM zonal base load values (i.e. the lowest daily peak load from the previous year for each zone), but will increase those values by 1.5 percent per year cumulatively over the 10-year period in determining ARR feasibility. PJM explains that its analysis will also assume a corresponding increase in the amount of ARRs requested.

23. PJM adds that, under its proposal, the potential for ARRs to be shown as infeasible in future analyses will increase and thus will identify transmission upgrades earlier for inclusion in PJM's RTEP. PJM adds that its proposed escalation factor is unlikely to lead to overbuilding, given that the upgrades identified under its proposal would likely be the same upgrades identified at a potentially later date under its existing planning rules. PJM

¹⁵ See PJM OATT at Attachment K-Appendix, section 7.4.2(b) and (i) (establishing a historical reference year of 1998, or, if later, the year that a zone is integrated into PJM, namely: (i) a reference year of 2002, for the Allegheny Power and Rockland Electric Zones; (ii) a reference year of 2004, for the AEP East, the Dayton Power & Light Co., and Commonwealth Edison Co. Zones; (iii) a reference year of 2011, for the ATSI Zone; (iv) a reference year 2012, for the DEOK Zone; and (v) a reference year of 2013, for the EKPC Zone).

¹⁶ PJM conducts a Simultaneous Feasibility Test to ensure that the transmission system can support the subscribed set of FTRs and ARRs during normal system conditions. The Simultaneous Feasibility Test models planned system conditions; however, there can be differences between expected system capability at the time of the auction and the actual system capability at the time when congestion charges are incurred. See PJM Operating Agreement at Schedule 1, section 1.3.31.01 and 7.9.

further asserts that its proposed growth rate of +1.5 percent is set at an appropriate level, representing the historical average ARR 10-year growth rate since its inception in 2007.

24. In its Post-Technical Conference Notice comments, PJM notes that, under its proposal, it will continue to use the PJM zonal base load values in its 10-year simultaneous feasibility analysis, but then apply the +1.5 percent growth adder across all zones. Alternatively, PJM states that it could support a different adder applied to each transmission zone that is comparable with each zone's growth rate.¹⁷

25. With regard to source and sink points, PJM states that it has recommended to stakeholders that aligning the existing transmission system with the available Stage 1 ARR source generation locations is warranted. PJM explains that the intent of using the existing set of historical generation resources to determine Stage 1 ARRs is to preserve the transmission customer's transmission rights, in the form of a congestion hedge, from the historical transmission system that included the referenced historical generation resources. PJM explains that under the existing rules, historical generation resource locations are preserved through a remapping even when the generator retires. This remapping is accomplished by transferring the allowed ARR-requested megawatts (MWs) to an equivalent location, even though the retired physical generation does not exist at that location. PJM argues that the result is an inconsistent set of allocated ARRs, and potentially corresponding FTRs, that do not necessarily align with the usage of the existing transmission system, as transmission flows and associated congestion patterns have changed.¹⁸ PJM also recommends aligning FTR sources and sinks to nodes where generation, load, or interchange transactions are settled, or at trading hubs.

26. PJM also affirms that infeasible Stage 1A ARRs should continue to be awarded and treated as they are currently. PJM states that its existing approach was reflected in its compliance filing made in response to Order No. 681.¹⁹ PJM states that, in Order No. 681 the Commission required that PJM's RTEP process meet the reasonable needs of load serving entities to satisfy their service obligations and secure firm transmission rights (or the equivalent tradable or financial rights) on a long-term basis.

¹⁷ PJM Post-Technical Conference Initial Comments at 3 (noting that if a transmission zone's 10-year growth rate equals 0.8 percent, the adder could be set at an equivalent percentage).

¹⁸ PJM Post-Technical Conference Initial Comments at 6.

¹⁹ See *Long-Term Firm Transmission Rights in Organized Electricity Markets*, Order No. 681, FERC Stats. & Regs. ¶ 31,226, *reh'g denied*, Order No. 681-A, 117 FERC ¶ 61,201 (2006).

27. Finally, as to whether ARR allocations should be based on more frequent updates to the Simultaneous Feasibility Test, PJM asserts that its existing process, involving the allocation of Residual ARRs on a monthly basis, sufficiently accommodates changes during the planning year.²⁰

2. Additional Comments

28. Comments generally supportive of PJM's proposal were submitted by Dominion, Exelon, and ODEC/AEP.²¹ Dominion asserts that PJM's proposal will more accurately reflect the historic ARR growth rate and promote enhanced transmission planning.²² ODEC/AEP adds that PJM's proposal is reasonable, given the failure of the simultaneous feasibility analysis to identify the need for transmission upgrades in adequate time to maintain sufficient feasible Stage 1A ARRs.²³ Exelon agrees that PJM's proposal is appropriate, given the long lead-time for transmission projects.²⁴

29. J. Aron, in its protest of PJM's initial filing, supports PJM's efforts to address Stage 1A infeasibilities but notes that PJM's proposal does not address the modeling issues raised by the allocation of ARRs, and thus may offer only modest relief to the problem of infeasible Stage 1A ARRs.²⁵ J. Aron argues that PJM's proposal does not

²⁰ PJM Post-Technical Conference Initial Comments at 4 (citing PJM Operating Agreement at Schedule 1, section 7.9, providing for the allocation of monthly Residual ARRs to entities whose ARRs were prorated in Stage 1 during the annual ARR allocation).

²¹ In addition, generally supportive comments were submitted in response to PJM's initial filing by Direct Energy and PSEG Companies (PSEG). Direct Energy and PSEG support PJM's proposal as an improvement but argue that it will provide only a modest beneficial impact. Direct Energy adds the proposed solution may have little impact in enhancing ARR availability and funding, and that further investigation should be undertaken for FTR underfunding.

²² Dominion November 9, 2015 Comments at 4.

²³ ODEC/AEP Post-Technical Conference Initial Comments at 6-8.

²⁴ Exelon Post-Technical Conference Initial Comments at 6 (noting that, had PJM's proposed zonal load forecast growth rate adder been in effect, it is likely that the Commonwealth Edison Company's Grand Prairie Gateway Project would have been identified as needed one year earlier, at a lower cost relative to ARR revenues and market efficiency benefits).

²⁵ J. Aron November 9, 2015 Protest at 13-15.

address the problem associated with Stage 1A ARR requests sourced from PJM historical resources that are no longer in operation and thus infeasible. J. Aron asserts that requiring PJM to create “dummy generators” for ARR allocation purposes creates mismatches between the actual transmission system and the Stage 1A entitlements guaranteed by the PJM Tariff. J. Aron urges reforms to the Stage 1A ARR modeling and allocation rules to better align these processes to the actual system as it exists today.²⁶

30. Financial Marketers and Appian object to PJM’s proposal. Appian argues that PJM’s proposal would distort the transmission expansion process by introducing non-reliability and/or non-economic variables, resulting in some transmission customers and load serving entities paying for upgrades to allow other such entities to obtain an increase in ARR allocations.²⁷ Financial Marketers argue that PJM’s proposed adder ignores the fundamental, underlying problem that the continued allocation of Stage 1A ARRs are based on assumptions that do not match PJM’s current or future system.²⁸

31. The Market Monitor generally supports PJM’s proposal, but argues that an adder for all zones will not materially affect, or resolve, the problems associated with Stage 1A over-allocations.²⁹ The Market Monitor asserts that PJM’s proposed adder would identify the inadequate facilities slightly earlier and may eliminate future revenue shortfalls caused by the time-lags in implementing upgrades. The Market Monitor adds, however, that PJM’s proposal will have only a minimal impact on PJM’s transmission planning process. The Market Monitor further states that PJM’s proposal will help resolve the issue of over-allocated Stage 1A ARRs, but will not address the root cause of that problem. The Market Monitor argues that, in crafting a long-term remedy, the Commission should consider whether PJM’s Simultaneous Feasibility Test should continue to use zonal base load values and source locations, as represented by historical generation resources.³⁰

32. As to source and sink points, the Market Monitor recommends that the basis for the Stage 1A allocations be reviewed and made explicit, that the role of all out of date generation to load paths be reviewed, and that the building of the transmission capability required to provide all defined Stage 1A allocations be reviewed. The Market Monitor

²⁶ *Id.*

²⁷ Appian November 9, 2015 Protest at 5-6.

