

October 1, 2018

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: *PJM Interconnection, L.L.C.*, Docket No. ER19-25-000 Financial
Transmission Rights – Conditional Extension of Time-Limited
Revisions to Liquidation Provision

Dear Ms. Bose:

PJM Interconnection, L.L.C. (“PJM”), pursuant to section 205 of the Federal Power Act (“FPA”), 16 U.S.C. § 824d, hereby proposes revisions to the PJM Open Access Transmission Tariff (“Tariff”), Attachment K-Appendix, section 7.3.9(g) and identical Amended and Restated Operating Agreement of PJM (“Operating Agreement”), Schedule 1, section 7.3.9(g) to extend the applicability of section 7.3.9(g) these provisions through the earlier of the effective date the Commission accepts the Operating Agreement and Tariff revisions filed in Docket No. ER19-19-000¹ or February 28, 2019.²

PJM’s strong preference is for the Federal Energy Regulatory Commission (“Commission”) to accept the concurrently submitted FTR Default Disposition Filing as requested in Docket No. ER19-19-000 to provide a long-term, Membership-endorsed solution for how to dispose of a defaulting Member’s Financial Transmission Right (“FTR”) positions. However, PJM is proposing these revisions to provide a backup solution in the event the Commission declines to accept the FTR Default Disposition Filing. In fact, because the FTR Default Disposition Filing would delete Operating Agreement, Schedule 1, section 7.3.9(g) and its parallel Tariff provision, this filing and the revisions it proposes are only relevant if the Commission declines to accept the FTR Default Disposition Filing and are moot if the Commission accepts that filing. PJM is

¹ Financial Transmission Rights Default Disposition Filing of PJM Interconnection, L.L.C., Docket No. ER19-19-000 (Oct. 1, 2018) (“FTR Default Disposition Filing”).

² All references herein to the Tariff, Attachment K-Appendix, section 7.3.9 also are intended to encompass the identical, parallel provisions in the Operating Agreement, Schedule 1, section 7.3.9. PJM will refer generally to the Tariff throughout this letter to also include the Operating Agreement.

making this filing out of an abundance of caution to prevent Tariff provisions its membership has emphatically rejected from coming back into effect when the current term of section 7.3.9(g) expires. To reinforce this point, PJM states here its intention to withdraw this filing should the Commission accept the FTR Default Disposition Filing.

PJM presented this proposal to its Members at the Markets and Reliability Committee (“MRC”) and Members Committee (“MC”) meeting held on September 27, 2018. Specifically, the MRC endorsed this proposal with a sector-weighted vote of 3.73 out of 5.00 and the MC endorsed this proposal with a sector-weighted vote of 4.01 out of 5.00. Further, the MRC took a non-binding poll on whether the Members prefer the FTR Default Disposition Filing proposal to the status quo, i.e., the FTR liquidation under the current Operating Agreement, and a sector-weighted vote of 4.50 out of 5.00 supported a departure from the status quo. PJM seeks Commission action (if not mooted by Commission acceptance of the FTR Default Disposition Filing) on this proposal by November 30, 2018, and, in the absence of a Commission decision otherwise, intends to implement these revisions pursuant to FPA section 205 on December 1, 2018.

PJM acknowledges this filing, which is contingent on the outcome of Commission action on another FPA section 205 filing, is not typical. But given the overwhelming wishes of the PJM Members not to return to a status quo that could impose significant adverse financial impacts on the Members, PJM submits this “stop gap” filing to for the very narrow purpose of allowing additional time for the Members to craft a meaningful alternative solution in the event the Commission rejects or suspends the Members’ long-term solution proposed in the FTR Default Disposition Filing. Given that the methodology of FTR disposition has significant financial impact to the Members but far less overarching policy implications, the Commission’s deferring to the Members by granting this stop-gap proposal, if necessary, is appropriate.³

I. OVERVIEW OF CONDITIONAL PROPOSAL

Under these proposed revisions to Tariff, Attachment K-Appendix, section 7.3.9(g) PJM’s general process for liquidating FTRs would be suspended during the time period of August 24, 2018, through the earlier of the effective date the Commission grants the Operating Agreement and Tariff revisions filed in the FTR Default Disposition Filing or February 28, 2019.⁴ This builds on the pending request in the August Interim

³ The Commission frequently defers to stakeholder preferences as evidence under FPA section 205 that a regional organization’s proposal is just and reasonable. *See, e.g., New England Power Pool*, 105 FERC ¶ 61,300, at P 34 (2003) (accepting proposal and stating, “[t]he Commission will not disturb that regional choice.”); *Sw. Power Pool, Inc.*, 114 FERC ¶ 61,222, at PP 43, 69 (2006) (“the Commission defers to the stakeholder process”).

⁴ PJM is filing contemporaneously with this filing the FTR Default Disposition Filing and two other filings related to FTR defaults. Although these four filings

FTR Filing⁵ for suspension of the liquidation process from August 24 through November 30, 2018, and thus would (if not mooted by the Commission's action on the related filings) effectively extend that suspension for an additional ninety days to allow more time for PJM and its Members to devise a long-term solution for addressing defaults by FTR holders. In other words this proposal acts as a backup temporary solution to preserve the ability of the PJM Members to craft an alternative long-term FTR default disposition option for the Commission's consideration in the event the Commission does not accept the Tariff changes in the FTR Default Disposition Filing.

During the limited period provided for under revised section 7.3.9, the defaulting Member's FTR portfolio would not be liquidated through the auction process. Instead, the defaulting Member's current period FTR positions would proceed to settlement. By "go to settlement," PJM means the FTR positions of a defaulting Member will accumulate all charges and credits associated with the position that would have accrued had the defaulting Member not defaulted, including, but not limited to, applicable (a) congestion charges and credits; (b) daily FTR auction charges to which the defaulting Member committed when acquiring the FTR positions on which the Member defaulted; (c) administrative charges under Tariff Schedule 9; and (d) any other charges or credits applicable to the FTR positions on which the Member defaulted. The net amount of these charges and credits, after consideration of any financial security held by PJM and any indemnification by any bilateral sellers to the extent any of the defaulting Member's FTRs were acquired through any bilateral transactions, would be billed to PJM's non-defaulting Members in accordance with the Default Allocation Assessment provisions of the Operating Agreement. The defaulting Member's rights with respect to FTR positions are terminated and the defaulting Member's obligations remain unchanged, but the liquidation auctions do not occur.

are interrelated, each filing is a standalone filing and can and should be accepted on its own merits. The FTR Default Disposition Filing is a request to revise the Operating Agreement and Tariff to allow the FTR positions of a Member declared to be in default to go to settlement by their own terms rather than being liquidated. For the reasons stated in the FTR Default Disposition Filing, such filing should be accepted and go into effect on December 1, 2018, but if it is not, the instant filing would provide a backup provision to extend the effectiveness of Tariff, Attachment K-Appendix, section 7.3.9(g) through February 28, 2019 (rather than November 30, 2018, as proposed in Docket No. ER18-2289-000), to allow PJM additional time to develop a long-term solution in lieu of the proposal in the FTR Default Disposition Filing.

⁵ Financial Transmission Rights Liquidation Revisions of PJM Interconnection, L.L.C., Docket No. ER18-2289-000 (Aug. 23, 2018) ("August Interim FTR Filing").

The extended effectiveness of Tariff, Attachment K-Appendix, section 7.3.9(g) proposed in this filing would provide the same essential benefits and are reasonable for the same reasons the revisions requested in the August Interim FTR Filing were reasonable. PJM merely requests an additional ninety days of effectiveness for this temporary Tariff provision, if necessary, in order to continue to work with stakeholders to develop a long-term solution for addressing the disposition of the FTR positions of a defaulting Member if the Commission does not accept the proposal in the FTR Default Disposition Filing effective December 1, 2018.

II. BACKGROUND

FTRs are a financial product that allow Market Participants to hedge the costs of day-ahead transmission congestion. Thus, they allow Market Participants to offset potential charges related to the price risk of delivering energy to the grid. FTRs are valued based upon the difference between the day-ahead prices at two pricing points on the transmission system. The FTR serves as a benefit, or credit, to the holder if it represents a flow of energy in the same direction as the congested flow. The FTR serves as a liability, or charge, to the holder if it represents a flow of energy in the opposite direction as the congested flow.

As PJM also explained in the August Interim FTR Filing, when a Member default is declared, the Tariff currently requires PJM to close out and settle or liquidate the FTRs of the Member by, among other requirements:

- settling all of the current planning period FTR positions that become due prior to the next monthly FTR auction;
- offering for sale “all” current planning period FTR positions within the defaulting Member’s portfolio in the next available monthly balance of planning period FTR auction “at an offer price designed to maximize the likelihood of liquidation of those positions;”⁶
- offering any FTR positions that do not settle until the next or subsequent planning periods into the next available FTR auction where such positions would be expected to clear, and in that auction, offering the entire FTR portfolio of the defaulting Member at an offer price designed to maximize the likelihood of liquidation of those positions;⁷
- where, based on the auction’s preliminary solution, any of the closed-out FTR positions would set the market price, offering for sale only one-half of each FTR position and re-execute the auction, and then offering the FTR positions

⁶ Tariff, Attachment K-Appendix, section 7.3.9(c).

⁷ See Tariff, Attachment K-Appendix, section 7.3.9(d).

that were not liquidated in the next auction, and if there is no next auction, allowing the FTRs to go to settlement;⁸ and,

- treating the liquidation of the defaulting Member's FTR portfolio "pursuant to the foregoing procedures" as the "final liquidated settlement amount" that is included in calculating a Default Allocation Assessment.⁹

The need for this reform became evident to the Members as a result of the default of GreenHat Energy, LLC ("GreenHat"). As noted below, that default is not a past event but is in fact a continuing event in which GreenHat will continue to default on its FTR obligations every day through May 31, 2021, as FTR obligations in the portfolio become due.

On June 21, 2018, PJM first declared GreenHat to be in payment default of its financial obligations associated with GreenHat's sizable FTR portfolio which extends from June 2018 through May 2021. As a result of this declaration, PJM initiated procedures to close out and liquidate GreenHat's FTRs in accordance with Tariff, Attachment K-Appendix, section 7.3.9. Specifically, on June 22, 2018, notice of the default and pending liquidation process was provided to PJM Members. At that time, PJM also posted on its website details of the GreenHat FTR portfolio, consisting of numerous FTRs for the 2018/2019, 2019/2020, and 2020/2021 Planning Periods. Most of the FTRs in the portfolio are currently negatively valued, such that FTR auction participants will be willing to acquire such FTRs only if paid to do so.

