

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. ER19-19-000  
Financial Transmission Rights Default Disposition Filing

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 submits revisions to the PJM Open Access Transmission Tariff (“Tariff”), Attachment K-Appendix, sections 7.3.1 and 7.3.9 and identical Amended and Restated Operating Agreement of PJM (“Operating Agreement”), Schedule 1, sections 7.3.1 and 7.3.9, as well as revisions to Operating Agreement, sections 15.1.2A and 15.1.2A(1).<sup>1</sup> PJM seeks Federal Energy Regulatory Commission (“Commission”) action on this proposal by November 30, 2018. PJM would then, if accepted by the Commission, implement this proposal on December 1, 2018.

This filing represents an overwhelming consensus of the PJM stakeholder community seeking to address, on a going forward basis, how they wish to manage the disposition of defaulting Members’ Financial Transmission Right (“FTR”)<sup>2</sup> positions. Through this filing and accompanying affidavit, PJM details the significant benefits to its Members of revising the Tariff and Operating Agreement’s procedures for closing out the FTR positions of Members that default on their payment obligations to allow a defaulted

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<sup>1</sup> 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.

<sup>2</sup> 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.

Member's FTR positions to go to settlement rather than being liquidated at auction as required by the current version of the Tariff and Operating Agreement.<sup>3</sup>

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.

PJM previously filed a Tariff proposal to address this issue in the short-term by allowing certain defaulted FTR positions to go to settlement by not liquidating any FTR positions in auctions held from August 24 through November 30, 2018 (the "FTR Interim Period").<sup>4</sup> The current Tariff (outside of the FTR Interim Period) provides for either liquidation or settlement, depending on the circumstances and timing of the initial default declaration. PJM is filing this FPA section 205 application with broad stakeholder support to propose a longer-term solution that changes the manner of winding down a defaulting Member's positions from liquidation and settlement to only settlement. Importantly, PJM is in no way changing the allocation of the default among Members.

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<sup>3</sup> PJM is filing contemporaneously with this filing three other filings related to the treatment of FTR positions held by Members declared to be in default. Although these four filings are interrelated, each filing is a standalone filing and can and should be accepted on its own merits. One of these filings is a request to revise Operating Agreement, Schedule 1, section 7.3.9(g) and an identical paragraph in the Tariff, Attachment K-Appendix, first added in PJM's August Interim FTR Filing (*see infra* note 4), to provide a backup provision in the event this filing is not accepted. The instant filing should be accepted and go into effect on December 1, 2018, but if it is not, the backup provision would extend the effectiveness of section 7.3.9(g) through February 28, 2019 (rather than November 30, 2018, as originally provided), to allow PJM additional time to develop a long-term solution in lieu of the proposal made in this docket.

<sup>4</sup> Financial Transmission Rights Liquidation Revisions of PJM Interconnection, L.L.C., Docket No. ER18-2289-000 (Aug. 23, 2018) ("August Interim FTR Filing").

Given that this filing is being submitted pursuant to FPA section 205, its overwhelming Member support, and the fact that there may be multiple ways to wind down a defaulted portfolio, PJM urges the Commission to grant deference to its Members' endorsement of this proposal given the significant financial impacts to the membership of choosing one method over another. The proposed revisions are just and reasonable, as explained herein, and have four features in particular that make them more desirable than the existing FTR liquidation rules:

- First, the change will prevent a significant disruption to FTR auctions by avoiding distortion of the FTR market from forced liquidation of an FTR portfolio when there are not enough willing buyers to rationally absorb the supply in an economically efficient manner.<sup>5</sup>
- Second, PJM's revisions will help avoid a proverbial "race to the bottom" that would result from an effectively unconstrained, unlimited mandate to sell (and in most cases pay a Market Participant to take) substantial money-losing FTR positions. Relatedly, the proposal will help circumvent the need to pay potential FTR buyers the type of high risk premium normally associated with liquidating undesirable money-losing positions using a simple solution already contemplated in the Tariff: not liquidating the positions.<sup>6</sup>
- Third, the proposed revisions provide a simple, practical, and transparent process for valuing a loss resulting from a Member's ongoing default.
- Fourth, and importantly, the proposed revisions reflect an approach chosen by the Members themselves to address current Member defaults and provide for a resolution process for ongoing Member defaults in the FTR markets which may occur in the future.