²⁸ Financial Marketers November 9, 2015 Protest at 16-17.

²⁹ Market Monitor Post-Technical Conference Initial Comments at 17.

³⁰ Market Monitor November 9, 2015 Comments at 3-4.

argues that PJM's obligation to provide Stage 1A ARR must be met, but it must be met in a rational way. Further, the Market Monitor asserts that any resolution of Stage 1A allocation should not deny the holders of Stage 1A rights access to congestion revenues.³¹ ODEC/AEP adds that, while updates might allow for a more accurate depiction of the transmission system and therefore potentially help mitigate the level of infeasible ARRs, any such benefits need to be weighed against administrative and/or resource burdens for PJM and market participants. ODEC/AEP argue that these issues are beyond the scope of this proceeding and should first be addressed through the stakeholder process.³²

33. As to whether infeasible Stage 1A ARRs should continue to be awarded and treated as they are, currently, Exelon and ODEC/AEP argue that PJM's existing methodology should be retained, consistent with the requirements of Order No. 681. ODEC/AEP and Exelon add that the scope of this proceeding should not be expanded to address the treatment of infeasible Stage 1A ARRs, in the absence of a stakeholder proceeding.

34. Financial Marketers argue that infeasible Stage 1A ARRs should not continue to be awarded. Financial Marketers assert that allocating infeasible ARRs during the Stage 1A process increases the probability of FTR underfunding and creates an inequitable shift between Stage 1A ARR recipients and all other ARR holders. Financial Marketers add that, if the Commission deems it necessary to maintain PJM's existing mechanism, consideration should be given to allocating ARRs in the current fashion, but, to the extent there is FTR underfunding, charging that underfunded amount to ARR holders, if and when it occurs during the planning year.³³

3. PJM's Reply Comments

35. PJM responds to the Market Monitor's comment (*see* Market Monitor Post-Technical Conference Initial Comments at 4) that PJM, in its conservative modeling of transmission outages, makes projections that are arbitrary. PJM asserts that it has not modeled any outages in the ARR allocation that were not posted as part of its outage schedules.

³¹ Market Monitor Post-Technical Conference Initial Comments at 22.

³² ODEC/AEP Post-Technical Conference Initial Comments at 11-12.

³³ Financial Marketers Post-Technical Conference Initial Comments at 18 (citing *ISO New England Inc.*, 122 FERC ¶ 61,173, at P 43 (2008) and Midcontinent Independent System Operator Tariff at section 40.3.3).

36. PJM also responds to the Market Monitor's comment (*see* Market Monitor Post-Technical Conference Initial Comments at 17) that, to date, PJM has built no transmission as a result of identifying a Stage 1A infeasibility. PJM asserts that, in fact, the Grand Prairie Gateway Project was such a project.

4. Additional Reply Comments

37. Joint State Commissions argue that PJM's proposal, by artificially inflating load growth in each zone, regardless of its correlation to actual forecasted growth, is an inappropriate, roundabout means of addressing the over-allocation of Stage 1A ARR's.

38. ODEC/AEP responds to the Market Monitor's comments that PJM's proposed zonal load forecast growth rate adder will not materially affect or resolve the issue of Stage 1A over-allocations. ODEC/AEP asserts that, the Market Monitor's broader proposals notwithstanding, no party to this proceeding has challenged PJM's factual showing. ODEC/AEP argues that, given the unchallenged evidence that the simultaneous feasibility test is not consistently identifying the need for transmission upgrades in adequate time to maintain sufficient feasible Stage 1A ARR's, PJM's proposed remedy is warranted.³⁴

5. Commission Determination

39. For the reasons discussed below, we find PJM's current tariff unjust and unreasonable under FPA section 206. We, however, reject PJM's proposed tariff revisions to escalate its ARR results using a zonal load forecast growth rate of +1.5 percent in PJM's Stage 1A 10-year simultaneous feasibility analysis. Instead, we require PJM to modify its tariff to remove the use of historical generation resources for requested ARR's in Stage 1A of the allocation process if those resources are no longer in service and develop a just and reasonable method of allocating Stage 1A ARR's based on source points that reflect actual system usage.

40. PJM asserts that its existing tariff is unjust and unreasonable because the modeling assumptions it has implemented to address FTR revenue inadequacy and the resulting over-allocation of Stage 1A ARR's have resulted in unwarranted cost shifts between ARR holders and FTR holders. We agree that the market rules governing ARR's and FTR's lead to unjust and unreasonable results. Currently, PJM is required by its tariff to use historical paths, which has resulted in PJM modeling dummy generators where the historic source points are no longer in service for the purposes of Stage 1A of the ARR allocation process. This presents a disconnect between the Stage 1A ARR allocation and the actual system usage, which could result in infeasible Stage1A ARR's, as some

³⁴ ODEC/AEP Post-Technical Conference Reply Comments at 2-3.

pathways may appear to be infeasible even though, in actual system usage, these lines are not overloaded. As the PJM tariff has no mechanism by which to update this requirement, future changes in the resource mix and retirements will only further exacerbate this issue. We therefore find that the current tariff language that governs requested 10-year ARR is no longer just and reasonable, as it propagates a disconnect between Stage 1A ARR allocation and actual system usage, contributing to infeasible Stage 1A ARRs. These limitations, in turn, have resulted in an unjust and unreasonable cost shift.

41. We further clarify that Order No. 681 does not guarantee, or require PJM to use, historical paths in its Stage 1A ARR allocation. PJM's use of historical paths with resources that are no longer in service is not required to comply with Order No. 681 and has led to unjust and unreasonable results. Therefore, our direction to PJM to modify these historical paths is necessary to address the unjust and unreasonable results and is consistent with the requirements of Order No. 681.³⁵

42. PJM has proposed a methodology to address the unjust and unreasonable results under its existing tariff by increasing its zonal load growth. PJM asserts that, under its proposal, the assumed load reflected in its simultaneous feasibility analysis will increase, thus triggering an increase in requested ARRs relative to PJM's forecast for the zonal base load level. PJM argues that such an adjustment will help address the cost shifts it seeks to remedy by increasing the potential for ARRs to be shown as infeasible in future analyses and thus potentially identifying transmission upgrades earlier for inclusion in PJM's RTEP. We find that utilizing escalated values is not a just and reasonable solution to prevent infeasible Stage 1A ARRs because it could trigger transmission enhancements to paths that are not needed for reliability and are not able to be justified through the benefits of relieving congestion through PJM's economic planning process. Any transmission enhancement identified under escalated load projections distorts the planning process, such that transmission planning is not based on expected system conditions. Additionally, in some cases, these paths may reflect generators that no longer exist or generation that load no longer utilizes (due to sale of the generation unit or the termination of a bilateral contract). PJM's existing RTEP process would not identify a need to build the transmission enhancements for projected reliability or market efficiency needs without using an adjustment unrelated to system needs. Moreover, developing transmission enhancements solely to address infeasible ARRs ignores the more

³⁵ See Order No. 681, FERC Stats. & Regs. ¶ 31,226 at P 80 (finding that long-term firm transmission rights attributable to both new and existing capacity is consistent with the firm transmission rights requirements of section 217 of the Energy Policy Act of 2005, 16 U.S.C. § 824q (2012)).

fundamental issue of why PJM should continue to model requested ARR based on historic generation paths that load no longer utilizes.

43. If the Stage 1A ARR pathways were projected to raise reliability concerns, the PJM RTEP process would have identified a need for a transmission enhancement. As explained by PJM, most infeasible Stage 1A ARRs have historically been addressed through other projects in PJM's existing RTEP process. For Stage 1A ARRs that are shown to be infeasible over the 10-year analysis, but are not otherwise shown as necessary in PJM's planning process, we find that this infeasibility is largely driven by the disconnect between requested Stage 1A ARR paths and actual system usage. Escalating current ARR results using a zonal load forecast growth rate does not address this disconnect, and could result in building unnecessary transmission enhancements.