Under the existing rules, the forced liquidation of a large FTR portfolio, such as GreenHat's, would inject approximately 54 million megawatt hours of FTRs per month for the remainder of the 2018/2019 Planning Period for sale into the market, plus an additional 18 million megawatt hours of FTRs per month for Planning Period 2019/2020, and 2 million megawatt hours of FTRs per month for Planning Period 2020/2021.¹⁰ The liquidation of such a large FTR portfolio, in combination with PJM's obligation to offer such positions at a price designed to maximize the likelihood of liquidation with no price ceiling on how much PJM would have to pay Market Participants to liquidate the positions, would cause the prices to significantly diverge from the expected day-ahead

⁸ See Tariff, Attachment K-Appendix, section 7.3.9(e). Under the Tariff, if offering only one-half of each FTR position in the upcoming auction would still set the price, PJM would not offer the defaulted FTRs for liquidation in that month, with the goal being that FTRs being liquidated may not set the price in the FTR auction.

⁹ Tariff, Attachment K-Appendix, section 7.3.9(f).

¹⁰ For reference, an average monthly prompt position of FTRs for a participant over the last fifteen months is approximately 0.3 million megawatt hours.

outcomes, as shown in the affidavit of Timothy Horger, Director, Energy Market Operations, and described below.¹¹

PJM liquidated GreenHat's August FTR positions. The average cost of liquidating those positions based upon the auction value was approximately \$775,000 *per day*, or a total of approximately \$24.1 million for the month of August.¹² By contrast, had GreenHat's positions proceeded to settlement instead of being liquidated, actual losses incurred in August 2018 would have been approximately \$6.1 million. Thus, the actual losses for August 2018 would have been significantly less than the auction-determined liquidation value, with some individual days resulting in \$0 in losses or even slight profits at settlement.¹³ In all, PJM paid approximately *four times* the settlement value to liquidate the August FTR positions, based on an analysis of actual net losses on those positions if they went to settlement using actual congestion data for the month.¹⁴

This transfer of wealth from all Members paying Default Allocation Assessment charges to a small subset of Members willing to be paid to take the defaulted positions via liquidation in one or more FTR auctions was not anticipated when adopting the liquidation process; but now that we see it occurring, it must be prevented from continuing. Thus, PJM conducted an expedited stakeholder process with respect to the development of these proposed changes, and received endorsement of the changes at both MRC and MC meetings held on September 27, 2018. During the pendency of that discussion, PJM applied for a short-term waiver of its FTR liquidation provisions and submitted temporary tariff revisions to allow prompt-month positions to go to settlement.¹⁵

¹¹ See Affidavit of Timothy Horger (Attachment E) ¶ 4 (“Horger Aff.”).

¹² Horger Aff. ¶ 7.

¹³ Horger Aff. ¶ 7.

¹⁴ Because PJM began settling rather than liquidating defaulted FTR positions as of September 1, 2018, August 2018 are the most recent numbers we have to compare how liquidation would fare versus settlement.

¹⁵ On July 26, 2018, PJM filed for a waiver of its Tariff to liquidate only the prompt month starting with the FTR auction conducted in July for GreenHat's August FTR positions through the FTR auction conducted in October for GreenHat's November FTR positions. Request of PJM Interconnection, L.L.C. for a Waiver Effective July 27, 2018, Docket No. ER18-2068-000 (July 26, 2018) (“PJM Waiver Request”). The PJM Waiver Request remains pending before the Commission. On August 23, 2018, PJM filed the August Interim FTR Filing. In the August Interim FTR Filing, PJM revised its process for addressing defaults by FTR Market participants by suspending the liquidation of defaulted FTR positions for the period from August 24 through November 30, 2018. This suspension has

PJM has up to this point substantially complied with its Operating Agreement and Tariff since it declared GreenHat's default. Consistent with the Operating Agreement and Tariff, PJM allowed GreenHat's remaining June and entire July 2018 FTR portfolios to go to settlement since it was not possible to offer those positions in the applicable monthly auctions, for which the bid windows had all closed prior to PJM's declaration of GreenHat's default. Also consistent with the Operating Agreement and Tariff, PJM liquidated GreenHat's August 2018 FTRs in their monthly auction held in July. It was only after filing its August Interim FTR Filing that PJM began settling GreenHat FTR positions that it would otherwise have offered for liquidation, and PJM did this only after filing prior notice with the Commission on August 23, 2018, and seeking an August 24, 2018, effective date for good cause.¹⁶ PJM now seeks the Commission's acceptance of a revision to PJM's temporary Tariff provisions to allow it additional time to work with stakeholders on a long-term solution in the event the Commission does not accept PJM's Tariff revisions proposed in the FTR Default Disposition Filing.

the practical effect of preventing the liquidation at monthly auction of FTRs scheduled for settlement in September through December and allowing those positions to settle by their terms before being recovered from Members through PJM's Default Allocation Assessment mechanism. The August Interim FTR Filing provided a short-term solution to preserve the ability of the PJM Members to craft an alternative FTR liquidation option for the Commission's consideration. Assuming acceptance of the August Interim FTR Filing (for which PJM sought waiver of the notice requirement to implement on August 24, 2018), the PJM Waiver Request was only applicable to the monthly auction for August FTR positions, which was completed in July (effectively mooting the rest of the waiver period requested in the PJM Waiver Request). Both the PJM Waiver Request and the August Interim FTR Filing have been important steps to address a recent member default and avoid under disruption to recent PJM FTR auctions, and should be accepted and granted effectiveness by the Commission.

¹⁶ August Interim FTR Tariff Filing at 8–9.

This is not “retroactive ratemaking,” as that term is often used, for the simple reason that the proposed revisions will not change the allocation of costs or the share of benefits and burdens parties agreed to prior to the FTR auctions and bilateral transactions through which GreenHat acquired its current FTR positions. In other words, these revisions only are changing how the loss itself is accrued for a defaulting Member’s FTR positions on which the defaulting Member is continuing to default *after* the effective date of these Operating Agreement and Tariff revisions. The current Tariff already anticipates a situation where settlement would occur in lieu of liquidation (i.e., if there is no available auction in which the FTRs offered for liquidation would not set the price); this filing expands when settlement is considered appropriate.

III. THE PROPOSED TARIFF AND OPERATING AGREEMENT REVISIONS ARE JUST AND REASONABLE

On August 23, 2018, PJM Market Participants endorsed Tariff and Operating Agreement revisions, as a temporary solution, to make the mandatory liquidation of defaulted FTR positions inapplicable for the FTR auctions conducted during the time period of August 24 through November 30, 2018. These revisions, which PJM and a majority of stakeholders support, would specifically add a section (g) to Tariff, Attachment K-Appendix, section 7.3.9 to provide a temporary solution through November 30, 2018. PJM now seeks (again with the endorsement of its Members) a potential extension of these Tariff revisions in the event the Commission does not accept the Tariff revisions filed in FTR Default Disposition Filing on or before November 30, 2018, and thus seeks to revise section 7.3.9(g) as follows:

g) For the period of August 24, 2018 through ~~November 30, 2018~~ the earlier of the effective date the Commission grants for the Operating Agreement and Tariff revisions filed in Docket No. ER19-19-000 or February 28, 2019, the liquidation process of a defaulting Member’s Financial Transmission Rights described in Tariff, Attachment K – Appendix, section 7.3.9(c)-(f) and the parallel provisions in Operating Agreement, Schedule 1, section 7.3.9(c)-(f) shall not apply, including, without limitation, that the Office of the Interconnection shall not be required to offer the defaulting Member’s Financial Transmission Rights for sale into any auction. During this period, the amount of gain or loss on each of the defaulting Member’s Financial Transmission Rights positions shall be realized at the normal time for performance of such Financial Transmission Rights position. The net of such gains and losses for all such positions shall be considered the final monthly settlement amount. Such final monthly settlement amount shall be included in calculating the Default Allocation Assessments as described in Operating Agreement, section 15.1.2A(I). Such assessment shall in no way relieve the defaulting Member of its obligations, including, without limitation, the defaulting Member’s

obligations arising from or associated with the full value of its default.

The objective of this filing is to suspend the unprecedented liquidation of a large FTR portfolio previously owned by GreenHat, which has recently defaulted. A rapid liquidation of this large portfolio as required under the existing rules would distort FTR market signals and likely suppress prices, locking in significant loss at a significant risk premium. In place of the existing FTR liquidation process, the proposed modification in this filing will allow any defaulting Member's FTR positions, including GreenHat's, to go to settlement during the specified period. For instance, as applied to the current default, this would effectively limit Member default allocation exposure during the specified period only to the actual costs settled against the defaulted FTR positions, rather than any risk premium associated with liquidating GreenHat's entire portfolio. Although this provision is generic in nature for the specified period, the GreenHat default and the impact to the Members of the existing FTR liquidation provisions demonstrates that continuation of such liquidation process leads to results that require immediate relief.

PJM proposes revising the Tariff as a temporary measure to address the above-described concerns specifically in the event the Commission does not accept the Tariff revisions filed in the FTR Default Disposition Filing by November 30, 2018, to become effective on December 1, 2018. While PJM cannot predict market outcomes, the proposed Tariff revisions are expected to benefit PJM Market Participants by allowing time for Members to discuss and vote on alternatives to the existing FTR liquidation process.¹⁷ This will enable PJM's Members to choose the desired course of action for unwinding GreenHat's FTR portfolio.

IV. EFFECT AND EFFECTIVE DATE

PJM is proposing these revisions only to provide a backup solution in the event the Commission declines to accept the FTR Default Disposition Filing. In fact, because the FTR Default Disposition Filing would delete Operating Agreement, Schedule 1, section 7.3.9(g) and its parallel Tariff provision, this filing and the revisions it proposes are only relevant if the Commission declines to accept the FTR Default Disposition Filing and are moot if the Commission does accept that filing. PJM thus is making this filing out of an abundance of caution to prevent Tariff provisions its membership has emphatically rejected from coming back into effect when the current term of section 7.3.9(g) expires, and will withdraw this filing if the Commission accepts without modification the FTR Default Disposition Filing, which sets forth PJM's preferred long-term solution to address Member defaults in the FTR markets.

PJM requests to implement these revisions to Tariff, Attachment K-Appendix, section 7.3.9(g) and Operating Agreement, Schedule 1, section 7.3.9(g) effective

¹⁷ Horger Aff. ¶ 8.

December 1, 2018, which is more than sixty days from today's date. If these revisions are mooted by the Commission's acceptance of the FTR Default Disposition filing, the Commission may instead reject these revisions as moot.