PJM developed this proposal with significant contribution from its Membership, and the proposal has received overwhelming Member support. After working with stakeholders during three special stakeholder sessions to consider approximately two dozen potential solutions, the proposal herein was endorsed 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. In addition, the MRC took a non-binding poll on whether to depart from the status quo, i.e., the FTR liquidation under the current Operating Agreement, and a sector-weighted vote of 4.5 out of 5.00 supported the provisions of this proposal over retaining

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<sup>5</sup> Affidavit of Timothy Horger (Attachment E) ¶ 5 ("Horger Aff.").

<sup>6</sup> Horger Aff. ¶¶ 7-8.

the status quo. For all these reasons and consistent with the FPA section 205 standard of review, PJM urges the Commission to approve this proposal.

## **I. BACKGROUND**

### **A. FTRs and Current Disposition Process When a Member Is in Default**

FTRs are financial products that allow Market Participants to hedge the costs of day-ahead transmission congestion. FTRs allow Market Participants to offset potential charges related to the price risk of delivering energy to specific locations on the grid. FTRs are valued based upon the difference between the day-ahead prices at two pricing points—a source and a sink—on the transmission system. As such, an 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. An 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.

Under the current Tariff,<sup>7</sup> when a Member default is declared, the Tariff requires PJM to close out and liquidate or settle the FTRs of the defaulting 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;”<sup>8</sup>
- 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;<sup>9</sup>
- 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-executing the auction, and then offering the FTR

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<sup>7</sup> Except for during the FTR Interim Period.

<sup>8</sup> Tariff, Attachment K-Appendix, section 7.3.9(c).

<sup>9</sup> See Tariff, Attachment K-Appendix, section 7.3.9(d).

positions that were not liquidated in the next auction, and if there is no next auction, allowing the FTRs to go to settlement;<sup>10</sup> 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.<sup>11</sup>

## **B. Present Default Ongoing Through May 2021**

The need for this reform became evident to the membership as a result of the default of GreenHat Energy, LLC (“GreenHat”). As explained below, that default is not a single past event but is in fact a continuing event that will occur continually through May 31, 2021 as FTR obligations in the portfolio become due.

On June 21, 2018, PJM declared GreenHat in payment default of its financial obligations associated with GreenHat’s sizable FTR portfolio, consisting of numerous FTRs for the 2018/2019, 2019/2020, and 2020/2021 Planning Periods. 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 pending liquidation was provided to PJM Members. Most of the FTRs in the portfolio are currently negatively valued, such that FTR auction participants will bid to acquire such FTRs through liquidation only if paid to do so.

The GreenHat default is, by its nature, ongoing. GreenHat has not met any of its obligations with regard to the FTR positions it held for periods that have since settled, and the positions it held that will settle in the future will continue to settle without payment from GreenHat in every hour of every day from now through May 31, 2021. Although GreenHat is legally responsible for costs associated with the FTR positions on which it defaults even after they settle, it is unclear whether PJM will be able to recover any such costs from GreenHat. As a result, although PJM first declared GreenHat to be in payment default as of June 21, 2018, the effects of GreenHat’s payment default continue to accrue as time passes, and will not stop accruing until May 31, 2021, when the last of GreenHat’s FTR positions will go to settlement. If unchanged, the current

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<sup>10</sup> 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. If there are no remaining future auctions applicable for the positions offered for liquidation that could not be liquidated without setting price, then those FTR positions would go to settlement due to their failure to liquidate without setting prices.