44. Some commenters argue that PJM's proposed adder would be beneficial in identifying potential transmission projects sooner in the RTEP process. We disagree that the proposed adder is justified on this basis. If PJM or its stakeholders would like to study the potential impacts of different growth rates on Stage 1A ARR feasibility, the existing tariff does not prevent PJM from conducting such analyses. However, utilizing an escalated growth rate to determine which transmission enhancements are needed and when these enhancements need to be placed in service could trigger transmission enhancements that would otherwise not be built or trigger them sooner than necessary. These transmission enhancements would not be justified under actual zonal growth rate projections. As such, we find PJM's proposal is an inappropriate solution that does not address the underlying root cause of infeasible Stage 1A ARRs and the resulting cost shifts between ARR holders and FTR holders.

45. Instead, to rectify the underlying root cause, we require PJM to modify the Stage 1A ARR allocation process in its tariff to model only actively used paths. We find that this is necessary to remedy the disconnect between Stage 1A ARR allocation and actual system usage. As explained above, this disconnect results in infeasible Stage 1A ARRs and unjust and unreasonable cost shifts. We therefore direct PJM to update §7.4.2(b) of its tariff to remove the requirement to use historical generation resources on paths based on point-to-point service from historical reference years. We direct PJM to develop a compliance filing within 60 days to file a just and reasonable method of allocating Stage 1A ARRs based on source points that reflect actual system usage.

B. Portfolio Netting

46. When FTRs are underfunded, PJM is required, under its existing rules, to allocate the pro-rata reduction in Transmission Congestion Credits in a way that allows an FTR holder to net the value of its negatively valued FTRs against the value of its positively valued FTRs.

1. PJM's Proposal and Comments

47. In its filing, PJM proposes to eliminate netting of negatively valued FTRs against positively valued FTRs within an FTR holder's portfolio.³⁶ In support of its proposal, PJM argues that netting results in a lower value of positively valued FTRs over which to spread the pro-rata reduction in Transmission Congestion Credits. PJM asserts that a higher reported value, as produced by the elimination of netting, would improve the integrity of its FTR product and its expected value. PJM adds that as a policy matter, there is no efficiency or cost elimination that would result from continuing to permit netting. Further, PJM argues that since the underlying FTR transactions themselves are disassociated from the charges that arise in allocating reduced Transmission Congestion Credits, there is no logic or efficiency to encourage netting of the transactions.

48. In its comments, PJM reiterates that its proposal will ensure that all prevailing flow FTRs are treated equally. PJM also agrees with the Market Monitor that PJM's proposal will not result in market manipulation.³⁷

2. Additional Comments

49. Comments generally supporting PJM's proposal to eliminate netting were filed by the Market Monitor, Dominion, Exelon, ODEC/AEP, Direct Energy, PSEG, the New Jersey Board, and the Joint State Commissions. These comments generally argue that netting needs to be eliminated to restore the appropriate value to all prevailing flow FTRs by eliminating the current portfolio-dependent difference in treatment received by prevailing flow FTRs.

50. The Market Monitor provides examples to show that, under PJM's current netting rules, the payout ratio for positive target allocations is significantly different depending on portfolio construction.³⁸ The Market Monitor explains that under PJM's rules, a market participant can shield itself from both monthly revenue inadequacy and the end-of-planning period uplift charge by shrinking the size of its net positive target allocations. The Market Monitor argues that PJM's current portfolio netting results in positive target allocations receiving different payout ratios depending on the composition of the portfolio, and argues that eliminating portfolio netting would result in all participants

³⁶ See proposed Operating Agreement at Schedule 1, sections 5.2.3 – 5.2.7 and 7.4.4.

³⁷ PJM Post-Technical Conference Initial Comments at 2 (citing Market Monitor November 24, 2015 Answer at 15-17).

³⁸ Market Monitor Post-Technical Conference Initial Comments at 8-9.

being paid the same effective payout ratio for their positive target allocations.³⁹ Absent the elimination of netting, the Market Monitor argues that there will continue to be an unjust and unreasonable cross subsidy among FTR holders.⁴⁰ The Market Monitor also disputes claims that without netting, a single FTR can be broken into multiple FTRs and still be mathematically equivalent. The Market Monitor states that these types of claims do not account for revenues from negative target allocation FTR paths in a mathematically equivalent set of FTRs. If these revenues are appropriately included, the Market Monitor argues that the single FTR and that same FTR broken into a constituent set of FTRs with the same start and end point would be mathematically equivalent.⁴¹

51. ODEC/AEP states that PJM's proposal to eliminate netting is an improvement that will directly remedy the loss of FTR value suffered by load serving entities like ODEC and AEP due to underfunding.⁴² Exelon adds that because the holders of counterflow FTRs are not exposed to underfunding, it is not appropriate to net counterflow FTRs against prevailing flow FTRs.⁴³ Exelon adds that netting inappropriately concentrates the burden of underfunding on a relatively small pool of prevailing flow FTR holders.

52. With respect to staff's Post-Technical Conference Notice question regarding manipulation, Exelon acknowledges that market participants could acquire additional prevailing flow FTRs in an attempt to receive a larger allocation of an overfunding surplus and thus engage in manipulation, but suggests that such an opportunity (a small potential risk) would be limited given that it would only arise at the end of the year when it is known that overfunding is likely. Regardless, Exelon asserts that PJM would be able to quickly detect any such behavior.⁴⁴ The Market Monitor disagrees that PJM's proposed elimination of portfolio netting would create a new opportunity for market manipulation. The Market Monitor argues that PJM's existing rules, including rules

³⁹ Market Monitor Post-Technical Conference Initial Comments at 8-11; *See also* New Jersey Board Post-Technical Conference Initial Comments at 8 (arguing that the elimination of portfolio netting will result in equal, non-discriminatory treatment between prevailing flow and counterflow FTRs).

⁴⁰ Market Monitor November 9, 2015 Comments at 4-8.

⁴¹ Market Monitor Post-Technical Conference Initial Comments at 11-12.

⁴² ODEC/AEP November 9, 2015 Comments at 2.

⁴³ Exelon Post-Technical Conference Initial Comments at 4.

⁴⁴ Exelon Post-Technical Conference Initial Comments at 4-5.

regarding wash trades, restrict the ability to manipulate the market and that these rules will remain in effect, with or without portfolio netting.

53. Comments generally opposing PJM's netting proposal were submitted by Financial Marketers, Appian, J. Aron, Shell Energy, and Elliott Bay. These commenters generally argue that PJM has not shown that its current practice of netting portfolio positions is unjust and unreasonable and instead claim that the current practice of netting is just, reasonable, and in fact a necessary feature for a properly functioning FTR market.

54. Shell Energy argues that PJM has failed to articulate a legally sufficient basis for eliminating netting and states that PJM fails to provide any evidence that netting counterflow FTRs reduces the value of FTRs as a congestion hedge or otherwise contributes to FTR revenue inadequacy.⁴⁵ Elliott Bay adds that the burden to overturn netting is formidable because the Commission explicitly required netting in PJM's FTR market design and has clearly stated its view that netting is a just, reasonable, and desirable feature of FTR markets.⁴⁶ Further, Elliott Bay argues that PJM's current market design is consistent with the California Independent System Operator's (CAISO) 2006 market redesign regarding the treatment of positive and negative congestion rights (CRR).⁴⁷ Financial Marketers assert that PJM has failed to demonstrate that netting FTR positions misallocates costs, distorts market outcomes, promotes inefficiency, or otherwise disrupts an orderly market. Financial Marketers argue, to the contrary, that the settlement for an individual FTR is a net position of positive and negative congestion components relating to each congestion constraint or flowgate in the system, and netting is simply a natural extension of this property.⁴⁸

⁴⁵ Shell Energy November 9, 2015 Comments at 3-7.

⁴⁶ Elliott Bay Post-Technical Conference Initial Comments at 5-6.

