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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Cheryl A. LaFleur, Acting Chairman;
Philip D. Moeller, John R. Norris,
and Tony Clark.

PJM Interconnection, L.L.C.

Docket Nos. ER14-456-000
ER14-456-001

ORDER CONDITIONALLY ACCEPTING TARIFF REVISIONS SUBJECT TO A
COMPLIANCE FILING

(Issued April 18, 2014)

1. On November 22, 2013, PJM Interconnection, L.L.C. (PJM) submitted revisions to Attachment DD of PJM's Open Access Transmission Tariff (OATT) to allow it to include in its planning parameters for a Reliability Pricing Mechanism (RPM) (PJM's capacity market) Base Residual Auction, certain transmission upgrades that would mitigate constraints in a Locational Deliverability Area (LDA) such that the LDA would not need to be modeled as constrained in the Base Residual Auction. On February 17, 2014, PJM submitted responses to the Commission's January 17, 2014 Deficiency Letter (PJM Deficiency Responses). In this order, the Commission conditionally accepts PJM's filing, effective January 22, 2014, as requested, subject to PJM's submission of a compliance filing, as discussed below.

I. Background

2. Prior to each Base Residual Auction, PJM calculates transmission limits for each of twenty-seven potential LDAs. PJM separately models LDAs where the capability of the transmission system to support the transfer of energy (Capacity Emergency Transmission Limit)¹ is less than 1.15 times (i.e., 115 percent) the amount of energy that that LDA must be able to import in order to remain within a loss of load expectation of one event in 25 years (Capacity Emergency Transfer Objective).² PJM refers to such LDAs as constrained LDAs.

¹ See PJM Interconnection, L.L.C., Intra-PJM Tariffs, RAA, Article 1, § 1.7 (Capacity Emergency Transfer Limit) (8.0.0).

² See PJM Interconnection, L.L.C., Intra-PJM Tariffs, RAA, Article 1, § 1.6 (Capacity Emergency Transfer Objective) (8.0.0).

II. PJM Proposal

3. PJM proposes to revise its OATT to allow it to include certain transmission upgrades that mitigate easily resolvable constraints,³ (easily resolvable constraint transmission upgrades)⁴ in its regional transmission expansion plan (RTEP). These easily resolvable transmission constraint upgrades, which improve the Capacity Emergency Transmission Limit and Capacity Emergency Transfer Objective ratio beyond the current threshold of 1.15 will also be included in the planning parameters prior to posting of planning parameters for each Base Residual Auction.⁵ PJM states that its proposal will allow it to include in its RPM planning parameters for each Base Residual Auction, an easily resolvable constraint transmission upgrade provided that it satisfies four criteria.⁶ First, “[t]he transmission upgrade[] will result in a Capacity Emergency Transmission Limit greater than 1.15 times its Capacity Emergency Transfer Objective with the transmission upgrade in place for the LDA”⁷ in question (where Capacity Emergency Transmission Limit is less than 1.15 Capacity Emergency Transfer Objective without the transmission upgrade as mentioned above).⁸ Second, “[t]he transmission upgrade[] is [] expected to be in-service before June 1 of the Delivery Year [of the relevant Base Residual Auction for which the transmission upgrade is included in planning parameters].”⁹ Third, “[t]he transmission upgrade is expected to cost less than \$5

³ PJM states that “To qualify as an easily resolvable constraint, the transmission upgrade must cost less than \$5 million and be able to be placed in-service prior to June 1 of the Delivery Year for which the Base Residual Auction is being conducted.” See PJM November 22, 2013 Filing (PJM Filing) at n.4.

⁴ In its filing, PJM does not propose a formal definition for these transmission upgrades, nor does PJM refer to these transmission upgrades in a consistent manner. Therefore, for ease of reference and consistency, transmission upgrades contemplated under PJM’s proposal are referenced throughout this order as “easily resolvable constraint transmission upgrades.”

⁵ PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT ATT DD.15, OATT ATTACHMENT DD.15. COORDINATION WITH ECONOMIC PLANNING P, 2.0.0.

⁶ PJM Filing at 3-4.

⁷ PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT ATT DD.15, OATT ATTACHMENT DD.15. COORDINATION WITH ECONOMIC PLANNING P, 2.0.0.

⁸ PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT ATT DD.15, OATT ATTACHMENT DD.15. COORDINATION WITH ECONOMIC PLANNING P, 2.0.0.

⁹ PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT ATT DD.15, OATT ATTACHMENT DD.15. COORDINATION WITH ECONOMIC PLANNING P, 2.0.0.

million.”¹⁰ Fourth and finally, “there are no Merchant Network Upgrades¹¹ [that are designed to resolve the same constraint as the easily resolvable constraint transmission upgrade] that have or are expected to have an executed Facilities Study Agreement 45 days prior to the relevant Base Residual Auction.”¹²

4. PJM states that it will include an easily resolvable constraint transmission upgrade that meets the four proposed criteria in PJM’s RTEP as soon as practicable. The annual costs of an easily resolvable constraint transmission upgrade will be allocated according to the cost allocation methods that apply to transmission upgrades that are included in PJM’s RTEP.¹³ PJM requests an effective date of January 22, 2014, so that any easily resolvable constraints can be taken into consideration for the May 2014 Base Residual Auction planning parameters that must be posted no later than February 1, 2014.