<sup>11</sup> Tariff, Attachment K-Appendix, section 7.3.9(f).

FTR liquidation provisions of the Operating Agreement may lead to unreasonable results for PJM Members by dramatically increasing, in multiples, the cost to the PJM membership of the present, ongoing default.

That is because 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 an additional 2 million megawatt hours of FTRs per month for Planning Period 2020/2021.<sup>12</sup> The liquidation of such a large FTR portfolio, in combination with PJM's current obligation to offer those 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 price outcomes, as shown in Mr. Horger's affidavit and as described below.<sup>13</sup> By this filing, PJM seeks to minimize the negative effects of the disposition of GreenHat's FTR positions and any future defaulting Member's FTR positions on the payment default for which the rest of the PJM membership is responsible.

**C. PJM's Steps to Dispose of the Defaulting Member's FTRs and Related Filings Have Proven Helpful, but by Design are Short-Term in Nature**

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.<sup>14</sup> 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 no losses or even slight profits at settlement.<sup>15</sup> In all, PJM paid approximately *four times* the settlement value to liquidate the August FTR positions, based on an analysis of actual net losses that would have accrued for those positions if they had gone to settlement using actual congestion data for the month.<sup>16</sup>

This transfer of wealth was not anticipated when adopting the liquidation process; but now that PJM sees 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

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<sup>12</sup> For reference, an average monthly prompt position of FTRs for a participant over the last fifteen months is approximately 0.3 million megawatt hours.

<sup>13</sup> See Horger Aff. ¶ 4.

applied for a short-term waiver of its FTR liquidation provisions and submitted a filing under FPA section 205 with temporary Tariff revisions to discontinue offering defaulted FTR positions for liquidation, thus allowing prompt-month positions to go to settlement.<sup>17</sup>

**D. This Filing Is Addressing Default Allocations on a Forward-Looking Basis**

PJM recognizes that the substantial risk premium experienced in the August liquidation may—or may not—be experienced in the future. However, PJM and its members have resoundingly agreed that it is preferable to accept the risk to the Members posed by the unknown and variable future settlement charges and credits rather than accept the risk to the Members posed by the unknown but anecdotally extreme liquidation risk premium charged in the liquidation process. When the current FTR

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<sup>14</sup> Horger Aff. ¶ 7.

<sup>15</sup> Horger Aff. ¶ 7.

<sup>16</sup> 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.

<sup>17</sup> 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 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).

liquidation provisions were established in 2009, PJM's Members were interested in quantifying their total default exposure for the FTR positions of a defaulting Member as soon as possible.<sup>18</sup> It was not anticipated at that time that such a large volume of positions might need to be liquidated with this being just the second time the FTR liquidation provisions were applicable since implemented. The voting results at the September 27, 2018 MRC and MC meetings clearly indicate that PJM's Members would prefer to have FTR positions of defaulting Members go to settlement, rather than paying liquidation premiums, even if that means the Members will not know the total default exposure as quickly as they might have if the positions were instead liquidated. It is reasonable under the FPA section 205 standard for the Commission to provide a degree of deference to the Members' revised preference in this area.<sup>19</sup>

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, all of which had closed their bid windows 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 the monthly auction held in July. After filing its August Interim FTR Filing, PJM began settling GreenHat FTR positions that it would otherwise have liquidated, and PJM did this only after filing prior notice with the Commission on August 23, 2014, and seeking an August 24, 2018 effective date for good cause.<sup>20</sup> PJM has up to this point administered the disposition of GreenHat's defaulted FTR positions consistent with the requirements of the PJM Operating Agreement and Tariff. PJM now seeks the Commission's acceptance of a forward-looking approach to disposition of a defaulting

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<sup>18</sup> PJM explained exactly this in its 2009 transmittal letter accompanying its revisions to the Operating Agreement and Tariff establishing the current FTR liquidation construct for addressing Member defaults, explaining that, "[b]ecause FTR positions call for financial performance in the future, the inability to liquidate these forward positions at the time of default exposes the membership, who must cover the default to market risk and price movement until such positions naturally roll off." Submittal of PJM Interconnection, L.L.C., Docket No. ER09-650-000, at 10 (Feb. 3, 2009); *see PJM Interconnection, L.L.C.*, 127 FERC ¶ 61,017 (2009), *order on reh'g*, 131 FERC ¶ 61,017, *order on reh'g*, 132 FERC ¶ 61,180 (2010).