⁴⁷ Elliott Bay Post-Technical Conference Initial Comments at 6 (citing *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 (2006) (CAISO Order), *order on reh'g*, 119 FERC ¶ 61,076 (2007) (stating that the proration of all CRRs, regardless of whether market outcomes result in a positive or a negative value for the CRR, is important in maintaining the logical and expected properties underlying CRRs, and further stating that if only positively valued CRRs are subject to prorating, two equal but opposite CRRs would not net to zero, and that proration of CRRs is a reasonable means to address revenue shortfalls and maintain the logical financial properties of CRRs.).

⁴⁸ Financial Marketers Post-Technical Conference Initial Comments at 8-9.

55. Commenters opposing PJM's netting proposal also argued that eliminating netting will not reduce underfunding and that the current netting rules are an important tool to allow participants to hedge congestion risk. Financial Marketers and Elliott Bay assert that netting creates an FTR market structure that allows load serving entities and other market participants to hedge congestion risk because of the symmetry between positively and negatively settling FTRs, combined with the fungible nature of equivalent FTR paths, and that netting also allows load serving entities to hedge the costs of multiple generators through the use of hub locations.⁴⁹ Elliott Bay adds that the current market structure should result in an efficient market outcome regardless of the funding ratio, provided that transaction fees are small and the FTR market is competitive.⁵⁰ In addition, Elliott Bay asserts that the elimination of netting would be unduly preferential for large FTR participants who would reap cross-subsidies at a disproportionate rate.

56. Financial Marketers and Elliott Bay also address the claim that netting subsidizes holders of counterflow FTRs. Elliott Bay explains that, with netting, when two participants enter into offsetting prevailing flow and counterflow transactions, there is no impact on other participants in the market. Financial Marketers agree, adding that counterflow FTRs are not being subsidized when that counterflow is settled at its congestion value multiplied by the payout ratio. Financial Marketers further argue that counterflow FTRs operate as a benefit to the FTR market by increasing the availability of additional prevailing flow FTRs at a fair market price and argues that PJM fails to support its claim that load serving entities do not hold counterflow FTRs. Elliott Bay agrees and adds that counterflow FTRs do not cause or exacerbate underfunding when portfolio netting is permitted.

57. Commenters argue that in addition to PJM's failure to meet its legal burden to show that its current netting rules are unjust and unreasonable, PJM's proposal to eliminate netting would have unjust and unreasonable results. Specifically, commenters argue that the proposal to eliminate netting would introduce discriminatory treatment between holders of FTRs, increase the costs imposed on purchasers of counterflow FTR holders, introduce a series of inefficiencies in the market, and result in new opportunities for manipulation.

⁴⁹ *Id.* at 7 (citing Shanker Declaration at 25-26).

⁵⁰ Elliott Bay Post-Technical Conference Initial Comments at 9-10 (citing Lonergan Aff. at P 33).

58. Financial Marketers argue that the current PJM practice of netting treats equivalent, or similarly situated, FTRs equally, and that any departure from this approach would treat the holders of these FTRs on an unduly discriminatory basis.⁵¹ Financial Marketers further assert that without netting, the risks of underfunding will shift to market participants that take on counterflow FTR obligations intentionally, or wind up holding counterflow FTRs due to market outcomes. Elliott Bay agrees and states that an additional cost will be imposed on purchasers of counterflow FTRs, which will raise the price at which a market participant will be willing to take on congestion risk through counterflow FTRs.⁵² Elliott Bay further adds that the elimination of netting will create significant market inefficiencies, during periods of underfunding, given the projected decline in mutually beneficial off-setting transactions.⁵³ Additionally, Elliott Bay asserts that not only does the elimination of netting create unjust cross-subsidies among market participants, but the cross-subsidies themselves are unjustly skewed toward larger market participants as under PJM's proposal to eliminate netting, purchasing the same flow FTR would be more beneficial for a market participant with a larger positive target allocation than it would be for a market participant with a smaller positive target allocation.⁵⁴

59. J. Aron adds that PJM's proposal to eliminate netting may actually reduce the overall value of a load serving entity's FTR portfolio as a hedge against congestion. J. Aron states that the intended impact of PJM's proposal is to reduce the impact of underfunding allocation to FTR portfolios that have a larger percentage of positively valued FTRs. However, J. Aron notes that PJM is offering this proposal at a time of a surplus and explains that under PJM's proposed change to eliminate netting, the percentage of surplus refunded to FTR portfolios with negatively valued FTRs may increase relative to the current approach, while a load serving entity that had only positively valued FTRs may see its share of the surplus decrease. J. Aron argues that as load serving entities have been subject to significant reductions in ARR allocations, it is unfair to further reduce their allocation of FTR revenue surpluses in exchange for a promise of lower allocation of underfunding should it occur at some point in the future.⁵⁵

⁵¹ *Id.* at 6 (citing Shanker Declaration at 18).

⁵² Elliott Bay November 9, 2015 Comments at 18.

⁵³ Elliott Bay November 9, 2015 Comments at 17-18 .

⁵⁴ Elliott Bay Post-Technical Conference Initial Comments at 12-13.

⁵⁵ J. Aron November 9, 2015 Comments at 15-17.

60. Financial Marketers and Elliott Bay also address staff's Post-Technical Conference Notice question as to whether netting works to protect PJM's markets against the potential exercise of manipulation. Financial Marketers argue that netting does protect the market from potential manipulation when FTRs are overfunded, and prevents an arbitrary allocation of costs when FTRs are underfunded. Financial Marketers add that, by contrast, eliminating netting will allow a market participant that anticipates that FTRs will be overfunded to inflate its gross positive target allocation.⁵⁶ Elliott Bay agrees and states that this potential for market manipulation is one of numerous ways that the FTR market would become dysfunctional if netting were eliminated.⁵⁷

3. Reply Comments

61. The Market Monitor responds to Financial Marketers' comments that portfolio netting protects the market from potential manipulation when FTRs are overfunded. The Market Monitor asserts that the method utilized by PJM to allocate an end-of-year surplus (an accounting device) has no impact on the function of the FTR market, or how FTRs function during the planning year.

62. Elliott Bay responds to the Market Monitor's comments that netting "shields" counterflow FTR holders from underfunding and argues that this statement is misleading. Elliott Bay argues that FTR auction prices take into account expectations of underfunding and therefore, counterflow FTRs do not systematically result in their owners profiting from paying back less in congestion rents than they receive as up-front payment for counterflow FTRs in the auction as asserted by the Market Monitor.⁵⁸ Elliott Bay does not dispute the Market Monitor claim that positive target allocations receive different payout ratios, but argues that this is irrelevant as it does not indicate a problem. Instead, Elliott Bay posits that the relevant metric is the payout ratio on *net* target allocations, which it states is the functional equivalent of applying the payout ratio equally and in a non-discriminatory manner to negative and positive target allocations.⁵⁹

63. Joint State Commissions respond to Financial Marketers' and Elliott Bay's comments that if portfolio netting were eliminated, the potential for market manipulation would exist. Joint State Commissions argue that the issue of manipulation is not a

⁵⁶ Financial Marketers Post-Technical Conference Initial Comments at 13 (citing Shanker Declaration at 38-39).

⁵⁷ Elliot Bay Post-Technical Conference Initial Comments at 21.

⁵⁸ Elliot Bay Post-Technical Conference Reply Comments at 2-3.

⁵⁹ Elliot Bay Post-Technical Conference Reply Comments at 5-6.

question of its existence under portfolio netting or under the elimination of portfolio netting, but of its impact and the ability to control it under the two scenarios. Joint State Commissions reference the Market Monitor's argument that there are existing market rules to limit the ability to manipulate the market, but state that if the concerns about manipulation in a no-netting market are substantial, the best solution would be to eliminate counterflow FTRs altogether. Additionally, Joint State Commissions state that concerns over FTR market manipulation would be obviated entirely if the market was reoriented to return all congestion revenues back to loads under a simple formula.⁶⁰

64. ODEC/AEP responds to Elliott Bay's comments that PJM's proposal would unduly discriminate against counterflow FTRs. ODEC/AEP asserts that the opposite is true: positive target allocation holders are not receiving their fair share of revenues due to PJM's existing portfolio netting rules.⁶¹

4. Commission Determination

65. For the reasons discussed below, we find that PJM has not met its burden in establishing that PJM's existing rules with respect to portfolio netting are unjust and unreasonable.