5. PJM asserts that its proposed revisions will harmonize and better link the timing of the posting of planning parameters for the RPM Base Residual Auctions three years forward (as they relate to easily resolvable constraints) with consideration of the transmission upgrades contemplated in PJM’s proposal in the RTEP. In addition, PJM states that it “believes [its proposed revisions] will eliminate, or at least greatly reduce, short-term price separation between LDAs that is unlikely to be sustained and could therefore result in investment signals that are not aligned with actual system needs.”¹⁴ Finally, PJM states that its proposal implements a portion of the Brattle Group’s recommendations in its *Second Performance Assessment of PJM’s Reliability Pricing*

¹⁰ PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT ATT DD.15, OATT ATTACHMENT DD.15. COORDINATION WITH ECONOMIC PLANNING P, 2.0.0.

¹¹ The term “Merchant Network Upgrades” is defined as, “Merchant A.C. Transmission Facilities that are additions to, or modifications or replacements of, physical facilities of the Interconnected Transmission Owner that, on the date of the pertinent Transmission Interconnection Customer’s Interconnection Request, are part of the Transmission System or are included in the Regional Transmission Expansion Plan.” PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT, Definitions (L-M-N), § 1.18D (Merchant Network Upgrades) (2.0.0).

¹² PJM Filing at 4-5; *see also* PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT ATT DD.15, OATT ATTACHMENT DD.15. COORDINATION WITH ECONOMIC PLANNING P, 2.0.0.

¹³ *See* PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT, Schedule 12 (Transmission Enhancement Charges) (5.0.0).

¹⁴ PJM Filing at 3.

Model: Market Results 2007/08 through 20014/15 dated August 26, 2011 (Brattle Report) for improvements to PJM's RPM,¹⁵ and received strong stakeholder support.

III. Notice of Filing and Responsive Pleadings

6. Notice of PJM's Filing was published in the *Federal Register*, 78 Fed. Reg. 72,875 (2013), with interventions and protests due on or before December 13, 2013.

7. Motions to intervene were timely filed by American Electric Power Service Corporation (AEP), American Municipal Power, Inc., The Dayton Power and Light Company (Dayton), Dominion Resources Services, Inc., Duke Energy Corporation, FirstEnergy Service Company (FirstEnergy), H-P Energy Resources LLC, LS Power Associates, L.P., Maryland Public Service Commission, NextEra Energy Resources, LLC (NextEra), NRG Companies, Old Dominion Electric Cooperative, and PSEG Companies. Notices of intervention were filed by the Illinois Commerce Commission, and Utility Risk Management Corporation (URMC).

8. Comments were filed by Ohio Utilities¹⁶ and URMC. NextEra filed a protest. On January 6, 2014, PJM filed an answer to NextEra and URMC. On January 10, 2014, URMC filed an answer to PJM's answer.

A. Comments and Protest

1. Ohio Utilities

9. Ohio Utilities supports PJM's proposal and requests that the Commission accept PJM's proposal as a step towards reducing short-term price volatility in transmission constrained LDAs. Ohio Utilities states that PJM worked extensively with stakeholders to develop a proposal that addressed the issue of short-term price separation in a manner that balances the interests of all stakeholders. Ohio Utilities asserts that the fact that PJM's proposal balances the interests of all stakeholders is reflected by the overwhelming

¹⁵ PJM Filing at 3 (citing Brattle Report at 117).

[Http://www.pjm.com/sitecore%20modules/web/~/_media/committees-groups/committees/mrc/20110818/20110826-brattle-report-second-performance-assessment-of-pjm-reliability-pricing-model.ashx](http://www.pjm.com/sitecore%20modules/web/~/_media/committees-groups/committees/mrc/20110818/20110826-brattle-report-second-performance-assessment-of-pjm-reliability-pricing-model.ashx). PJM points specifically to recommendations of the Brattle Group Report "addressing transmission-related factors and finding opportunities to reduce their impact on RPM price volatility and uncertainty such as to identify easily resolvable constraints where an upgrade could be made to the system prior to the relevant Delivery Year."

¹⁶ For the purposes of this filing, Ohio Utilities consists of: AEP, Dayton, FirstEnergy, and Duke Energy Ohio, Inc.

support that the proposal received through the PJM stakeholder process. Ohio Utilities further asserts that PJM and stakeholders are confident that PJM's proposal will mitigate price volatility across the PJM region, and promote price stability in constrained LDAs. Ohio Utilities states that by including low-cost transmission upgrades in the RTEP prior to posting the Base Residual Auction planning parameters, PJM can strengthen reliability, balance costs, and promote competition.

2. URMC

10. URMC argues that the proposal would allow PJM to supplant Merchant Network Upgrades that have been first announced by a merchant transmission developer, in which the developer has already made significant investment. URMC disputes PJM's contention that its proposal implements recommendations noted in the Brattle Report to stabilize the Capacity Emergency Transfer Limit.¹⁷ URMC asserts that stabilization can occur through either the RTEP or PJM's market-based transmission upgrade process (i.e., Qualifying Transmission Upgrade¹⁸) without any distinction in operational results.¹⁹ Therefore, URMC contends that there is no Capacity Emergency Transfer Limit stabilization justification for allowing PJM to supplant Merchant Network Upgrades from the Qualifying Transmission Upgrade process to the RTEP. URMC also states that supplanting projects to RTEP will not result in quicker solutions to easily resolvable constraints. URMC alleges that Merchant Network Upgrades supplanted to RTEP would actually take longer to complete than in the Qualifying Transmission Upgrade process.