<sup>19</sup> 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").

<sup>20</sup> August Interim FTR Tariff Filing at 8–9.



Member's FTR positions and addressing recovery of resulting costs due to unmet FTR payment obligations on which GreenHat continues to default, obligations which will be coming due on a rolling basis through May 31, 2021.

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.

## **II. THE PROPOSED TARIFF AND OPERATING AGREEMENT REVISIONS ARE JUST AND REASONABLE**

While the PJM Waiver Request and August Interim FTR Filing have helped mitigate the negative effects on the market that would result from the immediate liquidation of all of GreenHat's FTR positions, by design these steps were a bridge to the stakeholders developing a more lasting solution. PJM and its stakeholders have since developed the proposal herein, which, if accepted by the Commission, is anticipated to result in lower costs to Members than the current Operating Agreement and Tariff FTR liquidation provisions and provide a more efficient mechanism for addressing defaults now and in the future. As such, and for the reasons below, this proposal is just and reasonable and not unduly discriminatory.

Specifically, on September 27, 2018, PJM Market Participants endorsed Tariff and Operating Agreement revisions to revise PJM's policies for addressing the ongoing positions of defaulting Members in the FTR Market to end the practice of liquidating the defaulting Member's ongoing FTR positions and instead allow ongoing FTR positions to go to settlement without being offered for liquidation. These revisions would specifically revise Tariff, Attachment K-Appendix, sections 7.3.1 and 7.3.9 and identical Operating Agreement, Schedule 1, sections 7.3.1 and 7.3.9; and Operating Agreement, sections 15.1.2A and 15.1.2A(1) to ensure the disposition of a defaulting Member's FTR positions would go directly to settlement without PJM having to first attempt to liquidate such positions. This filing does not change the benefits or burdens to Members as far as the allocation of the default assessment—such process remains as stated in the Default Allocation Assessment provisions of the Operating Agreement.

The proposed revisions are just and reasonable, as they will ensure the cost-effective wind-down of FTR portfolios without unduly disrupting PJM's FTR market. A rapid liquidation of large FTR portfolios as required under the existing rules would distort FTR market signals and likely suppress prices, locking in significant losses at a significant risk premium for which the non-defaulting Members would be responsible. In

place of the existing FTR liquidation and settlement process, the proposed modification in this filing will allow a defaulting Member's FTR portfolio to go to settlement, which is the existing process for FTR positions that cannot be liquidated due to the timing of the initial default declaration and when the positions cannot be liquidated without setting price. For instance, as applied to the current default, the Members' default allocation exposure would be only the actual costs as settled against the FTR positions on which GreenHat continues to default. Although this provision is generic in nature, 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 the overwhelming majority of Members believe require immediate reform.

As discussed in more detail above, the Operating Agreement and Tariff at the time PJM first declared GreenHat to be in default included FTR liquidation provisions that ultimately required the payment of exorbitant risk premiums to bidders willing to acquire GreenHat's prompt-month positions for August 2018, costing roughly four times what it would have cost PJM (and therefore its Market Participants) to simply allow GreenHat's positions to settle. PJM seeks to avoid paying such risk premiums going forward by proposing a practical solution that is just and reasonable.

### **III. EFFECTIVE DATE**

PJM proposes to implement these revisions to its processes for winding down defaulted Member FTR positions on December 1, 2018, two days before the beginning of PJM's December long-term FTR auction. Thus, PJM requests that these revisions become effective on December 1, 2018, which is more than sixty days after the date of this filing.