V. CORRESPONDENCE

The following individuals are designated for inclusion on the official service list in this proceeding and for receipt of any communications regarding this filing:¹⁸

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VI. DOCUMENTS ENCLOSED

This filing consists of the following:

1. This transmittal letter;
2. Revisions to the Tariff (in redlined and non-redlined format (as Attachments A and B, respectively) and in electronic tariff filing format as required by Order No. 714¹⁹);

¹⁸ To the extent necessary, PJM requests waiver of Rule 203(b)(3) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.203(b)(3), to permit all persons listed to be placed on the official service list for this proceeding.

3. Revisions to the Operating Agreement (in redlined and non-redlined format (as Attachments C and D, respectively) and in electronic tariff filing format as required by Order No. 714); and
4. Affidavit of Timothy Horger on behalf of PJM (as Attachment E).

VII. SERVICE

PJM has served a copy of this filing on all PJM members and on all state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the Commission's regulations,²⁰ PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: <http://www.pjm.com/documents/ferc-manuals/ferc-filings.aspx> with a specific link to the newly filed document, and will send an email on the same date as this filing to all PJM members and all state utility regulatory commissions in the PJM Region²¹ alerting them that this filing has been made by PJM and is available by following such link. PJM also serves the parties listed on the Commission's official service list for this docket. If the document is not immediately available by using the referenced link, the document will be available through the referenced link within twenty-four hours of the filing. Also, a copy of this filing will be available on the FERC's eLibrary website located at the following link: <http://www.ferc.gov/docs-filing/elibrary.asp> in accordance with the Commission's regulations and Order No. 714.

¹⁹ *Electronic Tariff Filings*, Order No. 714, 2008–2013 FERC Stats. & Regs., Regs. Preambles ¶ 31,276 (2008), *final rule*, Order No. 714-A, III FERC Stats. & Regs., Regs. Preambles ¶ 31,356 (2014).

²⁰ See 18 C.F.R. §§ 35.2(e), 385.2010(f)(3).

²¹ PJM already maintains, updates, and regularly uses email lists for all PJM members and affected state commissions.

VIII. CONCLUSION

Accordingly, PJM requests that the Commission accept the enclosed Tariff and Operating Agreement revisions effective December 1, 2018.

Respectfully submitted,

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October 1, 2018

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Attachment A

Revisions to the PJM Open Access Transmission Tariff

(Marked/Redline Format)

7.3 Auction Procedures.

7.3.1 Role of the Office of the Interconnection.

Financial Transmission Rights auctions shall be conducted by the Office of the Interconnection in accordance with standards and procedures set forth in the PJM Manuals, such standards and procedures to be consistent with the requirements of this Schedule. PJMSettlement shall be the Counterparty to the purchases and sales of Financial Transmission Rights arising from such auctions, provided however, that PJMSettlement shall not be a contracting party to any subsequent bilateral transfers of Financial Transmission Rights between Market Participants. The conversion of an Auction Revenue Right to a Financial Transmission Right pursuant to this section 7 shall not constitute a purchase or sale transaction to which PJMSettlement is a contracting party. Financial Transmission Rights auctions conducted to liquidate a defaulting Member's Financial Transmission Rights portfolio shall be conducted by the Office of the Interconnection in accordance with the procedures set forth in Section 7.3.9 herein and in accordance with standards and procedures set forth in the PJM Manuals.

7.3.2 Notice of Offer.

A holder of a Financial Transmission Right wishing to offer the Financial Transmission Right for sale shall notify the Office of the Interconnection of any Financial Transmission Rights to be offered. Each Financial Transmission Rights sold in an auction shall, at the end of the period for which the Financial Transmission Rights were auctioned, revert to the offering holder or the entity to which the offering holder has transferred such Financial Transmission Right, subject to the term of the Financial Transmission Right itself and to the right of such holder or transferee to offer the Financial Transmission Right in the next or any subsequent auction during the term of the Financial Transmission Right.

7.3.3 Pending Applications for Firm Service.

(a) [Reserved.]

(b) Financial Transmission Rights may be assigned to entities requesting Network Transmission Service or Firm Point-to-Point Transmission Service pursuant to Section 5.2.2 (e), only if such Financial Transmission Rights are simultaneously feasible with all outstanding Financial Transmission Rights, including Financial Transmission Rights effective for the then-current auction period. If an assignment of Financial Transmission Rights pursuant to a pending application for Network Transmission Service or Firm Point-to-Point Transmission Service cannot be completed prior to an auction, Financial Transmission Rights attributable to such transmission service shall not be assigned for the then-current auction period. If a Financial Transmission Right cannot be assigned for this reason, the applicant may withdraw its application, or request that the Financial Transmission Right be assigned effective with the start of the next auction period.

7.3.4 On-Peak, Off-Peak and 24-Hour Periods.

On-peak, off-peak and 24-hour FTRs will be offered in the annual and monthly auction. On-Peak Financial Transmission Rights shall cover the periods from 7:00 a.m. up to the hour ending at 11:00 p.m. on Mondays through Fridays, except holidays as defined in the PJM Manuals. Off-Peak Financial Transmission Rights shall cover the periods from 11:00 p.m. up to the hour ending 7:00 a.m. on Mondays through Fridays and all hours on Saturdays, Sundays, and holidays as defined in the PJM Manuals. The 24-hour period shall cover the period from hour ending 1:00 a.m. to the hour ending 12:00 midnight on all days. Each bid shall specify whether it is for an on-peak, off-peak, or 24-hour period.

7.3.5 Offers and Bids.

(a) Offers to sell and bids to purchase Financial Transmission Rights shall be submitted during the period set forth in Section 7.1.2, and shall be in the form specified by the Office of the Interconnection in accordance with the requirements set forth below.

(b) Offers to sell shall identify the specific Financial Transmission Right, by term, megawatt quantity and receipt and delivery points, offered for sale. An offer to sell a specified megawatt quantity of Financial Transmission Rights shall constitute an offer to sell a quantity of Financial Transmission Rights equal to or less than the specified quantity. An offer to sell may not specify a minimum quantity being offered. Each offer may specify a reservation price, below which the offeror does not wish to sell the Financial Transmission Right. Offers submitted by entities holding rights to Financial Transmission Rights shall be subject to such reasonable standards for the verification of the rights of the offeror as may be established by the Office of the Interconnection. Offers shall be subject to such reasonable standards for the creditworthiness of the offeror or for the posting of security for performance as the Office of the Interconnection shall establish.

(c) Bids to purchase shall specify the term, megawatt quantity, price per megawatt, and receipt and delivery points of the Financial Transmission Right that the bidder wishes to purchase. A bid to purchase a specified megawatt quantity of Financial Transmission Rights shall constitute a bid to purchase a quantity of Financial Transmission Rights equal to or less than the specified quantity. A bid to purchase may not specify a minimum quantity that the bidder wishes to purchase. A bid may specify receipt and delivery points in accordance with Section 7.2.2 and may include Financial Transmission Rights for which the associated Transmission Congestion Credits may have negative values. Bids shall be subject to such reasonable standards for the creditworthiness of the bidder or for the posting of security for performance as the Office of the Interconnection shall establish.

(d) Bids and offers shall be specified to the nearest tenth of a megawatt and shall be greater than zero. The Office of the Interconnection may require that a market participant shall not submit in excess of 5000 bids and offers for any single monthly auction, or for any single round of the annual auction, when the Office of the Interconnection determines that such limit is required to avoid or mitigate significant system performance problems related to bid/offer volume. Notice of the need to impose such limit shall be provided prior to the start of the bidding period if possible. Where such notice is provided after the start of the bidding period,

market participants shall be required within one day to reduce their bids and offers for such auction below 5000, and the bidding period in such cases shall be extended by one day.

7.3.6 Determination of Winning Bids and Clearing Price.

(a) At the close of each bidding period, the Office of the Interconnection will create a base Financial Transmission Rights power flow model that includes all outstanding Financial Transmission Rights that have been approved and confirmed for any portion of the month for which the auction was conducted and that were not offered for sale in the auction. The base Financial Transmission Rights model also will include estimated uncompensated parallel flows into each interface point of the PJM Region and estimated scheduled transmission outages.

(b) In accordance with the requirements of Section 7.5 of this Schedule and subject to all applicable transmission constraints and reliability requirements, the Office of the Interconnection shall determine the simultaneous feasibility of all outstanding Financial Transmission Rights not offered for sale in the auction and of all Financial Transmission Rights that could be awarded in the auction for which bids were submitted. The winning bids shall be determined from an appropriate linear programming model that, while respecting transmission constraints and the maximum MW quantities of the bids and offers, selects the set of simultaneously feasible Financial Transmission Rights with the highest net total auction value as determined by the bids of buyers and taking into account the reservation prices of the sellers. In the event that there are two or more identical bids for the selected Financial Transmission Rights and there are insufficient Financial Transmission Rights to accommodate all of the identical bids, then each such bidder will receive a pro rata share of the Financial Transmission Rights that can be awarded.

(c) Financial Transmission Rights shall be sold at the market-clearing price for Financial Transmission Rights between specified pairs of receipt and delivery points, as determined by the bid value of the marginal Financial Transmission Right that could not be awarded because it would not be simultaneously feasible. The linear programming model shall determine the clearing prices of all Financial Transmission Rights paths based on the bid value of the marginal Financial Transmission Rights, which are those Financial Transmission Rights with the highest bid values that could not be awarded fully because they were not simultaneously feasible, and based on the flow sensitivities of each Financial Transmission Rights path relative to the marginal Financial Transmission Rights paths flow sensitivities on the binding transmission constraints. Financial Transmission Rights with a zero clearing price will only be awarded if there is a minimum of one binding constraint in the auction period for which the Financial Transmission Rights path sensitivity is non-zero.

7.3.7 Announcement of Winners and Prices.

Within two (2) Business Days after the close of the bid and offer period for an annual Financial Transmission Rights auction round, and within five (5) Business Days after the close of the bid and offer period for a monthly Financial Transmission Rights auction, the Office of the Interconnection shall post the winning bidders, the megawatt quantity, the term and the receipt and delivery points for each Financial Transmission Right awarded in the auction and the price at

which each Financial Transmission Right was awarded unless circumstances beyond PJM's control prevent PJM from meeting the applicable deadline. Under such circumstances, PJM will post the auction results at the earliest possible opportunity. The Office of the Interconnection shall not disclose the price specified in any bid to purchase or the reservation price specified in any offer to sell. If the Office of the Interconnection discovers an error in the results posted for a Financial Transmission Rights auction (or a given round of the annual Financial Transmission Rights auction), the Office of the Interconnection shall notify Market Participants of the error as soon as possible after it is found, but in no event later than 5:00 p.m. of the Business Day following the initial publication of the results of the auction or round of the annual auction. After this initial notification, if the Office of the Interconnection determines that it is necessary to post modified results, it shall provide notification of its intent to do so, together with all available supporting documentation, by no later than 5:00 p.m. of the second Business Day following the initial publication of the results of that auction or round of the annual auction. Thereafter, the Office of the Interconnection must post any corrected results by no later than 5:00 p.m. of the fourth calendar day following the initial publication of the results of the auction or round of the annual auction. Should any of the above deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted results will be considered final. Notwithstanding the foregoing, the deadlines set forth above shall not apply if the referenced auction results are under publicly noticed review by the FERC.