11. URMC asserts that the end result of allowing PJM to supplant a Merchant Network Upgrade without an executed Facilities Study Agreement 45 days before the Base Residual Auction would mean increased risk for merchant transmission developers, less competition, and the continuation of current energy prices, which "defies section 206

¹⁷ URMC Comments at 4 (citing Brattle Report at 117).

¹⁸ A Qualifying Transmission Upgrade is defined as "[A] proposed enhancement or addition to the Transmission System that: (a) will increase the Capacity Emergency Transfer Limit into an LDA by a megawatt quantity certified by the Office of the Interconnection; (b) the Office of the Interconnection has determined will be in service on or before the commencement of the first Delivery Year for which such upgrade is the subject of a Sell Offer in the Base Residual Auction; (c) is the subject of a Facilities Study Agreement executed before the conduct of the Base Residual Auction for such Delivery Year and (d) a New Service Customer is obligated to fund through a rate or charge specific to such facility or upgrade." PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT, Attachment DD, Article 2 (Definitions) § 2.57 (Qualifying Transmission Upgrade) (5.0.0).

¹⁹ URMC Comments at 4.

of the Federal Power Act and Order No. 1000.”²⁰ URMC notes that the timeline for obtaining an executed Facilities Study Agreement is 20 to 24 months, that merchant transmission developers do not have control over the timing of submissions of those agreements, and that the incumbent Transmission Owner may have an interest in PJM delegating the upgrade to the Transmission Owner. URMC suggests that all of its concerns can be addressed by removing the 45 day requirement from the fourth criteria in PJM’s proposed tariff language, so that it simply states that PJM “[w]ill not supplant Merchant Network Upgrades.”²¹

B. NextEra Protest

12. NextEra argues that PJM’s proposal is based on incorrect observations and interpretations, sets a bad precedent, and decreases the efficiency of the overall capacity market design.²² NextEra asserts that the premise for PJM’s proposal (i.e., PJM’s interpretation of recommendations from the Brattle Report) is incorrect, and a mischaracterization of the Brattle Report’s actual findings. NextEra notes that no analysis would accompany these upgrades to demonstrate any need or benefit.²³ NextEra also argues that contrary to PJM’s assertion, the Brattle Report does not suggest that price volatility related to Capacity Emergency Transfer Limits is incorrect or inappropriate. NextEra contends that PJM’s proposal would actually disguise legitimate price signals which may incur unnecessary costs.²⁴ NextEra cites Dr. Shanker’s testimony in asserting that the Brattle Report notes that price fluctuations due to Capacity Emergency Transmission Limit changes are related to “real” factors such as transmission project delays.²⁵ Further, NextEra argues that PJM’s proposal would reduce transparency and

²⁰ URMC Comments at 5 (citing *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 (2011), *order on reh’g*, Order No. 1000-A, 139 FERC ¶ 61,132, *order on reh’g and clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012)).

²¹ URMC Comments at 9.

²² NextEra Protest at 2. NextEra submits an Affidavit of Roy J. Shanker, Ph.D (Shanker Affidavit) in support of its conclusions and analysis.

²³ NextEra Protest at 3, 5, and 7.

²⁴ NextEra Protest at 3, 5.

²⁵ NextEra Protest at 4 (citing Shanker Affidavit at P 8). (“For example Brattle cites the impacts of the cancellation or delay of major transmission projects that would decrease the Capacity Emergency Transfer Limit, or conversely increase the Capacity Emergency Transfer Limit, when added to the RTEP.”) *See* NextEra Protest at 4; Shanker Affidavit at P 8 (citing Brattle Report at 113, 115).

obscure material market information and price signals.²⁶ Dr. Shanker emphasizes this argument by asserting that “the real impact of ‘erasing’ a material constraint...is to distort market results, not to enhance market transparency or stability.”²⁷ Dr. Shanker states that an important feature of the RPM is to recognize the locational impacts of “real” factors and respond with both appropriate *short* and long-term price signals and states that “one likely effect of [PJM’s proposal] will likely be to mute these signals and discourage existing generation to remain in service.”²⁸

13. In addition, NextEra argues that PJM’s proposal would discourage innovation and private investment in smaller transmission upgrades. NextEra contends that the proposal to only consider the Merchant Network Upgrades that have an executed Facilities Study Agreement 45 days prior to the Base Residual Auction will discourage private investment.²⁹ Dr. Shanker states that as a result of this provision, a developer would be squeezed between various time constraints given the nature and timing of the interconnection queue process and thus private parties would not waste resources on finding efficient low cost upgrades.³⁰

C. Answers

1. PJM Answer

14. In its answer, PJM asserts that the concerns raised by URMC and NextEra are one-sided and ignore the careful balance PJM and its stakeholders sought to achieve for this filing.³¹ PJM states that contrary to the concerns raised by URMC and NextEra, PJM’s proposal does not supplant Merchant Network Upgrades. Specifically, PJM states it is not requiring that a merchant transmission developer have a Facilities Study report in hand by 45 days prior to the Base Residual Auction as URMC seems to suggest. PJM states that instead, it proposes that a merchant transmission developer have, or is expected to have, an executed Facilities Study Agreement by 45 days prior to the Base Residual Auction. PJM states that this distinction is important as a project will have an executed Facilities Study Agreement in most cases at least six months before it has the

²⁶ NextEra Protest at 9.

²⁷ Shanker Affidavit at P 21.

²⁸ Shanker Affidavit at P 9 (emphasis in original).

²⁹ NextEra Protest at 9.

³⁰ NextEra Protest at 9-11 (citing Shanker Affidavit at PP 25-29).