66. PJM argues that these existing rules are unjust and unreasonable because a netting allowance, as applied in the case of underfunding, i.e., when PJM is required to allocate a pro-rata reduction in Transmission Congestion Credits, degrades the hedging ability contemplated by an FTR and results in a cost shift, or cross-subsidy. PJM argues that because the prevailing flow (i.e., positive) FTRs are designed to operate as a shield against congestion charges it is unjust and unreasonable that the value they receive, due to netting, is less than the fuller hedging value to which they are entitled and would otherwise receive.

67. PJM and commenters supporting PJM's proposal assert that netting treats positively valued FTRs differently, depending on the participant's portfolio. They argue that participants with fewer negative target allocations subsidize participants with more negative target allocations because the calculation of the payout ratio does not properly account for negative target allocations. They further argue that this treatment is unduly discriminatory and that all FTRs with positive target allocations should be treated equally regardless of a participant's portfolio.

⁶⁰ Joint State Commission Post-Technical Conference Reply Comments at 15-16.

⁶¹ ODEC/AEP Post-Technical Conference Reply Comments at 3. *See also* Market Monitor Post-Technical Conference Initial Comments at 15.

68. We are not persuaded that the current treatment is unjust, unreasonable, or unduly discriminatory. As discussed below, we are not persuaded that counterflow FTRs actually contribute to FTR revenue inadequacy or that the elimination of netting would improve FTR funding. We find that portfolio netting does not result in cross-subsidies among parties holding prevailing flow and counterflow FTRs. We further find that PJM's proposal would only reallocate FTR revenue inadequacy among various market participants without actually addressing the fundamental issues associated with FTR revenue inadequacy.

69. We agree with the Financial Marketers' and Elliott Bay's experts that portfolio netting does not result in a cross-subsidization of counterflow FTRs, as the current practice already guarantees that both positive and negative target allocations are treated in the same manner.⁶² Netting is the functional equivalent of applying the same payout ratio to *both* prevailing flow and counterflow FTR target allocations on an individual basis for net positive FTR portfolios. Therefore, we disagree with the Market Monitor's contention that a market participant can somehow shield itself from potential FTR revenue inadequacy by holding counterflow FTRs for the purpose of shrinking its net positive target allocation, given that the value of these counterflow FTRs is reduced by the payout ratio in the same manner as the value of prevailing flow FTRs. Moreover, the Market Monitor's argument is flawed because it ignores the fact that market participants take into account expectations of FTR revenue inadequacy when transacting in FTR auctions, a point that the Market Monitor even noted in its 2015 Quarterly State of the Market Report.⁶³ That is, counterflow FTR holders receive the FTR auction clearing price to assume the obligation to pay congestion on a path, and that FTR auction clearing price itself reflects the market's expectation of future FTR revenue adequacy. For this reason, we agree with Elliott Bay that counterflow FTRs do not systematically result in their owners profiting from paying back less in congestion rents than they receive as up-front payment for counterflow FTRs in the auction, as asserted in the Market Monitor's comments. For similar reasons, therefore, we disagree with Exelon's assertion that holders of counterflow FTRs are not exposed to underfunding under the current netting tariff.

⁶² These experts, as well as the Market Monitor, all agreed that a well-functioning FTR market should exhibit the following characteristics: (1) an FTR from A to B paired with an FTR from B to C should be mathematically equivalent to an FTR from A to C; and (2) an FTR from A to B should be the mathematical inverse of an FTR from B to A.

⁶³ See Monitoring Analytics, LLC, *2015 State of the Market Report for PJM: January through September*, at 473 (November 12, 2015), available at http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2015/2015q3-som-pjm.pdf.

70. In addition, we agree with Elliott Bay's assertion that netting counterflow FTR target allocations (which are negative) against an FTR holder's prevailing flow target allocations (which are positive) does not contribute to FTR revenue inadequacy. Finally, we agree with Financial Marketers that whenever FTR holders with a net positive position assume a counterflow FTR obligation, the negatively settling FTR cancels out (i.e., nets with) a proportionate amount of congestion credits that PJM would otherwise owe to these FTR holders at settlement. We find that because these reductions for counterflow FTRs are equal and opposite, there is no subsidy or inflation of credits owed.

71. Our determination here is consistent with the Commission's previous finding that PJM's treatment of netting is a just, reasonable, and desirable feature in FTR markets.⁶⁴ PJM and commenters supporting the elimination of portfolio netting have not provided evidence sufficient to reverse established Commission precedent that states that PJM's existing netting provision is just and reasonable.

72. Finally, PJM and commenters supporting PJM's proposal argue that eliminating netting offers a more equitable approach to sharing the risks attributable to prevailing flow and counterflow FTRs. However, we need not decide this issue here, given our finding that PJM's currently effective allocation mechanism has not been shown to be unjust and unreasonable.

C. Balancing Congestion

73. Congestion imbalance arises on a real-time basis when less transmission capability exists in the real-time energy market than was assumed to be available in the day-ahead energy market (an occurrence that cannot be reliably foreseen by PJM). PJM, under its existing rules, includes the costs attributable to "balancing congestion" in its settlement of FTRs.⁶⁵ In the Post-Technical Conference Notice, staff asked interested parties to address, among other things, whether continuing to include balancing congestion in the definition of FTRs is appropriate, or whether FTRs should be defined and settled by reference to day-ahead congestion alone.

⁶⁴ See *PJM Interconnection, L.L.C.*, 121 FERC ¶ 61,073, at P 16 (2007) (clarifying that "to ensure that the share of any revenue shortfall allocated to an FTR holder through uplift reflects only its net positive target allocation; that is, the positive target allocation that may remain after subtracting the FTR holder's negative target allocation, if any.").

⁶⁵ See PJM OATT at section 5 of Attachment K. Balancing congestion costs may be either positive or negative. Negative balancing congestion occurs when real-time transmission capacity is less than day-ahead transmission capacity.

1. PJM's Comments

74. PJM states that FTR values are determined solely based on congestion price differences in the day-ahead energy market, yet the funding of FTRs includes congestion charges from both the day-ahead and real-time energy markets. PJM explains that removing the balancing congestion impacts from the FTR funding calculation would conform the FTR funding methodology to the pricing of FTRs. Accordingly, PJM supports excluding balancing congestion costs from its FTR funding mechanism and assigning the balancing congestion costs to the real-time energy market, although it did not propose this exclusion in its initial filing in this proceeding.⁶⁶

75. PJM also states that it could support an allocation of balancing congestion costs to transmission customers on a *pro-rata* basis, provided that FTRs have been underfunded. PJM adds that, in this circumstance, it would be appropriate to cap the allocation at the level of FTR underfunding and allocate all FTR surplus dollars, after fully funding ARR credits, to transmission customers. PJM asserts that this approach is appropriate as a means to ensure that the customer who has taken the risk of FTR inadequacy will also reap the benefit of any corresponding surplus.⁶⁷

76. PJM also reports that it conducted a poll of stakeholders during the FTR Senior Task Force which found that 73.4 percent of the 127 respondents considered the FTR product as a hedge against day-ahead congestion. PJM explained that throughout the stakeholder process, PJM staff and stakeholders developed many options for how to allocate balancing congestion if it were to be excluded from the FTR funding mechanism, but were not able to come to an agreement on any option. As PJM and its stakeholders have not come to an agreement on how best to address this issue, PJM states that guidance from the Commission on the treatment of balancing congestion would be helpful.⁶⁸

2. Additional Comments

77. Dominion, the New Jersey Board, PJM-ICC, ODEC/AEP, and the Market Monitor object to removing balancing congestion from the definition of FTRs. In general, these commenters argue that the Commission has already addressed and ruled on this issue in prior proceedings, that the current allocation is just, reasonable, and non-discriminatory, and that they support the allocation of balancing congestion costs to FTR holders.