#### IV. 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:<sup>21</sup>

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#### V. 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. 714<sup>22</sup>);

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<sup>21</sup> 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.

<sup>22</sup> *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).

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).

## **VI. 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,<sup>23</sup> 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 Region<sup>24</sup> 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.

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<sup>23</sup> See 18 C.F.R. §§ 35.2(e), 385.2010(f)(3).

<sup>24</sup> PJM already maintains, updates, and regularly uses email lists for all PJM members and affected state commissions.

## VII. 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

# 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 PJM Settlement or be paid by PJM Settlement the market-clearing price, as determined in the auction, for such Financial Transmission Rights.

### **~~7.3.9 Liquidation of Settling Defaulting Member's 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 ~~settle~~liquidate the Financial Transmission Rights of ~~the defaulting~~the defaulting 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 of the defaulting Member's rights with respect to forward Financial Transmission Rights positions.
- b) ~~Reserved~~The Office of the Interconnection shall post on its website all salient information relating to the closed out portfolio of Financial Transmission Rights.
- c) ~~Reserved~~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) Reserved 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) For all Financial Transmission Right positions within the defaulting Member's Financial Transmission Right portfolio that have not been not assumed by bilateral seller pursuant to section (c), above, notwithstanding section 7.3.9(a) of this Schedule, the actual net charges or credits resulting from the defaulting Member's Financial Transmission Rights positions as calculated through the normal settlement processes shall be included in calculating the Default Allocation Assessment charges as described in Operating Agreement, section 15.1.2.2, with the obligation for net charges on positions in the defaulting Member's Financial Transmission Rights portfolio obtained through bilateral transactions remaining with the indemnifying seller. The resulting Default Allocation Assessments 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.~~

~~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 November 30, 2018, the liquidation process of a defaulting Member's Financial Transmission Rights described in Tariff, Attachment K—Appendix, section 7.3.9(e) (f) and the parallel provisions in Operating Agreement, Schedule 1, section 7.3.9(e) (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.

#### **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 Settling Defaulting Member's Financial Transmission Rights.**

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 settle the Financial Transmission Rights of the defaulting Member:

- a) The Office of the Interconnection shall close out the defaulting Member's positions as of the date of its default, by unilaterally terminating all of the defaulting Member's rights with respect to forward Financial Transmission Rights positions.
- b) Reserved.
- c) Reserved.
- d) Reserved.
- e) For all Financial Transmission Right positions within the defaulting Member's Financial Transmission Right portfolio that have not been not assumed by bilateral seller pursuant to section (c), above, notwithstanding section 7.3.9(a) of this Schedule, the actual net charges or credits resulting from the defaulting Member's Financial Transmission Rights positions as calculated through the normal settlement processes shall be included in calculating the Default Allocation Assessment charges as described in Operating Agreement, section 15.1.2.2, with the obligation for net charges on positions in the defaulting Member's Financial

Transmission Rights portfolio obtained through bilateral transactions remaining with the indemnifying seller. The resulting Default Allocation Assessments 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.

# Attachment C

## Revisions to the PJM Operating Agreement

(Marked/Redline Format)

## **15.1 Failure to Meet Obligations.**

### **15.1.1 Termination of Market Buyer Rights.**

The Office of the Interconnection shall terminate a Market Buyer's right to make purchases from the PJM Interchange Energy Market, the PJM Capacity Credit Market or any other market operated by PJM if it determines that the Market Buyer does not continue to meet the obligations set forth in this Agreement, including but not limited to the obligation to be in compliance with PJM's creditworthiness requirements and the obligation to make timely payment, provided that the Office of the Interconnection has notified the Market Buyer of any such deficiency and afforded the Market Buyer a reasonable opportunity to cure pursuant to Section 15.1.3. The Office of the Interconnection shall reinstate a Market Buyer's right to make purchases from the PJM Interchange Energy Market and PJM Capacity Credit Market upon demonstration by the Market Buyer that it has come into compliance with the obligations set forth in this Agreement.