³¹ PJM Answer at 5.

Facilities Study report.³² PJM asserts that this criterion: (1) is key to ensuring the Merchant Network Upgrade proposed by a merchant transmission developer will be in place prior to the relevant Delivery Year; (2) is comparable to the other criteria PJM proposes to apply to transmission upgrades proposed under this proposal; and (3) is consistent with the *existing* tariff requirement that a merchant transmission developer have an executed Facilities Study Agreement prior to being permitted to bid the related transmission rights into the Base Residual Auction.³³ PJM argues that it is unreasonable to ask PJM to forego easily resolved constraint transmission upgrades and set planning parameters without some reasonable assurance of the merchant project's viability and ability to meet PJM's reliability needs in the Delivery Year.³⁴

15. PJM states that the Commission should not grant URMC's suggested modification that an easily resolvable constraint transmission upgrade cannot supplant *any* Merchant Network Upgrade because such a revision would, "upset the very carefully crafted balance that PJM and its stakeholders reached to address the competition concerns of both merchant developers and load interests."³⁵

16. Further, PJM states that NextEra's claims that there is a lack of transparency in PJM's process ignore the many reforms that PJM has undertaken over the years to ensure transparency.³⁶ PJM argues that information provided as part of its RTEP analyses and as part of previous Delivery Year planning parameters can be used by developers in determining where on the transmission system to propose Merchant Network Upgrades, and identify a trend of potential constraints, respectively.³⁷ Finally, PJM states that developers could also conduct their own analysis to try to figure out potentially constrained facilities.

³² PJM Answer at 6 (citing PJM, Intra-PJM Tariffs, OATT, Part VI, § 207 (Facilities Studies Procedures) (PJM "shall use Reasonable Efforts to complete the Facilities Study and issue it to an Interconnection Customer within 180 days after receipt of an executed Facilities Study Agreement.")).

³³ PJM Answer at 6 (citing PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT, Attachment D, § 5.6.4 (Qualifying Transmission Upgrades)).

³⁴ PJM Answer at 7.

³⁵ PJM Answer at 8.

³⁶ PJM Answer at 7.

³⁷ PJM Answer at 7.

17. PJM states that URMC's contention that PJM's proposal is in violation of Order No. 1000 is a red herring.³⁸ PJM argues that these arguments either confuse the competitive process for proposing transmission projects under PJM's Order No. 1000 process, with the Merchant Network Upgrades that are proposed through the interconnection process and that are at issue in this proceeding, or are a collateral attack on orders on PJM's compliance filings which have resolved the same arguments raised by URMC (i.e., URMC's argument that PJM's proposal will result in an incumbent Transmission Owner being designated transmission upgrades by default if no one comes forward with a project).³⁹

18. PJM refutes NextEra's claim that PJM's proposal is unsupported by any cost-benefit analysis. PJM states that it carefully developed the criteria it proposes, with input from stakeholders, in order to limit the proposal's reach to fixing only those constraints for which RPM locational price incentives were unnecessary; that is, constraints that do not pose a sustained reliability need because they can very easily be resolved prior to the start of the Delivery Year and can be resolved at nominal cost. PJM states that it and stakeholders recognized: (1) that locational pricing reflecting locational adequacy and reliability needs is fundamental to RPM and thus stakeholders set a cost threshold accordingly so that only an upgrade costing less than \$5 million could qualify under this proposal; and (2) that the cost threshold would need to be relatively low since the Capacity Emergency Transfer Objective and Capacity Emergency Transfer Limit analysis is conducted during the month prior to the February 1 deadline for posting the Base Residual Auction planning parameters, there would not be time to conduct an extensive market efficiency cost-benefit analysis. PJM argues that a low cost threshold would help to ensure that the expected cost savings resulting from the upgrade would exceed the upgrade costs by preventing locational price adders in future RPM auctions.⁴⁰

19. PJM also addresses the conclusion of Dr. Shanker's testimony that even with PJM's proposed cost threshold criteria, the projects are costly with potentially no benefits. First, PJM asserts that, contrary to Dr. Shanker's claims, PJM is not hiding a constraint and is instead seeking to identify an actual upgrade, where possible, that will resolve a constraint quickly, in line with the Brattle Report recommendations. Second, PJM states that the example that Dr. Shanker provides to illustrate how costly a project under PJM's proposal may be, by Dr. Shanker's own admission, is from the perspective of an individual investor, and does not reflect the benefits to the sink LDA. PJM states that its analysis shows that the easily resolvable constraint transmission upgrade is cost justified if it prevents load from seeing a one-time locational price adder of

³⁸ PJM Answer at 9-11.

³⁹ PJM Answer at 10.

⁴⁰ PJM Answer at 11-12.

approximately \$7/MW-day for a single Base Residual Auction (compared to the \$137/MW-day for each year over a 30 year period as in Dr. Shanker's example).⁴¹

2. URMC Answer

20. URMC states that its sole objection to PJM's proposal in this proceeding is the tariff provision allowing PJM to supplant to RTEP easily resolvable constraints which URMC has identified and put in the queue for resolution in the "Merchant Transmission Development Market." URMC states that this provision will chill participation in the "Merchant Transmission Development Market" and "allows PJM to take away projects in which [a merchant transmission developer] has already make significant investment because it appears that [such] projects could be expedited if undertaken in a competitive market by a different entity."⁴²

IV. Deficiency Letter and Responsive Pleadings

21. On January 17, 2014, a Deficiency Letter was issued requiring PJM to provide additional information, as follows: (1) justification and explanation of PJM's statement that, as a result of its proposal, "the expected cost savings resulting from avoiding the need to impose a price adder for what would have otherwise been a constrained Locational Delivery Area (LDA) are expected to far outweigh the upgrade's [included as a result of PJM's proposal] cost"; (2) an explanation of why it is appropriate to select projects based only on the projected ability of the system to import capacity into a constrained zone (as measured by the ratio of Capacity Emergency Transfer Objective to Capacity Emergency Transfer Limit); (3) the number of constraints that were identified for each of the last three auctions that would have qualified as easily resolvable constraints under PJM's proposal; and (4) further elaboration on the implementation process for its proposal.