7.3.8 Auction Settlements.

All buyers and sellers of Financial Transmission Rights between the same points of receipt and delivery shall pay PJMSettlement or be paid by PJMSettlement the market-clearing price, as determined in the auction, for such Financial Transmission Rights.

7.3.9 Liquidation of Financial Transmission Rights in the Event of Member Default.

In the event a Member fails to meet creditworthiness requirements or make timely payments when due pursuant to the PJM Operating Agreement or PJM Tariff, the Office of the Interconnection shall, as soon as practicable after such default is declared, initiate the following procedures to close out and liquidate the Financial Transmission Rights of a Member:

- a) The Office of the Interconnection shall close out the defaulting Member's positions as of the date of its default, by unilaterally accelerating and terminating all forward Financial Transmission Rights positions.
- b) The Office of the Interconnection shall post on its website all salient information relating to the closed out portfolio of Financial Transmission Rights.
- c) All current planning period Financial Transmission Right positions within the defaulting Members' Financial Transmission Right portfolio will be offered for sale in the next available monthly balance of planning period Financial Transmission Rights auction at an offer price designed to maximize the likelihood of liquidation of those positions.

d) Financial Transmission Rights positions that do not settle until the next or subsequent planning period will be offered into the next available Financial Transmission Rights auction (taking into account timing constraints and the need for an orderly liquidation) where, based on the Office of Interconnection's commercially reasonable expectation, such positions would be expected to clear. In the event that the next scheduled Financial Transmission Rights auction is more than two (2) months subsequent to the date that the Office of the Interconnection declares a Member in default, a specially scheduled Financial Transmission Rights auction may be conducted by the Office of the Interconnection. The entire portfolio of the defaulting Member's Financial Transmission Rights will be offered for sale at an offer price designed to maximize the likelihood of liquidation of those positions.

e) The Financial Transmission Right positions comprising the defaulting Member's portfolio that are liquidated in a Financial Transmission Rights auction should avoid setting the price in the auction at the bid prices with which they were initially submitted. In the event that any of the closed out Financial Transmission Rights would set market based on the auction's preliminary solution, then only one-half of each Financial Transmission Rights position will be offered for sale and the auction will be re-executed. In the event that any Financial Transmission Rights position that has been closed out once again sets price, then all Financial Transmission Rights scheduled to be liquidated will be removed from the affected auction and the auction will be re-executed excluding the closed out Financial Transmission Right positions. Financial Transmission Right positions that are not liquidated will then be offered in the next available auction or specially scheduled auction, as appropriate.

f) The liquidation of the defaulting Members' Financial Transmission Rights portfolio pursuant to the foregoing procedures shall result in a final liquidated settlement amount. The final liquidated settlement amount will be included in calculating a Default Allocation Assessment as described in Section 15.1.2A(I) of the PJM Operating Agreement. If the Office of the Interconnection is unable to close out and liquidate a Financial Transmission Rights position under the foregoing procedures, the close out shall be deemed void and the defaulting Member shall remain liable for the full final value of its default, such full final value being realized at the normal time for performance of the Financial Transmission Rights position.

g) *For the period of August 24, 2018 through the earlier of the effective date the Commission grants for the Operating Agreement and Tariff revisions filed in Docket No. ER19-19-000 or February 28, 2019~~November 30, 2018~~, the liquidation process of a defaulting Member's Financial Transmission Rights described in Tariff, Attachment K – Appendix, section 7.3.9(c)-(f) and the parallel provisions in Operating Agreement, Schedule 1, section 7.3.9(c)-(f) shall not apply, including, without limitation, that the Office of the Interconnection shall not be required to offer the defaulting Member's Financial Transmission Rights for sale into any auction. During this period, the amount of gain or loss on each of the defaulting Member's Financial Transmission Rights positions shall be realized at the normal time for performance of such Financial Transmission Rights position. The net of such gains and losses for all such positions shall be considered the final monthly settlement amount. Such final monthly settlement amount shall be included in calculating the Default Allocation Assessments as described in Operating Agreement, section 15.1.2A(I). Such assessment shall in no way relieve the defaulting*

Member of its obligations, including, without limitation, the defaulting Member's obligations arising from or associated with the full value of its default.

In all other respects, Financial Transmission Rights terminated pursuant to this section shall be liquidated pursuant to the appropriate provisions and procedures set forth in the PJM Manuals.

Attachment B

Revisions to the PJM Open Access Transmission Tariff

(Clean Format)

7.3 Auction Procedures.

7.3.1 Role of the Office of the Interconnection.

Financial Transmission Rights auctions shall be conducted by the Office of the Interconnection in accordance with standards and procedures set forth in the PJM Manuals, such standards and procedures to be consistent with the requirements of this Schedule. PJMSettlement shall be the Counterparty to the purchases and sales of Financial Transmission Rights arising from such auctions, provided however, that PJMSettlement shall not be a contracting party to any subsequent bilateral transfers of Financial Transmission Rights between Market Participants. The conversion of an Auction Revenue Right to a Financial Transmission Right pursuant to this section 7 shall not constitute a purchase or sale transaction to which PJMSettlement is a contracting party. Financial Transmission Rights auctions conducted to liquidate a defaulting Member's Financial Transmission Rights portfolio shall be conducted by the Office of the Interconnection in accordance with the procedures set forth in Section 7.3.9 herein and in accordance with standards and procedures set forth in the PJM Manuals.

7.3.2 Notice of Offer.

A holder of a Financial Transmission Right wishing to offer the Financial Transmission Right for sale shall notify the Office of the Interconnection of any Financial Transmission Rights to be offered. Each Financial Transmission Rights sold in an auction shall, at the end of the period for which the Financial Transmission Rights were auctioned, revert to the offering holder or the entity to which the offering holder has transferred such Financial Transmission Right, subject to the term of the Financial Transmission Right itself and to the right of such holder or transferee to offer the Financial Transmission Right in the next or any subsequent auction during the term of the Financial Transmission Right.

7.3.3 Pending Applications for Firm Service.

(a) [Reserved.]

(b) Financial Transmission Rights may be assigned to entities requesting Network Transmission Service or Firm Point-to-Point Transmission Service pursuant to Section 5.2.2 (e), only if such Financial Transmission Rights are simultaneously feasible with all outstanding Financial Transmission Rights, including Financial Transmission Rights effective for the then-current auction period. If an assignment of Financial Transmission Rights pursuant to a pending application for Network Transmission Service or Firm Point-to-Point Transmission Service cannot be completed prior to an auction, Financial Transmission Rights attributable to such transmission service shall not be assigned for the then-current auction period. If a Financial Transmission Right cannot be assigned for this reason, the applicant may withdraw its application, or request that the Financial Transmission Right be assigned effective with the start of the next auction period.

7.3.4 On-Peak, Off-Peak and 24-Hour Periods.

On-peak, off-peak and 24-hour FTRs will be offered in the annual and monthly auction. On-Peak Financial Transmission Rights shall cover the periods from 7:00 a.m. up to the hour ending at 11:00 p.m. on Mondays through Fridays, except holidays as defined in the PJM Manuals. Off-Peak Financial Transmission Rights shall cover the periods from 11:00 p.m. up to the hour ending 7:00 a.m. on Mondays through Fridays and all hours on Saturdays, Sundays, and holidays as defined in the PJM Manuals. The 24-hour period shall cover the period from hour ending 1:00 a.m. to the hour ending 12:00 midnight on all days. Each bid shall specify whether it is for an on-peak, off-peak, or 24-hour period.

7.3.5 Offers and Bids.

(a) Offers to sell and bids to purchase Financial Transmission Rights shall be submitted during the period set forth in Section 7.1.2, and shall be in the form specified by the Office of the Interconnection in accordance with the requirements set forth below.

(b) Offers to sell shall identify the specific Financial Transmission Right, by term, megawatt quantity and receipt and delivery points, offered for sale. An offer to sell a specified megawatt quantity of Financial Transmission Rights shall constitute an offer to sell a quantity of Financial Transmission Rights equal to or less than the specified quantity. An offer to sell may not specify a minimum quantity being offered. Each offer may specify a reservation price, below which the offeror does not wish to sell the Financial Transmission Right. Offers submitted by entities holding rights to Financial Transmission Rights shall be subject to such reasonable standards for the verification of the rights of the offeror as may be established by the Office of the Interconnection. Offers shall be subject to such reasonable standards for the creditworthiness of the offeror or for the posting of security for performance as the Office of the Interconnection shall establish.

(c) Bids to purchase shall specify the term, megawatt quantity, price per megawatt, and receipt and delivery points of the Financial Transmission Right that the bidder wishes to purchase. A bid to purchase a specified megawatt quantity of Financial Transmission Rights shall constitute a bid to purchase a quantity of Financial Transmission Rights equal to or less than the specified quantity. A bid to purchase may not specify a minimum quantity that the bidder wishes to purchase. A bid may specify receipt and delivery points in accordance with Section 7.2.2 and may include Financial Transmission Rights for which the associated Transmission Congestion Credits may have negative values. Bids shall be subject to such reasonable standards for the creditworthiness of the bidder or for the posting of security for performance as the Office of the Interconnection shall establish.

(d) Bids and offers shall be specified to the nearest tenth of a megawatt and shall be greater than zero. The Office of the Interconnection may require that a market participant shall not submit in excess of 5000 bids and offers for any single monthly auction, or for any single round of the annual auction, when the Office of the Interconnection determines that such limit is required to avoid or mitigate significant system performance problems related to bid/offer volume. Notice of the need to impose such limit shall be provided prior to the start of the bidding period if possible. Where such notice is provided after the start of the bidding period,

market participants shall be required within one day to reduce their bids and offers for such auction below 5000, and the bidding period in such cases shall be extended by one day.