⁶⁶ PJM Post-Technical Conference Initial Comments at 7-8.

⁶⁷ PJM Post-Technical Conference Initial Comments at 7-8.

⁶⁸ PJM Post-Technical Conference Initial Comments at 8.

78. The New Jersey Board cites to the Commission's recent ruling on this issue and states that it continues to oppose the idea of loads subsidizing the FTR market.⁶⁹ Dominion adds that it would be a mistake to significantly change the FTR product when it remains unclear whether there is a current, chronic problem of negative balancing congestion.⁷⁰ PJM-ICC adds that there is no evidence that indicates that a reallocation of the current real-time market congestion cost allocation would benefit the overall market structure in PJM.⁷¹ ODEC/AEP argues that to the extent balancing congestion should be addressed, it should be through PJM's day-ahead and real-time modeling to minimize congestion, not at the cost to load.⁷²

79. PJM-ICC also argues that including balancing congestion in the current allocation is just and reasonable. PJM-ICC explains that FTR holders are in the best position to evaluate the potential risks and impact of balancing congestion on the net profitability of bidding and purchasing FTRs. PJM-ICC explains that the majority of load prefers to not engage in the FTR construct and instead leaves this aspect of the market segment to participants that are better positioned to manage those risks. PJM-ICC reasons that as these market participants can better assess additional value and profit from the potential purchase of FTRs under the existing design, allocating balancing congestion to FTRs is appropriate.⁷³ However, PJM-ICC states that if the Commission considers alternative proposals to the existing construct for balancing congestion to FTRs, that any new market construct must be consistent with cost causation principles.⁷⁴

80. The Market Monitor objects to removing balancing congestion from the FTR funding mechanism. The Market Monitor argues that the purpose of the ARR/FTR design is to return congestion revenue to load. The Market Monitor states that as an accounting fact, balancing congestion is a component of congestion revenue as defined by PJM and explains that after the introduction of LMP markets, FTRs permitted the

⁶⁹ New Jersey Board Post-Technical Conference Initial Comments at 9 (citing *FirstEnergy Solutions Corp. v. PJM Interconnection, L.L.C.*, 143 FERC ¶ 61,209 (2013) (*FirstEnergy Solutions*)); see also ODEC/AEP Post-Technical Conference Initial Comments at 13; PJM-ICC Post-Technical Conference Initial Comments at 4.

⁷⁰ Dominion Post-Technical Conference Initial Comments at 3.

⁷¹ PJM-ICC Post-Technical Conference Initial Comments at 5-6.

⁷² ODEC/AEP Post-Technical Conference Initial Comments at 15.

⁷³ PJM-ICC Post-Technical Conference Initial Comments at 6-7.

⁷⁴ PJM-ICC Post-Technical Conference Initial Comments at 9-10.

loads (which pay for the transmission system) to continue to receive those benefits in the form of revenues which offset congestion to the extent permitted by the transmission system. The Market Monitor argues that in an LMP system, the only way to ensure that load receives the benefits associated with the use of the transmission system to deliver low cost energy is to use FTRs to pay back to load the difference between the total load payments and the total generation revenues, which equals total congestion revenues. The Market Monitor further explains that with the creation of ARR, FTRs no longer serve their original function, FTR holders do not have the right to financially firm transmission service, and FTR holders do not have the right to revenue adequacy. The Market Monitor argues that FTR holders solely have a right to congestion collected, and that load should never be required to subsidize payments to FTR holders. The Market Monitor argues that eliminating balancing congestion from the FTR revenue calculation would subsidize FTR holders and require load to pay twice for congestion, i.e., for both day-ahead and balancing congestion. The Market Monitor adds that the assertion that a majority of PJM stakeholders support the view that FTRs should be subsidized by load so that FTRs are guaranteed to cover day-ahead congestion is demonstrably false.⁷⁵

81. Dayton/FirstEnergy, Appian, J. Aron, Exelon, and Financial Marketers support PJM's perspective and object to the inclusion of balancing congestion in the FTR funding mechanism. These commenters generally argue that FTRs are designed to allow holders to hedge day-ahead congestion risk and should not incorporate balancing congestion in its definition. Further, these commenters generally argue that balancing congestion has been a significant driver of underfunding of FTRs which has led to the reduction in allocation of ARRs and the inequitable cost-shift at issue in this proceeding.

82. Dayton/FirstEnergy argues that negative balancing congestion is the primary cause of FTR underfunding. Appian points to this underfunding and explains that due to the inclusion of balancing congestion and the resulting underfunding, PJM was required by its tariff to reduce ARR allocation in an attempt to match ARR and FTR obligation with sufficient revenues. Accordingly, Appian argues that the allocation of negative balancing congestion to FTR holders has indirectly resulted in load serving entities paying for the congestion imbalances via reduced ARR allocations. Appian explains that load serving entities are doubly impacted by this market design element because due to the risk of underfunding, FTR bidders will place a risk premium on their bids resulting in lower FTR prices and the load serving entities' ARR allocations becoming less valuable. Appian argues that ARR holders and load serving entities would be much better served if PJM fully funded the FTRs and/or allocated congestion imbalances to load serving entities.⁷⁶ Financial Marketers agree and add that when balancing congestion is allocated

⁷⁵ Market Monitor Post-Technical Conference Initial Comments at 25-28.

⁷⁶ Appian November 9, 2015 Comments at 2-4.

to FTR holders and results in significant levels of underfunding risk, ARR are devalued, with transmissions owners receiving a discounted value for their transmission facilities.⁷⁷ J. Aron similarly argues that attempting to account for balancing congestion in PJM's FTR modeling will inevitably result in inefficient ARR allocations that harm load serving entities. J. Aron adds that as long as PJM is required to rely on assumptions regarding real-time balancing congestion at the time of its initial ARR allocations, PJM will likely under-allocate ARRs (and thus overfund FTRs) or underfund FTRs. Accordingly, J. Aron recommends that balancing congestion be directly allocated to load serving entities, along with any surplus that results at the end of the planning year.⁷⁸

3. PJM's Reply Comments

83. PJM explains that the term "negative balancing congestion" is misleading as it implies a refund of congestion charges in the real-time energy market to offset congestion charges from the day-ahead energy market and a resulting reduction of total congestion charges. PJM states that in reality, the source of this settlement is not congestion at all and would be better described as a real time "imbalance" that represents the compensation stemming from the real-time energy market that must be paid to market participants but that has not been collected in real time. As balancing congestion is not the difference between load payments and generator revenues, PJM argues it is not truly congestion. PJM asserts that "negative balancing congestion" is therefore not a reduction in congestion charges and the "total congestion" experienced by load is not the sum of day-ahead and "balancing congestion."⁷⁹

84. PJM also responds to the Market Monitor's assertion (*see* Market Monitor Post-Technical Conference Initial Comments at 25) that, as an accounting fact, balancing congestion, either positive or negative, is a component of congestion revenue, such that total congestion is the sum of the day-ahead and balancing congestion. PJM asserts that the support cited by the Market Monitor for this proposition is an accounting provision in PJM's manuals that does not demonstrate that negative balancing congestion is congestion charged to load in the real-time energy market. PJM asserts that, in fact, the charges assigned to load in real time at the real-time locational marginal price have been insufficient to cover the credits received by financial participants, with the balance of these payments assessed to FTR holders. PJM adds that this adversely affects a load

⁷⁷ Financial Marketers Post-Technical Conference Initial Comments at 28.

⁷⁸ J. Aron November 9, 2015 Comments at 17-21.

⁷⁹ PJM Post-Technical Conference Reply Comments at 2-3.

serving entity's ability to hedge congestion and degrades the value of all FTRs, to the extent that congestion funds become insufficient to cover the system's congestion exposure.⁸⁰

85. PJM concludes that there is no rational basis for using FTR funds to make up for the real-time revenue imbalance that does not pertain to the day-ahead congestion charges that the FTR funds are intended to cover, and that a rational mechanism for allocating this real-time imbalance should be developed.