22. Notice of PJM's Deficiency Letter Response was published in the *Federal Register*, 79 Fed. Reg. 11,096 (2014), with interventions and protests due on or before March 11, 2014. No interventions, comments, or protests were filed.

A. PJM's Deficiency Responses

23. The Deficiency Letter requested that PJM provide additional justification to support its statement that "the expected cost savings resulting from avoiding the need to impose a price adder for what would have otherwise been a constrained Locational

⁴¹ PJM Answer at 13-14.

⁴² URMC Answer at 2.

Delivery Area (LDA) are expected to far outweigh the upgrade's cost."⁴³ In response, PJM states that its intention was to embed the cost-benefit test in the criteria used to identify easily resolvable constraints.⁴⁴ PJM further notes that the requirement that a proposed easily resolvable constraint transmission upgrade must be expected to cost less than \$5 million constitutes a very low threshold of benefits before costs are fully justified. PJM reiterates that the example it provided in its answer demonstrated that "even in a small Locational Delivery Area (LDA), an easily resolvable constraint transmission upgrade would need to save only \$7/MW-day for one year of the life of the transmission upgrade for it to outweigh the cost."⁴⁵

24. In explaining how it will evaluate the cost versus benefit of a transmission upgrade under its proposal compared with solutions procured in the RPM Base Residual Auction,⁴⁶ PJM states that its proposal, which is derived from the Brattle Report's recommendation (i.e., options to increase Capacity Emergency Transmission Limit stability), "seeks to balance between subjecting load to temporary higher RPM costs and the resulting price volatility associated with adding congestion reflected in one auction but eliminated in a second, versus allowing generation and demand response resources to compete with transmission solely as a backstop solution."⁴⁷ PJM explains that, on the one hand, "including all congestion into the RPM planning parameters with no consideration of transmission upgrades that could be addressed under PJM's proposal ensures full consideration of demand response and generation solutions in lieu of regulated transmission solutions." On the other hand, PJM asserts that "ignoring these easily resolvable constraints invites significant price volatility into RPM auction results and erodes the long term price signal that would occur with less volatile and more predictable capacity prices."⁴⁸ PJM believes that its proposal presents a reasonable

⁴³ See Deficiency Letter, Question 1.a. at 1-2.

⁴⁴ PJM Deficiency Responses at 2.

⁴⁵ PJM Deficiency Responses at 2 (citing PJM Answer at 13-14).

⁴⁶ See Deficiency Letter, Question 1b. at 2 ("Several protestors raised concerns that PJM has failed to justify why its selection of a regulated transmission fix is more economic than allowing the capacity market to obtain other solutions (including generation and non-transmission solutions) to address the potential constraint. Please provide an explanation regarding how PJM will evaluate the cost versus benefit of the transmission upgrades selected by PJM to solve easily resolvable constraints as compared with solutions procured in the RPM Base Residual Auction (e.g., generation upgrades, energy efficiency or demand response).

⁴⁷ PJM Deficiency Responses at 3.

⁴⁸ PJM Deficiency Responses at 3.

balance between the two competing goals. PJM further asserts that, “[its] sole intent in seeking to incorporate the filed revisions was to take advantage of the ‘low hanging fruit’ that can be fixed quickly at a relatively nominal cost, the result of which will be more efficient market prices.”⁴⁹

25. The Deficiency Letter questioned whether it was appropriate to use only the projected ability of the system to import capacity into a constrained zone as measured by the ratio of Capacity Emergency Transfer Objective to Capacity Emergency Transfer Limit.⁵⁰ In response, PJM asserts that it is wholly appropriate to include a criterion for identifying transmission projects that would increase the Capacity Emergency Transfer Limit/Capacity Emergency Transfer Objective ratio to be greater than 115 percent given PJM’s goal in this proceeding to forestall price separation that may otherwise occur with capacity imports into an LDA that has a Capacity Emergency Transfer Limit/Capacity Emergency Objective ratio of less than 115 percent. PJM notes that it does not seek to address congestion in its energy markets with its proposal in this proceeding and therefore has not included as criteria any predictors of congestion.⁵¹

26. In response to whether there are circumstances when the Capacity Emergency Transfer Objective/Capacity Emergency Transfer Limit ratio does not result in actual price separation of an LDA, PJM states that:

While it cannot be unequivocally stated that an LDA would have bound in the RPM auction absent such an upgrade, it is reasonable to assume that an LDA with a [Capacity Emergency Transfer Limit /Capacity Emergency Transfer Objective] ratio below the 115% threshold would become constrained in a future RPM auction due to load growth, generator retirements, or some other change to the supply and demand conditions in the LDA, absent an upgrade that improves the [Capacity Emergency Transfer Limit/Capacity Emergency Transfer Objective] ratio. There is therefore little doubt that resolving the transmission constraint is cost beneficial for the load in the LDA that can avoid paying a locational price adder given a transmission upgrade with nominal cost.^{52]}

⁴⁹ PJM Deficiency Responses at 4.