7.3.6 Determination of Winning Bids and Clearing Price.

(a) At the close of each bidding period, the Office of the Interconnection will create a base Financial Transmission Rights power flow model that includes all outstanding Financial Transmission Rights that have been approved and confirmed for any portion of the month for which the auction was conducted and that were not offered for sale in the auction. The base Financial Transmission Rights model also will include estimated uncompensated parallel flows into each interface point of the PJM Region and estimated scheduled transmission outages.

(b) In accordance with the requirements of Section 7.5 of this Schedule and subject to all applicable transmission constraints and reliability requirements, the Office of the Interconnection shall determine the simultaneous feasibility of all outstanding Financial Transmission Rights not offered for sale in the auction and of all Financial Transmission Rights that could be awarded in the auction for which bids were submitted. The winning bids shall be determined from an appropriate linear programming model that, while respecting transmission constraints and the maximum MW quantities of the bids and offers, selects the set of simultaneously feasible Financial Transmission Rights with the highest net total auction value as determined by the bids of buyers and taking into account the reservation prices of the sellers. In the event that there are two or more identical bids for the selected Financial Transmission Rights and there are insufficient Financial Transmission Rights to accommodate all of the identical bids, then each such bidder will receive a pro rata share of the Financial Transmission Rights that can be awarded.

(c) Financial Transmission Rights shall be sold at the market-clearing price for Financial Transmission Rights between specified pairs of receipt and delivery points, as determined by the bid value of the marginal Financial Transmission Right that could not be awarded because it would not be simultaneously feasible. The linear programming model shall determine the clearing prices of all Financial Transmission Rights paths based on the bid value of the marginal Financial Transmission Rights, which are those Financial Transmission Rights with the highest bid values that could not be awarded fully because they were not simultaneously feasible, and based on the flow sensitivities of each Financial Transmission Rights path relative to the marginal Financial Transmission Rights paths flow sensitivities on the binding transmission constraints. Financial Transmission Rights with a zero clearing price will only be awarded if there is a minimum of one binding constraint in the auction period for which the Financial Transmission Rights path sensitivity is non-zero.

7.3.7 Announcement of Winners and Prices.

Within two (2) Business Days after the close of the bid and offer period for an annual Financial Transmission Rights auction round, and within five (5) Business Days after the close of the bid and offer period for a monthly Financial Transmission Rights auction, the Office of the Interconnection shall post the winning bidders, the megawatt quantity, the term and the receipt and delivery points for each Financial Transmission Right awarded in the auction and the price at

which each Financial Transmission Right was awarded unless circumstances beyond PJM's control prevent PJM from meeting the applicable deadline. Under such circumstances, PJM will post the auction results at the earliest possible opportunity. The Office of the Interconnection shall not disclose the price specified in any bid to purchase or the reservation price specified in any offer to sell. If the Office of the Interconnection discovers an error in the results posted for a Financial Transmission Rights auction (or a given round of the annual Financial Transmission Rights auction), the Office of the Interconnection shall notify Market Participants of the error as soon as possible after it is found, but in no event later than 5:00 p.m. of the Business Day following the initial publication of the results of the auction or round of the annual auction. After this initial notification, if the Office of the Interconnection determines that it is necessary to post modified results, it shall provide notification of its intent to do so, together with all available supporting documentation, by no later than 5:00 p.m. of the second Business Day following the initial publication of the results of that auction or round of the annual auction. Thereafter, the Office of the Interconnection must post any corrected results by no later than 5:00 p.m. of the fourth calendar day following the initial publication of the results of the auction or round of the annual auction. Should any of the above deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted results will be considered final. Notwithstanding the foregoing, the deadlines set forth above shall not apply if the referenced auction results are under publicly noticed review by the FERC.

7.3.8 Auction Settlements.

All buyers and sellers of Financial Transmission Rights between the same points of receipt and delivery shall pay PJMSettlement or be paid by PJMSettlement the market-clearing price, as determined in the auction, for such Financial Transmission Rights.

7.3.9 Liquidation of Financial Transmission Rights in the Event of Member Default.

In the event a Member fails to meet creditworthiness requirements or make timely payments when due pursuant to the PJM Operating Agreement or PJM Tariff, the Office of the Interconnection shall, as soon as practicable after such default is declared, initiate the following procedures to close out and liquidate the Financial Transmission Rights of a Member:

- a) The Office of the Interconnection shall close out the defaulting Member's positions as of the date of its default, by unilaterally accelerating and terminating all forward Financial Transmission Rights positions.
- b) The Office of the Interconnection shall post on its website all salient information relating to the closed out portfolio of Financial Transmission Rights.
- c) All current planning period Financial Transmission Right positions within the defaulting Members' Financial Transmission Right portfolio will be offered for sale in the next available monthly balance of planning period Financial Transmission Rights auction at an offer price designed to maximize the likelihood of liquidation of those positions.

d) Financial Transmission Rights positions that do not settle until the next or subsequent planning period will be offered into the next available Financial Transmission Rights auction (taking into account timing constraints and the need for an orderly liquidation) where, based on the Office of Interconnection's commercially reasonable expectation, such positions would be expected to clear. In the event that the next scheduled Financial Transmission Rights auction is more than two (2) months subsequent to the date that the Office of the Interconnection declares a Member in default, a specially scheduled Financial Transmission Rights auction may be conducted by the Office of the Interconnection. The entire portfolio of the defaulting Member's Financial Transmission Rights will be offered for sale at an offer price designed to maximize the likelihood of liquidation of those positions.

e) The Financial Transmission Right positions comprising the defaulting Member's portfolio that are liquidated in a Financial Transmission Rights auction should avoid setting the price in the auction at the bid prices with which they were initially submitted. In the event that any of the closed out Financial Transmission Rights would set market based on the auction's preliminary solution, then only one-half of each Financial Transmission Rights position will be offered for sale and the auction will be re-executed. In the event that any Financial Transmission Rights position that has been closed out once again sets price, then all Financial Transmission Rights scheduled to be liquidated will be removed from the affected auction and the auction will be re-executed excluding the closed out Financial Transmission Right positions. Financial Transmission Right positions that are not liquidated will then be offered in the next available auction or specially scheduled auction, as appropriate.

f) The liquidation of the defaulting Members' Financial Transmission Rights portfolio pursuant to the foregoing procedures shall result in a final liquidated settlement amount. The final liquidated settlement amount will be included in calculating a Default Allocation Assessment as described in Section 15.1.2A(I) of the PJM Operating Agreement. If the Office of the Interconnection is unable to close out and liquidate a Financial Transmission Rights position under the foregoing procedures, the close out shall be deemed void and the defaulting Member shall remain liable for the full final value of its default, such full final value being realized at the normal time for performance of the Financial Transmission Rights position.

g) *For the period of August 24, 2018 through the earlier of the effective date the Commission grants for the Operating Agreement and Tariff revisions filed in Docket No. ER19-19-000 or February 28, 2019, the liquidation process of a defaulting Member's Financial Transmission Rights described in Tariff, Attachment K – Appendix, section 7.3.9(c)-(f) and the parallel provisions in Operating Agreement, Schedule 1, section 7.3.9(c)-(f) shall not apply, including, without limitation, that the Office of the Interconnection shall not be required to offer the defaulting Member's Financial Transmission Rights for sale into any auction. During this period, the amount of gain or loss on each of the defaulting Member's Financial Transmission Rights positions shall be realized at the normal time for performance of such Financial Transmission Rights position. The net of such gains and losses for all such positions shall be considered the final monthly settlement amount. Such final monthly settlement amount shall be included in calculating the Default Allocation Assessments as described in Operating Agreement, section 15.1.2A(I). Such assessment shall in no way relieve the defaulting Member of*

its obligations, including, without limitation, the defaulting Member's obligations arising from or associated with the full value of its default.

In all other respects, Financial Transmission Rights terminated pursuant to this section shall be liquidated pursuant to the appropriate provisions and procedures set forth in the PJM Manuals.

Attachment C

Revisions to the PJM Operating Agreement

(Marked/Redline Format)

7.3 Auction Procedures.

7.3.1 Role of the Office of the Interconnection.

Financial Transmission Rights auctions shall be conducted by the Office of the Interconnection in accordance with standards and procedures set forth in the PJM Manuals, such standards and procedures to be consistent with the requirements of this Schedule. PJMSettlement shall be the Counterparty to the purchases and sales of Financial Transmission Rights arising from such auctions, provided however, that PJMSettlement shall not be a contracting party to any subsequent bilateral transfers of Financial Transmission Rights between Market Participants. The conversion of an Auction Revenue Right to a Financial Transmission Right pursuant to this section 7 shall not constitute a purchase or sale transaction to which PJMSettlement is a contracting party. Financial Transmission Rights auctions conducted to liquidate a defaulting Members' Financial Transmission Rights portfolio shall be conducted by the Office of the Interconnection in accordance with the procedures set forth in the Section 7.3.9 herein and with the standards and procedures set forth in the PJM Manuals.

7.3.2 Notice of Offer.

A holder of a Financial Transmission Right wishing to offer the Financial Transmission Right for sale shall notify the Office of the Interconnection of any Financial Transmission Rights to be offered. Each Financial Transmission Right sold in an auction shall, at the end of the period for which the Financial Transmission Rights were auctioned, revert to the offering holder or the entity to which the offering holder has transferred such Financial Transmission Right, subject to the term of the Financial Transmission Right itself and to the right of such holder or transferee to offer the Financial Transmission Right in the next or any subsequent auction during the term of the Financial Transmission Right.

7.3.3 Pending Applications for Firm Service.

(a) [Reserved.]

(b) Financial Transmission Rights may be assigned to entities requesting Network Transmission Service or Firm Point-to-Point Transmission Service pursuant to Section 5.2.2 (e), only if such Financial Transmission Rights are simultaneously feasible with all outstanding Financial Transmission Rights, including Financial Transmission Rights effective for the then-current auction period. If an assignment of Financial Transmission Rights pursuant to a pending application for Network Transmission Service or Firm Point-to-Point Transmission Service cannot be completed prior to an auction, Financial Transmission Rights attributable to such transmission service shall not be assigned for the then-current auction period. If a Financial Transmission Right cannot be assigned for this reason, the applicant may withdraw its application, or request that the Financial Transmission Right be assigned effective with the start of the next auction period.

7.3.4 On-Peak, Off-Peak and 24-Hour Periods.

On-peak, off-peak and 24-hour FTRs will be offered in the annual and monthly auction. On-Peak Financial Transmission Rights shall cover the periods from 7:00 a.m. up to the hour ending at 11:00 p.m. on Mondays through Fridays, except holidays as defined in the PJM Manuals. Off-Peak Financial Transmission Rights shall cover the periods from 11:00 p.m. up to the hour ending 7:00 a.m. on Mondays through Fridays and all hours on Saturdays, Sundays, and holidays as defined in the PJM Manuals. The 24-hour period shall cover the period from hour ending 1:00 a.m. to the hour ending 12:00 midnight on all days. Each bid shall specify whether it is for an on-peak, off-peak, or 24-hour period.