4. Additional Reply Comments

86. The Market Monitor responds to commenters that support the elimination of balancing congestion stating that while it is true that load will always pay for congestion, it is not true or necessary that load must pay more than congestion. The Market Monitor argues that there is no basis for the assertion that balancing congestion is not a component of congestion. The Market Monitor also argues that the term cost causation is used without significance since neither FTRs nor ARRs create day ahead or balancing congestion and that it is instead due to modeling differences between the day-ahead and real-time market. The Market Monitor asserts that in the current design, FTR holders remain in the best position to value balancing congestion through their FTR bid prices.

87. Direct Energy responds to PJM's comments that removing balancing congestion from the FTR funding pool and allocating balancing congestion costs or credits across a wider cross section of PJM market participants would provide a means to improve FTR funding and ARR feasibility. Direct Energy asserts that including the excess congestion rents, or congestion rent shortfalls, associated with balancing congestion in the real-time energy market in the pool of funds for FTRs has aided the ability of load serving entities to manage their congestion risk exposure. Direct Energy argues that this is so because a load serving entity that purchases an FTR to hedge its congestion exposure, between the source of its generation supply and location of its load, and then subsequently bids both the source generation and sink load into the day-ahead energy market can fully hedge its congestion risk on that path.⁸¹

88. J. Aron responds to the Market Monitor's assertions that separating balancing congestion from the FTR definition will result in a cost shift from FTR holders to load. J. Aron argues that the Market Monitor does not adequately explain how cost shifts or double payment would occur and argues that this inaccurately assumes that load does not own any ARRs or FTRs. J. Aron explains that this is not the case as PJM awards 100

⁸⁰ PJM Post-Technical Conference Reply Comments at 4-6.

⁸¹ Direct Energy Post Technical Conference Reply Comments at 7-8.

percent of the transmission capacity in the annual FTR auction to load serving entities in the form of ARRs. Further, J. Aron argues that if the uncertainty of accounting for balancing congestion in the ARR allocation process is accounted for, load may actually end up paying more as is evident from the 2014-15 planning year. J. Aron also argues that if a day-ahead definition of the FTR product actually resulted in double payments, then that would require the Commission to institute section 206 proceedings to remedy this in other RTOs in which FTRs are defined as a day-ahead product. As the Commission has not taken such a step, J. Aron points to this as evidence that double payments are not occurring.⁸² J. Aron also responds to the Market Monitor's comments that the role of FTRs changed with the creation of ARRs in 2003. J. Aron characterizes this claim as unsupported and inconsistent with the Commission's prior findings.⁸³

89. PJM-ICC responds to the comments submitted by financial traders (including Appian, J. Aron, and Financial Marketers) in support of the removal of balancing congestion from the calculation of the total congestion dollars available to fund FTRs. PJM-ICC argues that PJM's current policy should be retained, consistent with the Commission's findings in *FirstEnergy Solutions*.⁸⁴

90. PJM-ICC also responds to PJM's statement that it could support an allocation of balancing congestion costs to transmission customers on a *pro-rata* basis, provided that FTRs have been underfunded. PJM-ICC asserts that FTRs cannot be underfunded, given that FTR holders do not have a property right in day-ahead congestion when actual congestion is less than day-ahead congestion.⁸⁵ PJM-ICC adds that before any such proposal is considered, the Commission should provide guidance on the purpose and role of FTRs and should issue factual findings regarding FTR funding and revenue adequacy.

5. Commission Determination

91. For the reasons discussed below, we find that the inclusion of congestion imbalance costs (a real-time cost) in the definition of FTRs (and thus, by extension, in the day-ahead FTR settlement process), is unjust and unreasonable. Accordingly, we require

⁸² J. Aron Post Technical Conference Reply Comments at 8-10.

⁸³ *Id.* at 5 (citing *PJM Interconnection, L.L.C.*, 102 FERC ¶ 61,276 at PP 18-19).

⁸⁴ PJM-ICC Post-Technical Conference Reply Comments at 3-4 (citing *FirstEnergy Solutions*, 143 FERC ¶ 61,209 at PP 24-25).

⁸⁵ *See also* Joint State Commissions Post-Technical Conference Reply Comments at 5.

PJM, in its compliance filing, to remove the term balancing congestion from its definition of an FTR and to allocate these costs, instead, to real-time load and exports.

92. We first address the argument that a proposal to allocate balancing congestion costs to end users (and not FTR holders) was rejected by the Commission in *FirstEnergy Solutions*.⁸⁶ We disagree. While in the *FirstEnergy Solutions* complaint proceeding, the Commission held that the parties had not established that the current methodology is unjust and unreasonable,⁸⁷ such a finding does not preclude the Commission from re-examining the issue when circumstances have changed or additional evidence has been presented.⁸⁸

93. By the time of the PJM filing in this case under section 206, circumstances had changed considerably. PJM's response to persistent underfunding of FTRs was to "more conservatively model" transmission outages in the simultaneous feasibility review process which – in effect – reduced the allocation of Stage 1B ARRs to reduce the over-allocation of ARRs thereby increasing funding of FTRs. The record demonstrates that the pervasive problem associated with including balancing congestion in the definition of FTRs is either chronic under-funding or the unrealized value of ARRs for certain LSEs. These problems affect not only participants in the real-time market, but also holders of the original transmission rights under certain circumstances.

94. We find that the inclusion of balancing congestion in the settlement of FTRs is not just and reasonable as it contributes to the identified unjust and unreasonable cost shift between ARR holders and FTR holders, is inconsistent with cost causation principles, and reduces the efficacy of FTRs as a hedge. The value of an FTR is determined by day-ahead energy market prices that reflect day-ahead congestion costs. The FTR can serve as a hedge against day-ahead congestion. By contrast, balancing congestion, whether positive or negative, is a settlement based on costs incurred in the real-time market. As such, the inclusion of these real-time costs lowers the value of FTRs, thus limiting the efficacy of FTRs as a hedge against day-ahead congestion.

⁸⁶ See also ODEC/AEP Post-Technical Conference Initial Comments at 13; PJM-ICC Post-Technical Conference Initial Comments at 4.

⁸⁷ *FirstEnergy Solutions*; 143 FERC ¶ 61,209 at P 43.

⁸⁸ See *Tesoro Alaska Petroleum Company v. FERC*, 234 F.3d 1286, 1290 (2000) (where a party presents new evidence [that] warrants the change the agency can institute new proceedings); *Tagg Bros. & Moorhead v. United States*, 280 U.S. 420, 445 (1930) (rate order is not res judicata).

95. Although balancing congestion is currently allocated to FTR holders, FTR holders do not cause and cannot predict the level of balancing congestion. In addition, FTR holders are not the sole beneficiaries of balancing congestion. As noted above, negative balancing congestion occurs when real-time transmission capacity is less than day-ahead transmission; it may occur due to congestion on PJM's borders, transmission outages, reductions in system capability, or loop flow. FTR holders, however, are not the cause of these occurrences. Nor do they alone benefit from the payment of balancing congestion. Thus, the current allocation of balancing congestion to FTR holders is not consistent with cost causation principles.

96. In addition, the inclusion of balancing congestion in the FTR settlement process has been a leading cause of FTR revenue inadequacy. We find that absent the removal of balancing congestion from the FTR settlement process, PJM will continue to take steps to ensure revenue adequacy by conservatively modeling outages and limiting the allocation of Stage 1B ARR, thereby perpetuating the unjust and unreasonable cost shift between ARR holders and FTR holders. Therefore, we find that removing balancing congestion in the FTR settlement process is necessary to address the current unjust and unreasonable results.