⁵⁰ See Deficiency Letter, Question 2 at 2.

⁵¹ PJM Deficiency Responses at 4, n.6.

⁵² PJM Deficiency Responses at 4-5.

27. The Deficiency Letter asked how many constraints in the last three RPM Base Residual Auctions would have qualified as easily resolvable constraints under PJM's proposal.⁵³ PJM states that there were no such constraints. PJM notes that it does not expect to identify many transmission upgrades in a given year under its proposal as a result of the narrow criteria it has developed in order to strike the balance between competing goals discussed above. Its expectations notwithstanding, PJM states that "it is important to PJM to have a process in place to identify easily resolvable constraint transmission upgrades when circumstances warrant given the limited time available between the potential identification of a binding constraint and the need for posting of RPM planning parameters."⁵⁴

28. Finally, the Deficiency Letter requested that PJM elaborate on the implementation process of its proposal and any overlap between transmission upgrades made pursuant to PJM's proposal and Order No. 1000.⁵⁵ PJM states that any transmission upgrades identified under its proposal are part of, and do not conflict with, PJM's Commission approved Order No. 1000 compliant RTEP process. PJM states that it anticipates any transmission upgrades made under its proposal will be to existing transmission infrastructure (rather than a new transmission project), which under its RTEP process are not put out for competitive solicitation. PJM believes "this is fully consistent with the Commission's recognition of time sensitivity [in its order on PJM's compliance with Order No. 1000] when approving PJM's Immediate-need for Reliability process [i.e., process applicable to Immediate-need Reliability Projects]."⁵⁶ PJM asserts that similar to the process applicable to its Immediate-need Reliability Projects, under its proposal in this proceeding there is also time sensitivity in being able to identify and include in the RTEP transmission upgrades that qualify under its proposal between the time PJM identifies a binding constraint and the need for posting of RPM planning parameters.⁵⁷

29. Second, PJM states that, in order to determine the scope of the transmission upgrade to determine whether it meets PJM's proposed criteria,⁵⁸ it will take the following steps: (1) PJM will identify the limiting transmission element causing the

⁵³ See Deficiency Letter, Question 3 at 2.

⁵⁴ PJM Deficiency Responses at 5.

⁵⁵ See Deficiency Letter, Question 4.a. at 2.

⁵⁶ PJM Deficiency Responses at 5 n.9 (citing *PJM Interconnection, L.L.C.*, 142 FERC ¶ 61,214, at P 250 (2013)).

⁵⁷ *Id.*

⁵⁸ See Deficiency Letter, Question 4.b. at 3.

Capacity Emergency Transfer Limit to be less than 115 percent of the Capacity Emergency Transfer Objective; (2) PJM will determine the upgrade to the limiting element that would increase the Capacity Emergency Transfer Limit/Capacity Emergency Transfer Objective ratio to be greater than 115 percent; (3) PJM will work with the owner of the transmission facilities to determine the cost of the identified transmission upgrade and how long would it take to implement; and (4) PJM will include the transmission upgrade in its planning parameters posted in February prior to the next RPM Base Residual Auction if it meets all of the proposed criteria contemplated in its proposal.⁵⁹

30. Third, PJM states that it anticipates that transmission upgrades under its proposal will be to existing infrastructure, and, under PJM's RTEP process, the Transmission Owner in the zone in which the limiting transmission element is located will be designated as the appropriate entity to construct, own, and finance, an easily resolvable constraint transmission upgrade.⁶⁰

31. Fourth, PJM states, in response to the Deficiency Letter's question as to what recourse PJM has if the transmission upgrade developed under PJM's proposal is not constructed prior to the relevant Delivery Year,⁶¹ that it established the criteria for transmission upgrades to qualify under its proposal to ensure that they would be in service prior to the relevant Delivery Year and, as a result, PJM does not expect that these transmission upgrades will fail to be constructed by then. However, PJM concedes that despite these best intentions, a circumstance could arise where a Transmission Owner designated to build a transmission upgrade under PJM's proposal cannot do so by the start of the relevant Delivery Year. PJM states that, in the event such a circumstance arises, it will, to the extent necessary, develop operational procedures to mitigate any reliability risk pending completion of the project.⁶²

32. Fifth, in explaining how it proposes to allocate the costs of projects developed under its proposal, PJM states that it expects to do so in accordance with section (b)(vi) of Schedule 12 of the PJM OATT which, according to PJM, provides that "if the good faith estimate of a transmission upgrade in the RTEP, as approved by the PJM Board of Managers, does not exceed \$5 million, the costs of such transmission upgrade shall be

⁵⁹ PJM Deficiency Responses at 6.

⁶⁰ PJM Deficiency Responses at 6 (responding to Deficiency Letter, Question 4.c. at 3.

⁶¹ See Deficiency Letter, Question 4.d. at 3.

⁶² PJM Deficiency Responses at 7.

assigned to the zone where the transmission upgrade is located.”⁶³ PJM notes that this cost allocation method applies to all projects that meet the above listed criteria regardless of whether they are Reliability or Economic Projects.