7.3.5 Offers and Bids.

(a) Offers to sell and bids to purchase Financial Transmission Rights shall be submitted during the period set forth in Section 7.1.2, and shall be in the form specified by the Office of the Interconnection in accordance with the requirements set forth below.

(b) Offers to sell shall identify the specific Financial Transmission Right, by term, megawatt quantity and receipt and delivery points, offered for sale. An offer to sell a specified megawatt quantity of Financial Transmission Rights shall constitute an offer to sell a quantity of Financial Transmission Rights equal to or less than the specified quantity. An offer to sell may not specify a minimum quantity being offered. Each offer may specify a reservation price, below which the offeror does not wish to sell the Financial Transmission Right. Offers submitted by entities holding rights to Financial Transmission Rights shall be subject to such reasonable standards for the verification of the rights of the offeror as may be established by the Office of the Interconnection. Offers shall be subject to such reasonable standards for the creditworthiness of the offer or for the posting of security for performance as the Office of the Interconnection shall establish.

(c) Bids to purchase shall specify the term, megawatt quantity, price per megawatt, and receipt and delivery points of the Financial Transmission Right that the bidder wishes to purchase. A bid to purchase a specified megawatt quantity of Financial Transmission Rights shall constitute a bid to purchase a quantity of Financial Transmission Rights equal to or less than the specified quantity. A bid to purchase may not specify a minimum quantity that the bidder wishes to purchase. A bid may specify receipt and delivery points in accordance with Section 7.2.2 and may include Financial Transmission Rights for which the associated Transmission Congestion Credits may have negative values. Bids shall be subject to such reasonable standards for the creditworthiness of the bidder or for the posting of security for performance as the Office of the Interconnection shall establish.

(d) Bids and offers shall be specified to the nearest tenth of a megawatt and shall be greater than zero. The Office of the Interconnection may require that a market participant shall not submit in excess of 5000 bids and offers for any single monthly auction, or for any single round of the annual auction, when the Office of the Interconnection determines that such limit is required to avoid or mitigate significant system performance problems related to bid/offer volume. Notice of the need to impose such limit shall be provided prior to the start of the bidding period if possible. Where such notice is provided after the start of the bidding period,

market participants shall be required within one day to reduce their bids and offers for such auction below 5000, and the bidding period in such cases shall be extended by one day.

7.3.6 Determination of Winning Bids and Clearing Price.

(a) At the close of each bidding period, the Office of the Interconnection will create a base Financial Transmission Rights power flow model that includes all outstanding Financial Transmission Rights that have been approved and confirmed for any portion of the month for which the auction was conducted and that were not offered for sale in the auction. The base Financial Transmission Rights model also will include estimated uncompensated parallel flows into each interface point of the PJM Region and estimated scheduled transmission outages.

(b) In accordance with the requirements of Section 7.5 of this Schedule and subject to all applicable transmission constraints and reliability requirements, the Office of the Interconnection shall determine the simultaneous feasibility of all outstanding Financial Transmission Rights not offered for sale in the auction and of all Financial Transmission Rights that could be awarded in the auction for which bids were submitted. The winning bids shall be determined from an appropriate linear programming model that, while respecting transmission constraints and the maximum MW quantities of the bids and offers, selects the set of simultaneously feasible Financial Transmission Rights with the highest net total auction value as determined by the bids of buyers and taking into account the reservation prices of the sellers. In the event that there are two or more identical bids for the selected Financial Transmission Rights and there are insufficient Financial Transmission Rights to accommodate all of the identical bids, then each such bidder will receive a pro rata share of the Financial Transmission Rights that can be awarded.

(c) Financial Transmission Rights shall be sold at the market-clearing price for Financial Transmission Rights between specified pairs of receipt and delivery points, as determined by the bid value of the marginal Financial Transmission Right that could not be awarded because it would not be simultaneously feasible. The linear programming model shall determine the clearing prices of all Financial Transmission Rights paths based on the bid value of the marginal Financial Transmission Rights, which are those Financial Transmission Rights with the highest bid values that could not be awarded fully because they were not simultaneously feasible, and based on the flow sensitivities of each Financial Transmission Rights path relative to the marginal Financial Transmission Rights paths flow sensitivities on the binding transmission constraints. Financial Transmission Rights with a zero clearing price will only be awarded if there is a minimum of one binding constraint in the auction period for which the Financial Transmission Rights path sensitivity is non-zero.

7.3.7 Announcement of Winners and Prices.

Within two (2) Business Days after the close of the bid and offer period for an annual Financial Transmission Rights auction round, and within five (5) Business Days after the close of the bid and offer period for a monthly Financial Transmission Rights auction, the Office of the Interconnection shall post the winning bidders, the megawatt quantity, the term and the receipt and delivery points for each Financial Transmission Right awarded in the auction and the price at

which each Financial Transmission Right was awarded unless circumstances beyond PJM's control prevent PJM from meeting the applicable deadline. Under such circumstances, PJM will post the auction results at the earliest possible opportunity. The Office of the Interconnection shall not disclose the price specified in any bid to purchase or the reservation price specified in any offer to sell. If the Office of the Interconnection discovers an error in the results posted for a Financial Transmission Rights auction (or a given round of the annual Financial Transmission Rights auction), the Office of the Interconnection shall notify Market Participants of the error as soon as possible after it is found, but in no event later than 5:00 p.m. of the Business Day following the initial publication of the results of the auction or round of the annual auction. After this initial notification, if the Office of the Interconnection determines that it is necessary to post modified results, it shall provide notification of its intent to do so, together with all available supporting documentation, by no later than 5:00 p.m. of the second Business Day following the initial publication of the results of that auction or round of the annual auction. Thereafter, the Office of the Interconnection must post any corrected results by no later than 5:00 p.m. of the fourth calendar day following the initial publication of the results of the auction or round of the annual auction. Should any of the above deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted results will be considered final. Notwithstanding the foregoing, the deadlines set forth above shall not apply if the referenced auction results are under publicly noticed review by the FERC.

7.3.8 Auction Settlements.

All buyers and sellers of Financial Transmission Rights between the same points of receipt and delivery shall pay PJMSettlement or be paid by PJMSettlement the market-clearing price, as determined in the auction, for such Financial Transmission Rights.

7.3.9 Liquidation of Financial Transmission Rights in the Event of Member Default.

In the event a Member fails to meet creditworthiness requirements or make timely payments when due pursuant to the PJM Operating Agreement or PJM Tariff, the Office of the Interconnection shall, as soon as practicable after such default is declared, initiate the following procedures to close out and liquidate the Financial Transmission Rights of a Member:

- a) The Office of the Interconnection shall close out the defaulting Member's positions as of the date of its default, by unilaterally accelerating and terminating all forward Financial Transmission Rights positions.
- b) The Office of the Interconnection shall post on its website all salient information relating to the closed out portfolio of Financial Transmission Rights.
- c) All current planning period Financial Transmission Right positions within the defaulting Members' Financial Transmission Right portfolio will be offered for sale in the next available monthly balance of planning period Financial Transmission Rights auction at an offer price designed to maximize the likelihood of liquidation of those positions.

d) Financial Transmission Rights positions that do not settle until the next or subsequent planning period will be offered into the next available Financial Transmission Rights auction (taking into account timing constraints and the need for an orderly liquidation) where, based on the Office of Interconnection's commercially reasonable expectation, such positions would be expected to clear. In the event that the next scheduled Financial Transmission Rights auction is more than two (2) months subsequent to the date that the Office of the Interconnection declares a Member in default, a specially scheduled Financial Transmission Rights auction may be conducted by the Office of the Interconnection. The entire portfolio of the defaulting Member's Financial Transmission Rights will be offered for sale at an offer price designed to maximize the likelihood of liquidation of those positions.

e) The Financial Transmission Right positions comprising the defaulting Member's portfolio that are liquidated in a Financial Transmission Rights auction should avoid setting the price in the auction at the bid prices with which they were initially submitted. In the event that any of the closed out Financial Transmission Rights would set market based on the auction's preliminary solution, then only one-half of each Financial Transmission Rights position will be offered for sale and the auction will be re-executed. In the event that any Financial Transmission Rights position that has been closed out once again sets price, then all Financial Transmission Rights scheduled to be liquidated will be removed from the affected auction and the auction will be re-executed excluding the closed out Financial Transmission Right positions. Financial Transmission Right positions that are not liquidated will then be offered in the next available auction or specially scheduled auction, as appropriate.

f) The liquidation of the defaulting Members' Financial Transmission Rights portfolio pursuant to the foregoing procedures shall result in a final liquidated settlement amount. The final liquidated settlement amount will be included in calculating a Default Allocation Assessment as described in Section 15.1.2A(I) of the PJM Operating Agreement. If the Office of the Interconnection is unable to close out and liquidate a Financial Transmission Rights position under the foregoing procedures, the close out shall be deemed void and the defaulting Member shall remain liable for the full final value of its default, such full final value being realized at the normal time for performance of the Financial Transmission Rights position.

g) *For the period of August 24, 2018 through the earlier of the effective date the Commission grants for the Operating Agreement and Tariff revisions filed in Docket No. ER19-19-000 or February 28, 2019~~November 30, 2018~~, the liquidation process of a defaulting Member's Financial Transmission Rights described in Tariff, Attachment K – Appendix, section 7.3.9(c)-(f) and the parallel provisions in Operating Agreement, Schedule 1, section 7.3.9(c)-(f) shall not apply, including, without limitation, that the Office of the Interconnection shall not be required to offer the defaulting Member's Financial Transmission Rights for sale into any auction. During this period, the amount of gain or loss on each of the defaulting Member's Financial Transmission Rights positions shall be realized at the normal time for performance of such Financial Transmission Rights position. The net of such gains and losses for all such positions shall be considered the final monthly settlement amount. Such final monthly settlement amount shall be included in calculating the Default Allocation Assessments as described in Operating Agreement, section 15.1.2A(I). Such assessment shall in no way relieve the defaulting*

Member of its obligations, including, without limitation, the defaulting Member's obligations arising from or associated with the full value of its default.

In all other respects, Financial Transmission Rights terminated pursuant to this section shall be liquidated pursuant to the appropriate provisions and procedures set forth in the PJM Manuals.