97. Commenters argue that removing balancing congestion costs from the FTR settlement process will result in an unwarranted cost shift from FTR holders to load. We disagree. Requiring PJM to account for balancing congestion in its FTR modeling has resulted in inefficient ARR allocations to the detriment of load serving entities. To the extent this existing allocation results in an underfunding risk, ARRs are devalued and load serving entities and their customers receive a discounted value for the transmission network. We agree with Financial Marketers that, under PJM's existing definition, prospective FTR holders evaluating the expected economic value of FTRs incorporate a risk premium into their assessments that accounts for the underfunding risk attributable to balancing congestion. Incorporating balancing congestion into the FTR settlement, moreover, does not insulate load from this cost; to the contrary, load is economically worse off under PJM's current allocation, for the reasons discussed above.

98. We agree with commenters that argue balancing congestion should be allocated based on cost causation principles. There are many reasons why less transmission capability may exist in the real-time energy market than was assumed to be available in the day-ahead energy market, thereby resulting in balancing congestion. PJM market participants, the PJM market operator, outside systems, and other external influences can introduce deviations to effectively increase or decrease balancing congestion. For example, deviations may result from actions taken by the market operator, such as the selection of more or less restrictive facility ratings or interface ratings, the inclusion of closed loop interfaces, the use of a specific loop flow assumption, or the inclusion or exclusion of specific constraints during the clearing process that will determine if congestion shows up as day-ahead congestion or balancing. Network topology

differences, such as a transmission line tripping out of service, as well as facilities taken out of service early or back in service late can also impact and determine whether congestion manifests as day-ahead or balancing congestion. The multi-faceted nature of balancing congestion does not easily permit a granular allocation to those parties causing and directly benefiting from balancing congestion. Additionally, limiting the allocation to any subset of market participants that are not fully responsible for the costs associated with balancing congestion would be inconsistent with cost causation principles. Finally, the costs incurred have system-wide benefits where individual beneficiaries cannot be identified.

99. Accordingly, based on the discussion above and consistent with cost causation principles, we direct PJM to allocate balancing congestion costs on a pro-rata basis to real-time load and exports. We encourage PJM and its stakeholders to explore options to reduce the costs associated with balancing congestion, including the adoption of common modeling between PJM and its neighboring regional operators.

D. Additional Issues

100. In the Post-Technical Conference Notice, Commission staff invited interested parties to address additional issues to include: updates to the seasonal feasibility tests; updates to source and sink points; whether there are incentives to transmission owners to schedule timely outages that align appropriately with the FTR/ARR construct; and whether the currently effective reporting requirements regarding these outages required revision.

1. Comments

101. PJM states that there is limited benefit in seasonal allocations and that its stakeholders generally oppose seasonal allocation because it creates uncertainty on the level of ARR allocated for each season and an administrative burden resulting from additional analysis. PJM argues that seasonal ratings may increase ARR clearing for non-summer months when utilizing seasonal allocation, but this impact would be reduced on a net basis because seasonal allocation would also incorporate additional transmission outages in non-summer months.⁸⁹ The Market Monitor believes that more frequent modeling should be implemented only if it does not interfere with the goal to return all congestion revenues to load. Financial Marketers argue that a quarterly, or otherwise

⁸⁹ PJM Post-Technical Conference Initial Comments at 4-5. *See also* Market Monitor Post-Technical Conference Initial Comments at 23; Financial Marketers Post-Technical Conference Initial Comments at 19-22; ODEC/AEP Post-Technical Conference Initial Comments at 6; and Exelon Post-Technical Conference Initial Comments at 7-8.

seasonal, modeling approach to the FTR auction would be preferable, and lead to greater accuracy in PJM's modeling and thus enhanced price certainty. ODEC/AEP does not necessarily disagree with the proposal but believes any changes should be vetted through the stakeholder process. Finally, Exelon states that it supports a seasonal ARR allocation if PJM maintains the current timelines for clearing the auctions.

102. PJM proposes aligning source and sink points in FTR auctions with nodes where generation, load, or interchange transactions are settled or at trading hubs – similar to PJM's recommendation for virtual transactions.⁹⁰ Financial Marketers do not support updating the source and sink points, and they argue that it contradicts the point of the Simultaneous Feasibility Test and does not reflect system reality. Financial Marketers note that the approach utilized by the New York Independent System Operator could be adopted, whereby all FTR auction revenue is divided by a simple, negotiated formula among transmission owners, with underfunding in the target allocations allocated to the transmission owners and recovered from transmission customers.

103. PJM states the outage scheduling timelines included in PJM Manual 3 address the need for advance notice of outage schedules in order to include them in FTR auction models. PJM states it has not experienced any notable impact on revenue inadequacy as a result of outage scheduling rules.⁹¹ Exelon supports PJM's existing methodology for modeling outages, which it claims are consistent between the ARR allocation and the FTR auction and sufficiently transparent. J. Aron asserts that as much as 25 percent of PJM's FTR revenue inadequacy may be tied to untimely transmission outages and that the incentive to schedule these outages will be limited if the costs at issue are assigned more directly, an approach that would also address an existing geographical cross-subsidy. The Market Monitor states that, currently, there are no market incentives for transmission owners to submit and complete transmission outages in a timely and efficient manner. Accordingly, the Market Monitor recommends that PJM be required to draft a manual policy addressing the congestion analysis it will utilize in the case of a late, non-emergency transmission outage request, and should apply the standard rules for late submissions for a request to reschedule an approved outage. Financial Marketers also assert that PJM's existing rules fail to provide the necessary incentive required to

⁹⁰ PJM Post-Technical Conference Initial Comments at 5-6. *See also* Market Monitor Post-Technical Conference Initial Comments at 23; Exelon Post-Technical Conference Initial Comments at 8; and Financial Marketers Post-Technical Conference Initial Comments at 16-19.

⁹¹ PJM Post-Technical Conference Initial Comments at 9. *See also* Exelon Post-Technical Conference Initial Comments at 3; J. Aron Post-Technical Conference Initial Comments at 7; Market Monitor Post-Technical Conference Initial Comments at 23-25; and Financial Marketers Post-Technical Conference Initial Comments at 23-25.

schedule outages and conduct timely work in a way that aligns with PJM's ARR and FTR construct. Financial Marketers argue that PJM should be required to adopt a policy that allocates the risk created by a transmission outage to the transmission owner, and that transmission owners should be given a financial stake in the congestion market.

104. Financial Marketers argue that infeasible Stage 1A ARRs should not continue to be allocated as they are today as it increases the probability of FTR underfunding and creates an inequitable shift between Stage 1A ARR recipients and all other ARR holders.⁹² PJM, Exelon, and ODEC/AEP disagree. They state that they support the continued treatment of Stage 1A ARRs and argue that they should continue to be awarded even if the ARRs are not feasible.⁹³ The Market Monitor argues that the current rules governing Stage 1A ARR allocations are not required by the Federal Power Act or by Order No. 681 and argues that the basis for Stage 1A allocations be reviewed and made explicit.⁹⁴

2. Commission Determination

105. We decline to require PJM to implement tariff revisions and/or changes to its manuals, addressing PJM's modeling of transmission outages, timing of the FTR auctions, incentives for transmission owners, pathways for FTRs, or awarding of infeasible Stage 1A ARRs beyond those changes described above regarding the use of historical generation resources. While additional improvements to PJM's ARR/FTR construct may be warranted, including those proposed by commenters, we refer these proposals to the PJM stakeholder process for further consideration and development.

The Commission orders:

(A) PJM's proposed tariff revisions, in Docket No. ER16-121-000, are hereby rejected, as discussed in the body of this order.

(B) PJM's complaint, in Docket No. EL16-6-001, is hereby granted in part and denied in part, as discussed in the body of this order.

⁹² Financial Marketers Post-Technical Conference Initial Comments at 16-19.

⁹³ PJM Post-Technical Conference Initial Comments at 3-4; Exelon Post-Technical Conference Initial Comments at 6-7; ODEC/AEP Post-Technical Conference Initial Comments at 8-10.

⁹⁴ Market Monitor Post-Technical Conference Initial Comments at 18-20.

(C) PJM is hereby directed to submit a compliance filing, in Docket No. EL16-6-001, within 60 days of the date of this order, and include therein revised tariff provisions, as discussed in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.