33. Lastly, the Deficiency Letter asked PJM to explain the timing of when it intends to incorporate transmission upgrades developed pursuant to its proposal into its RTEP process,⁶⁴ to which PJM responds that it will incorporate these transmission projects in the RPM planning parameters that it posts on or about February 1 prior to each RPM Base Residual Auction. PJM further states that for transparency, it will include such transmission upgrades in its materials posted for the Transmission Expansion Advisory Committee meeting that occurs following posting of the planning parameters. Finally, PJM states that once these projects are approved by the PJM Board of Managers, PJM will reflect these projects in the next published RTEP report.⁶⁵

V. Discussion

A. Procedural Matters

34. Pursuant to Rule 214 of the Commission’s Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2013), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

35. Rule 213(a)(2) of the Commission’s Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2013), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We will accept PJM and URMC’s answers because they have assisted us in our decision-making process.

⁶³ PJM Deficiency Responses at 8.

⁶⁴ See Deficiency Letter, Question 4.f. at 4.

⁶⁵ PJM Deficiency Responses at 8. In submitting its Deficiency Responses, in Docket No. ER14-456-001, PJM also submitted a duplicate tariff record of its proposed OATT revisions. (PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT ATT DD.15, OATT ATTACHMENT DD.15. COORDINATION WITH ECONOMIC PLANNING P, 2.1.0). This resulted in two versions of the tariff record remaining open. We find that the tariff records are identical. Thus, the tariff record filed in Docket No. ER14-456-000 is rejected as moot.⁶⁵ See *FERC Staff’s Responses to Discussion Questions*, Tariff Record Related Codes, Questions 28 at 29 for the need to provide a complete set of Associated tariff record information; and the *Implementation Guide for Electronic Filing of Parts 35, 154, 284, 300, and 341 Tariff Filings* at 31, for the definitions of the Associated record data elements.

B. Commission Determination

36. We will conditionally accept PJM's proposed revisions, subject to PJM submitting a compliance filing within 30 days of the date of issuance of this order, as discussed below.

37. PJM's proposal helps harmonize and link the timing of the posting of planning parameters for the RPM Base Residual Auctions three years forward (as they relate to easily resolvable constraints) with consideration of the transmission upgrades contemplated in PJM's proposal in the RTEP. PJM's proposal is aimed at ensuring just and reasonable outcomes by: (1) identifying a threshold level of congestion in the capacity market; (2) ensuring timely construction of projects that address easily resolvable constraints; (3) focusing only on relatively small projects that cost less than \$5 million; and (4) taking into account the impact of Merchant Network Upgrades designed to resolve the same constraint as the easily resolvable constraint transmission upgrade.

38. PJM explains that its proposed tariff revisions are aimed at resolving transmission constraints that cause short-term price separation between LDAs that is unlikely to be sustained, and that can be mitigated through relatively low-cost transmission upgrades. PJM's concern is that these short-term price signals, which are likely to only appear in a single Base Residual Auction, could send incorrect investment signals in the RPM.⁶⁶ PJM argues that its proposal strikes a balance "between subjecting load to temporary higher RPM costs and the resulting price volatility associated with adding congestion reflected in one auction but eliminated in a second, versus allowing generation and demand response resources to compete with transmission solely as a backstop solution."⁶⁷ PJM elaborates on this balance, explaining that

On one hand, including all congestion into the RPM planning parameters with no consideration of transmission solutions which could easily be implemented at a lower cost and within the three years between the auction and the Delivery Year ensures full consideration of demand response and generation solutions in lieu of regulated transmission solutions. On the other hand, given that the constraints can be easily addressed through low cost transmission solutions before the Delivery Year, ignoring these easily resolvable constraints invites significant price volatility into RPM auction results and

⁶⁶ PJM Filing at 3.

⁶⁷ PJM Deficiency Responses at 3.

erodes the long term price signal that would occur with less volatile and more predictable capacity prices.^[68]

39. Parties in this proceeding counter that the proposed tariff revisions minimize the value of RPM auctions in providing *both* short-term and long-term price signals, and disagree with PJM as to whether in the short-term, PJM's proposal will send the correct investment signals (i.e., aligned with actual system needs). Parties also argue that PJM provides no cost-benefit analysis to support its proposal. In addition, the protesters assert that PJM's proposal will allow it to supplant Merchant Network Upgrades under development with RTEP upgrades, and result in more transmission projects being assigned to incumbent transmission owners, which, the protesters argue, contravenes Order No. 1000.

40. We recognize that PJM's proposal attempts to reconcile competing goals. We further recognize that parties in this proceeding disagree as to the weight that PJM gives to these different goals. On balance, we conclude that it is reasonable for PJM to establish planning measures to reduce the short-term volatility in capacity prices caused by easily resolvable transmission constraints, particularly where that price volatility is expected to be short-lived (i.e., for a single Base Residual Auction) and may thus send incorrect short-term price signals that detract from long-term investment signals. As PJM asserts, the intent of the RPM design is to send long-term investment signals. PJM's proposed criteria to determine whether to include an easily resolvable constraint transmission upgrade are sufficiently narrow in scope and should result in discrete transmission upgrades. PJM's proposal is narrowly tailored to focus on low-cost upgrades (less than \$5 million) to existing transmission elements that can be completed in a timely manner and that can be expected to provide demonstrable benefits to load, without unduly discriminating against potential competitive alternatives. However, to provide greater transparency as to how PJM will implement these proposed tariff revisions, and as to the scope of transmission upgrades actually constructed under its proposal, we accept PJM's proposal subject to a condition, as discussed below.