Attachment D

Revisions to the PJM Operating Agreement

(Clean Format)

7.3 Auction Procedures.

7.3.1 Role of the Office of the Interconnection.

Financial Transmission Rights auctions shall be conducted by the Office of the Interconnection in accordance with standards and procedures set forth in the PJM Manuals, such standards and procedures to be consistent with the requirements of this Schedule. PJMSettlement shall be the Counterparty to the purchases and sales of Financial Transmission Rights arising from such auctions, provided however, that PJMSettlement shall not be a contracting party to any subsequent bilateral transfers of Financial Transmission Rights between Market Participants. The conversion of an Auction Revenue Right to a Financial Transmission Right pursuant to this section 7 shall not constitute a purchase or sale transaction to which PJMSettlement is a contracting party. Financial Transmission Rights auctions conducted to liquidate a defaulting Members' Financial Transmission Rights portfolio shall be conducted by the Office of the Interconnection in accordance with the procedures set forth in the Section 7.3.9 herein and with the standards and procedures set forth in the PJM Manuals.

7.3.2 Notice of Offer.

A holder of a Financial Transmission Right wishing to offer the Financial Transmission Right for sale shall notify the Office of the Interconnection of any Financial Transmission Rights to be offered. Each Financial Transmission Right sold in an auction shall, at the end of the period for which the Financial Transmission Rights were auctioned, revert to the offering holder or the entity to which the offering holder has transferred such Financial Transmission Right, subject to the term of the Financial Transmission Right itself and to the right of such holder or transferee to offer the Financial Transmission Right in the next or any subsequent auction during the term of the Financial Transmission Right.

7.3.3 Pending Applications for Firm Service.

(a) [Reserved.]

(b) Financial Transmission Rights may be assigned to entities requesting Network Transmission Service or Firm Point-to-Point Transmission Service pursuant to Section 5.2.2 (e), only if such Financial Transmission Rights are simultaneously feasible with all outstanding Financial Transmission Rights, including Financial Transmission Rights effective for the then-current auction period. If an assignment of Financial Transmission Rights pursuant to a pending application for Network Transmission Service or Firm Point-to-Point Transmission Service cannot be completed prior to an auction, Financial Transmission Rights attributable to such transmission service shall not be assigned for the then-current auction period. If a Financial Transmission Right cannot be assigned for this reason, the applicant may withdraw its application, or request that the Financial Transmission Right be assigned effective with the start of the next auction period.

7.3.4 On-Peak, Off-Peak and 24-Hour Periods.

On-peak, off-peak and 24-hour FTRs will be offered in the annual and monthly auction. On-Peak Financial Transmission Rights shall cover the periods from 7:00 a.m. up to the hour ending at 11:00 p.m. on Mondays through Fridays, except holidays as defined in the PJM Manuals. Off-Peak Financial Transmission Rights shall cover the periods from 11:00 p.m. up to the hour ending 7:00 a.m. on Mondays through Fridays and all hours on Saturdays, Sundays, and holidays as defined in the PJM Manuals. The 24-hour period shall cover the period from hour ending 1:00 a.m. to the hour ending 12:00 midnight on all days. Each bid shall specify whether it is for an on-peak, off-peak, or 24-hour period.

7.3.5 Offers and Bids.

(a) Offers to sell and bids to purchase Financial Transmission Rights shall be submitted during the period set forth in Section 7.1.2, and shall be in the form specified by the Office of the Interconnection in accordance with the requirements set forth below.

(b) Offers to sell shall identify the specific Financial Transmission Right, by term, megawatt quantity and receipt and delivery points, offered for sale. An offer to sell a specified megawatt quantity of Financial Transmission Rights shall constitute an offer to sell a quantity of Financial Transmission Rights equal to or less than the specified quantity. An offer to sell may not specify a minimum quantity being offered. Each offer may specify a reservation price, below which the offeror does not wish to sell the Financial Transmission Right. Offers submitted by entities holding rights to Financial Transmission Rights shall be subject to such reasonable standards for the verification of the rights of the offeror as may be established by the Office of the Interconnection. Offers shall be subject to such reasonable standards for the creditworthiness of the offer or for the posting of security for performance as the Office of the Interconnection shall establish.

(c) Bids to purchase shall specify the term, megawatt quantity, price per megawatt, and receipt and delivery points of the Financial Transmission Right that the bidder wishes to purchase. A bid to purchase a specified megawatt quantity of Financial Transmission Rights shall constitute a bid to purchase a quantity of Financial Transmission Rights equal to or less than the specified quantity. A bid to purchase may not specify a minimum quantity that the bidder wishes to purchase. A bid may specify receipt and delivery points in accordance with Section 7.2.2 and may include Financial Transmission Rights for which the associated Transmission Congestion Credits may have negative values. Bids shall be subject to such reasonable standards for the creditworthiness of the bidder or for the posting of security for performance as the Office of the Interconnection shall establish.

(d) Bids and offers shall be specified to the nearest tenth of a megawatt and shall be greater than zero. The Office of the Interconnection may require that a market participant shall not submit in excess of 5000 bids and offers for any single monthly auction, or for any single round of the annual auction, when the Office of the Interconnection determines that such limit is required to avoid or mitigate significant system performance problems related to bid/offer volume. Notice of the need to impose such limit shall be provided prior to the start of the bidding period if possible. Where such notice is provided after the start of the bidding period,

market participants shall be required within one day to reduce their bids and offers for such auction below 5000, and the bidding period in such cases shall be extended by one day.

7.3.6 Determination of Winning Bids and Clearing Price.

(a) At the close of each bidding period, the Office of the Interconnection will create a base Financial Transmission Rights power flow model that includes all outstanding Financial Transmission Rights that have been approved and confirmed for any portion of the month for which the auction was conducted and that were not offered for sale in the auction. The base Financial Transmission Rights model also will include estimated uncompensated parallel flows into each interface point of the PJM Region and estimated scheduled transmission outages.

(b) In accordance with the requirements of Section 7.5 of this Schedule and subject to all applicable transmission constraints and reliability requirements, the Office of the Interconnection shall determine the simultaneous feasibility of all outstanding Financial Transmission Rights not offered for sale in the auction and of all Financial Transmission Rights that could be awarded in the auction for which bids were submitted. The winning bids shall be determined from an appropriate linear programming model that, while respecting transmission constraints and the maximum MW quantities of the bids and offers, selects the set of simultaneously feasible Financial Transmission Rights with the highest net total auction value as determined by the bids of buyers and taking into account the reservation prices of the sellers. In the event that there are two or more identical bids for the selected Financial Transmission Rights and there are insufficient Financial Transmission Rights to accommodate all of the identical bids, then each such bidder will receive a pro rata share of the Financial Transmission Rights that can be awarded.

(c) Financial Transmission Rights shall be sold at the market-clearing price for Financial Transmission Rights between specified pairs of receipt and delivery points, as determined by the bid value of the marginal Financial Transmission Right that could not be awarded because it would not be simultaneously feasible. The linear programming model shall determine the clearing prices of all Financial Transmission Rights paths based on the bid value of the marginal Financial Transmission Rights, which are those Financial Transmission Rights with the highest bid values that could not be awarded fully because they were not simultaneously feasible, and based on the flow sensitivities of each Financial Transmission Rights path relative to the marginal Financial Transmission Rights paths flow sensitivities on the binding transmission constraints. Financial Transmission Rights with a zero clearing price will only be awarded if there is a minimum of one binding constraint in the auction period for which the Financial Transmission Rights path sensitivity is non-zero.

7.3.7 Announcement of Winners and Prices.

Within two (2) Business Days after the close of the bid and offer period for an annual Financial Transmission Rights auction round, and within five (5) Business Days after the close of the bid and offer period for a monthly Financial Transmission Rights auction, the Office of the Interconnection shall post the winning bidders, the megawatt quantity, the term and the receipt and delivery points for each Financial Transmission Right awarded in the auction and the price at

which each Financial Transmission Right was awarded unless circumstances beyond PJM's control prevent PJM from meeting the applicable deadline. Under such circumstances, PJM will post the auction results at the earliest possible opportunity. The Office of the Interconnection shall not disclose the price specified in any bid to purchase or the reservation price specified in any offer to sell. If the Office of the Interconnection discovers an error in the results posted for a Financial Transmission Rights auction (or a given round of the annual Financial Transmission Rights auction), the Office of the Interconnection shall notify Market Participants of the error as soon as possible after it is found, but in no event later than 5:00 p.m. of the Business Day following the initial publication of the results of the auction or round of the annual auction. After this initial notification, if the Office of the Interconnection determines that it is necessary to post modified results, it shall provide notification of its intent to do so, together with all available supporting documentation, by no later than 5:00 p.m. of the second Business Day following the initial publication of the results of that auction or round of the annual auction. Thereafter, the Office of the Interconnection must post any corrected results by no later than 5:00 p.m. of the fourth calendar day following the initial publication of the results of the auction or round of the annual auction. Should any of the above deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted results will be considered final. Notwithstanding the foregoing, the deadlines set forth above shall not apply if the referenced auction results are under publicly noticed review by the FERC.

7.3.8 Auction Settlements.

All buyers and sellers of Financial Transmission Rights between the same points of receipt and delivery shall pay PJMSettlement or be paid by PJMSettlement the market-clearing price, as determined in the auction, for such Financial Transmission Rights.

7.3.9 Liquidation of Financial Transmission Rights in the Event of Member Default.

In the event a Member fails to meet creditworthiness requirements or make timely payments when due pursuant to the PJM Operating Agreement or PJM Tariff, the Office of the Interconnection shall, as soon as practicable after such default is declared, initiate the following procedures to close out and liquidate the Financial Transmission Rights of a Member:

- a) The Office of the Interconnection shall close out the defaulting Member's positions as of the date of its default, by unilaterally accelerating and terminating all forward Financial Transmission Rights positions.
- b) The Office of the Interconnection shall post on its website all salient information relating to the closed out portfolio of Financial Transmission Rights.
- c) All current planning period Financial Transmission Right positions within the defaulting Members' Financial Transmission Right portfolio will be offered for sale in the next available monthly balance of planning period Financial Transmission Rights auction at an offer price designed to maximize the likelihood of liquidation of those positions.

d) Financial Transmission Rights positions that do not settle until the next or subsequent planning period will be offered into the next available Financial Transmission Rights auction (taking into account timing constraints and the need for an orderly liquidation) where, based on the Office of Interconnection's commercially reasonable expectation, such positions would be expected to clear. In the event that the next scheduled Financial Transmission Rights auction is more than two (2) months subsequent to the date that the Office of the Interconnection declares a Member in default, a specially scheduled Financial Transmission Rights auction may be conducted by the Office of the Interconnection. The entire portfolio of the defaulting Member's Financial Transmission Rights will be offered for sale at an offer price designed to maximize the likelihood of liquidation of those positions.

e) The Financial Transmission Right positions comprising the defaulting Member's portfolio that are liquidated in a Financial Transmission Rights auction should avoid setting the price in the auction at the bid prices with which they were initially submitted. In the event that any of the closed out Financial Transmission Rights would set market based on the auction's preliminary solution, then only one-half of each Financial Transmission Rights position will be offered for sale and the auction will be re-executed. In the event that any Financial Transmission Rights position that has been closed out once again sets price, then all Financial Transmission Rights scheduled to be liquidated will be removed from the affected auction and the auction will be re-executed excluding the closed out Financial Transmission Right positions. Financial Transmission Right positions that are not liquidated will then be offered in the next available auction or specially scheduled auction, as appropriate.

f) The liquidation of the defaulting Members' Financial Transmission Rights portfolio pursuant to the foregoing procedures shall result in a final liquidated settlement amount. The final liquidated settlement amount will be included in calculating a Default Allocation Assessment as described in Section 15.1.2A(I) of the PJM Operating Agreement. If the Office of the Interconnection is unable to close out and liquidate a Financial Transmission Rights position under the foregoing procedures, the close out shall be deemed void and the defaulting Member shall remain liable for the full final value of its default, such full final value being realized at the normal time for performance of the Financial Transmission Rights position.

g) *For the period of August 24, 2018 through the earlier of the effective date the Commission grants for the Operating Agreement and Tariff revisions filed in Docket No. ER19-19-000 or February 28, 2019, the liquidation process of a defaulting Member's Financial Transmission Rights described in Tariff, Attachment K – Appendix, section 7.3.9(c)-(f) and the parallel provisions in Operating Agreement, Schedule 1, section 7.3.9(c)-(f) shall not apply, including, without limitation, that the Office of the Interconnection shall not be required to offer the defaulting Member's Financial Transmission Rights for sale into any auction. During this period, the amount of gain or loss on each of the defaulting Member's Financial Transmission Rights positions shall be realized at the normal time for performance of such Financial Transmission Rights position. The net of such gains and losses for all such positions shall be considered the final monthly settlement amount. Such final monthly settlement amount shall be included in calculating the Default Allocation Assessments as described in Operating Agreement, section 15.1.2A(I). Such assessment shall in no way relieve the defaulting Member of*

its obligations, including, without limitation, the defaulting Member's obligations arising from or associated with the full value of its default.

In all other respects, Financial Transmission Rights terminated pursuant to this section shall be liquidated pursuant to the appropriate provisions and procedures set forth in the PJM Manuals.

Attachment E

Affidavit of
Timothy Horger

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

PJM Interconnection, L.L.C.,)
Respondent.) Docket No. ER19-____-000

**AFFIDAVIT OF TIMOTHY HORGER
ON BEHALF OF PJM INTERCONNECTION, L.L.C.**

1. My name is Timothy Horger. My business address is 2750 Monroe Blvd., Audubon, Pennsylvania, 19403. I currently serve as the Director, Energy Market Operations, for PJM Interconnection, L.L.C. (“PJM”). I am submitting this affidavit on behalf of PJM in support of the proposed Tariff revisions being filed today by PJM in the captioned proceeding.

2. I joined PJM in 2002. Prior to my current position, I worked at PJM as Manager, Interregional Markets Operations. Prior to my employment at PJM, I worked as a Power Systems and Control Engineer at Laser Technology, Inc.

3. As part of my work at PJM, I am responsible for overseeing the operation of PJM’s Financial Transmission Rights (“FTRs”)¹ market. As relevant here, I specifically reviewed the recent payment default of PJM Market Participant GreenHat Energy, LLC (“GreenHat”) and the potential impacts of the liquidation of GreenHat’s FTR portfolio.

4. When PJM declares a Member default, as it has done with GreenHat, the Tariff and Operating Agreement currently require PJM to close out and liquidate all of the FTRs of the defaulting Member in the next available FTR auction, as applicable. However, the forced liquidation of a large FTR portfolio like GreenHat’s would inject a significant amount of FTRs for sale into the market. For periods with less liquidity, liquidation of a large portfolio in combination with PJM’s obligation to offer the positions at a price designed to maximize the likelihood of liquidation may cause FTR prices to significantly diverge from expected day-ahead price outcomes. An unbounded liquidation of a large FTR portfolio for periods with less liquidity would likely result in distorted market outcomes, as shown herein.

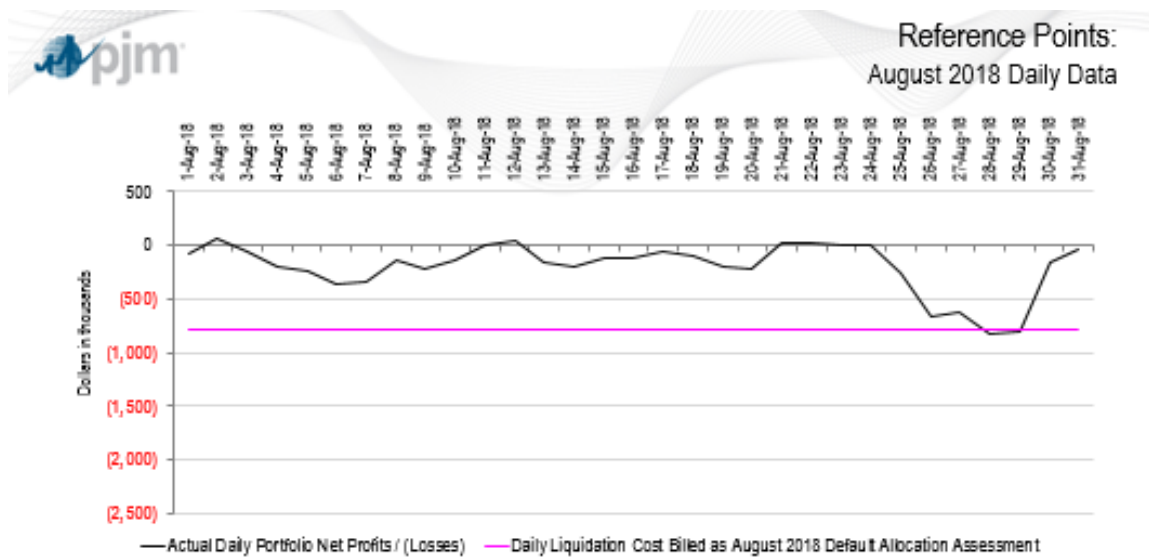
5. The challenge of liquidating a large portfolio was on display when PJM recently liquidated GreenHat’s portfolio for a single month’s worth of positions in the August 2018 FTR Auction conducted in July 2018. When PJM liquidated only a portion on the portfolio in July, liquidating only the prompt-month (i.e., August) FTR positions, PJM essentially had an unconstrained mandate from the Tariff and Operating Agreement to sell (pay Market Participants to take) a money-losing FTR position in an illiquid

¹ All capitalized terms that are not otherwise defined herein shall have the same meaning as they are defined in the Tariff, Operating Agreement, or the Reliability Assurance Agreement among Load Serving Entities in the PJM Region.

auction. In such event, potential FTR buyers are typically going to demand a risk premium in excess of the expected value of the FTR position to account for the uncertainty and volatility associated with that expected value. These risk premiums can significantly increase the cost of liquidating FTR positions.

6. Figure 1 below illustrates the difference between the actual daily portfolio net profits and losses from GreenHat’s August FTR positions on each day of settlement from August 1 through August 31, 2018, as compared to the average daily cost incurred by liquidating the positions in the July 2018 auction.

Figure 1



7. As illustrated by Figure 1, the liquidation of GreenHat’s August FTR positions produced losses of approximately \$775,000 per day, or \$24.1 million for the month of August. By contrast, if PJM had allowed GreenHat’s positions to proceed to settlement, actual losses for the month of August 2018 would have been approximately \$6.1 million, or on average less than approximately \$198,000 per day, with some days resulting in \$0 in losses or even modest profits when they settled. In short, for the month of August, the actual default allocation assessment to PJM’s Members was approximately four times the settlement cost of GreenHat’s positions. For the remainder of the months associated with the portfolio, even if the liquidation of GreenHat’s FTR portfolio is limited to the prompt-months as set forth in the waiver PJM requested in Docket No. ER18-2068, the auction liquidation is likely to result in PJM paying a significant risk premium over the actual congestion costs.

8. The Tariff and Operating Agreement revisions PJM is proposing in this filing are expected to provide a beneficial outcome for PJM’s Members and Market Participants. Revising Attachment K-Appendix, section 7.3.9 of the Tariff and identical Schedule 1, section 7.3.9 of the Operating Agreement may prevent a significant disruption to upcoming FTR auctions and is expected to reduce the estimated default-related liabilities that will be borne by Market Participants through a combination of

factors. While PJM cannot predict future auction results for FTRs or unbounded future congestion that the members are willing to absorb on defaulted positions, the proposed Tariff and Operating Agreement revisions allowing the defaulting Member's FTR positions to be settled out based upon the daily congestion charges during the specified period may:

- Avoid the distortion of the FTR market resulting from the liquidation of a large FTR portfolio with inadequate buyers to absorb the supply in an economically efficient manner;
- Eliminate the obligation of PJM to offer the entire defaulting Member's FTR portfolio at a price designed to maximize the likelihood of liquidation, which appears to cause FTR prices to significantly diverge from expected day-ahead price outcomes; in fact, the existing liquidation provisions effectively create an unbounded mandate to sell (pay a Market Participant to take) material money-losing FTR positions irrespective of the expected value of the FTR positions;
- Avoid the risk premiums associated with liquidating money-losing positions due to the uncertainty and volatility associated with the positions;
- Provide for a simple and more transparent process for valuing a loss resulting from default by a Member; and
- Implement the process approved by the Members at the September 27, 2018 Members Committee meeting.

9. This concludes my Affidavit.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.,
Respondent.

)
) Docket No. ER19-___-000
)

VERIFICATION

Timothy Horger, being first duly sworn, deposes and states that he is the Timothy Horger referred to in the foregoing document entitled "Affidavit of Timothy Horger," that he has read the same and is familiar with the contents thereof, and that the facts set forth therein are true and correct to the best of his knowledge, information, and belief.

Timothy Horger

Subscribed and sworn to before me, the undersigned notary public, this 27th day of September, 2018.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Linda Spreeman, Notary Public
Lower Providence Twp., Montgomery County
My Commission Expires Nov. 17, 2019
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Linda Spreeman

Notary Public

My Commission expires: Nov 17 2019