41. We are not convinced by NextEra's arguments that PJM has not demonstrated that the easily resolvable constraint transmission upgrades provided for under its proposal will be cost-effective, given the timeline under which the proposed projects must be developed and the criteria used to identify easily resolvable constraints. We note that the proposed criteria for identifying easily resolvable constraints embed a cost-benefit analysis by limiting the upgrades that PJM includes in the RTEP to those that will increase transfer capability into a constrained LDA and that are expected to cost less than \$5 million, thus ensuring that the upgrades provide sufficient benefits to justify their cost. Furthermore, we agree with PJM that the requirement that transmission upgrades must be

⁶⁸ PJM Deficiency Responses at 3.

expected to cost less than \$5 million “[constitutes] a very low threshold of benefits before costs are fully justified.”⁶⁹

42. We further find that PJM’s plan to designate the Transmission Owner in whose zone the easily resolvable constraint transmission upgrade is located to construct such upgrade is not inconsistent with Order No. 1000. Under PJM’s proposal, a transmission facility must be estimated to cost less than \$5 million to qualify as an easily resolvable constraint transmission upgrade. According to PJM’s cost allocation methods, which the Commission accepted in in the PJM Order No. 1000 compliance proceeding, the costs of a transmission facility that is estimated to cost less than \$5 million will be allocated to the zone in which the project is located.⁷⁰ Therefore, we find that PJM’s proposal is not inconsistent with Order No. 1000.

43. URMC and NextEra expressed concerns that PJM’s proposal would allow PJM to supplant Merchant Network Upgrades. We find that PJM’s proposed fourth criterion – which requires PJM to determine that “there are no Merchant Network Upgrades [that are designed to resolve the same constraint as the easily resolvable constraint transmission upgrade] that have or are expected to have an executed Facilities Study Agreement 45 days prior to the relevant Base Residual Auction”⁷¹ – is consistent with the *existing* tariff requirement that a merchant transmission developer have an executed Facilities Study Agreement prior to being permitted to bid the related transmission rights into the Base Residual Auction.⁷² Therefore, we find that this criterion appropriately accounts for competitive Merchant Network Upgrades that are in development to ensure that an easily resolvable constraint transmission upgrade will not supplant potential competitive alternatives that could resolve the same constraint. Accordingly, we decline to require URMC’s proposed revision.

⁶⁹ PJM Deficiency Responses at 2.

⁷⁰ See PJM, Intra-PJM Tariffs, OATT, Schedule 12 § (b)(vi) (Required Transmission Enhancements Costing Less Than \$5 Million) (5.1.0). If the transmission facility will be located in more than one zone, each zone will be assigned cost responsibility for the portions of the transmission elements located in such zone. *Id.*

⁷¹ PJM Filing at 4-5; see also PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT ATT DD.15, OATT ATTACHMENT DD.15. COORDINATION WITH ECONOMIC PLANNING P, 2.0.0.

⁷² PJM Answer at 6 (citing PJM Interconnection, L.L.C., Intra-PJM Tariffs, OATT, Attachment DD, § 5.6.4 (Qualifying Transmission Upgrades) (emphasis original)).

44. PJM provided useful information in its Deficiency Responses for the Commission, PJM stakeholders, and potential market participants as to how it will implement its proposal to revise the procedures associated with PJM's RPM Base Residual Auction.⁷³ While we find PJM's proposal just and reasonable, to provide greater transparency, we accept PJM's filing subject to the condition that PJM submit a compliance filing revising its OATT to require it to publicly post an annual report identifying the easily resolvable constraints that PJM identified as a result of this proposal. The annual report shall include: (1) each easily resolvable constraint PJM identified; (2) the transmission elements responsible for each such easily resolvable constraint; (3) an explanation of why the transmission elements responsible for each easily resolvable constraints identified are limiting; (4) a list of the easily resolvable constraint transmission upgrades undertaken as well as the cost, location and the entity(ies) undertaking each upgrade; and (5) the impact of these projects on that Delivery Year's planning parameters.

45. Finally, we recognize that "PJM does not expect easily resolvable constraint transmission upgrades will fail to be constructed prior to the relevant Delivery Year."⁷⁴ However, as noted above, in its Deficiency Responses, PJM conceded that such a circumstance could arise and that, if such an event occurred, it would develop procedures to mitigate any reliability risk pending completion of the project. Rather than waiting until such an event occurs, we find that it is important that PJM consider developing operational procedures now, with stakeholder input, that PJM would utilize in the event that a Transmission Owner designated to build an easily resolvable constraint transmission upgrade cannot do so by June 1 of the relevant Delivery Year. Preemptively developing and instituting such procedures should enable PJM to minimize the potential effect(s) of an easily resolvable transmission constraint not being addressed by the start of the relevant Delivery Year.

The Commission orders:

- (A) PJM's tariff record in Docket No. ER14-456-000, is rejected as moot.

⁷³ As to the interaction of PJM's proposal with PJM's RTEP, we note that: (1) PJM anticipates easily resolvable constraint transmission upgrades will be identified in January after the upgrades are identified in the previous year under PJM's 12-month planning cycle; (2) identified easily resolvable constraint transmission upgrades will be incorporated in to PJM's RPM planning parameters that are posted on or about February 1 prior to an upcoming Base Residual Auction, and (3) the easily resolvable constraint transmission upgrades will be included in the next published RTEP Report following approval of the project by the PJM Board of Managers.

⁷⁴ PJM Deficiency Responses at 7.

(B) PJM's tariff revisions as submitted in Docket No. ER14-456-001, are hereby conditionally accepted to become effective January 22, 2014, subject to PJM's submission of a further compliance filing, as discussed in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.