### **15.1.2 Termination of Market Seller Rights.**

The Office of the Interconnection shall not accept offers from a Market Seller that has not complied with the prices, terms, or operating characteristics of any of its prior scheduled transactions in the PJM Interchange Energy Market, unless such Market Seller has taken appropriate measures to the satisfaction of the Office of the Interconnection to ensure future compliance.

#### ~~**15.1.2A Close Out and Liquidation of Member Financial Transmission Rights**~~

~~The Office of the Interconnection shall close out and liquidate all of a Member's current and forward Financial Transmission Rights positions if it determines the Member (i) no longer meets PJM's creditworthiness requirements, or (ii) fails to make timely payment when due under the PJM Operating Agreement or PJM Tariff, in each case following any opportunity given to cure the deficiency. Financial Transmission Rights shall be closed out and liquidated pursuant to Schedule 1, Section 7.3.9 of the PJM Operating Agreement and the Appendix to Attachment K, Section 7.3.9 of the PJM Tariff.~~

#### ~~**15.1.2A(1): Allocation of Costs and Proceeds Resulting from Liquidation**~~

~~The liquidation of the defaulting Member's Financial Transmission Rights portfolio shall result in a final liquidated settlement amount. The final liquidated settlement amount may be aggregated with any other amounts owed by the defaulting Member to the Office of the Interconnection and may be set off by the Office of the Interconnection against any amounts owed by the Office of the Interconnection to the defaulting Member for purposes of determining the proper Default Allocation Assessment pursuant to the provisions of Section 15.2.2. Any payments made to a party purchasing some or all of a liquidated portfolio shall be net of that party's charge resulting from a Default Allocation Assessment.~~

### **15.1.3 Payment of Bills.**

A Member shall make full and timely payment, in accordance with the terms specified by the Office of the Interconnection, of all bills rendered in connection with or arising under or from this Agreement, any service or rate schedule, any tariff, or any services performed by the Office of the Interconnection or transactions with PJMSettlement, notwithstanding any disputed amount, but any such payment shall not be deemed a waiver of any right with respect to such dispute. Any Member that fails to make full and timely payment to PJMSettlement (of amounts owed either directly to PJMSettlement or PJMSettlement as agent for the LLC) or otherwise fails to meet its financial or other obligations to a Member, PJMSettlement, or the LLC under this Agreement, shall, in addition to any requirement set forth in Section 15.1 and upon expiration of the 2-day period specified below be in default.

#### **15.1.4 Breach Notification and Remedy**

If the Office of the Interconnection concludes, upon its own initiative or the recommendation of or complaint by the Members Committee or any Member, that a Member is in breach of any obligation under this Agreement, including, but not limited to, the obligation to make timely payment and the obligation to meet PJM's creditworthiness standards and to otherwise comply with PJM's credit policies, the Office of the Interconnection shall so notify such Member. The notified Member may remedy such asserted breach by: (i) paying all amounts assertedly due, along with interest on such amounts calculated in accordance with the methodology specified for interest on refunds in FERC's regulations at 18 C.F.R. § 35.19a(a)(2)(iii); and (ii) demonstration to the satisfaction of the Office of the Interconnection that the Member has taken appropriate measures to meet any other obligation of which it was deemed to be in breach; provided, however, that any such payment or demonstration may be subject to a reservation of rights, if any, to subject such matter to the PJM Dispute Resolution Procedures; and provided, further, that any such determination by the Office of the Interconnection may be subject to review by the PJM Board upon request of the Member involved or the Office of the Interconnection.

#### **15.1.5 Default Notification and Remedy**

If a Member has not remedied a breach by the 2nd Business Day following receipt of the Office of the Interconnection's notice, or receipt of the PJM Board's decision on review, if applicable, then the Member shall be in default and, in addition to such other remedies as may be available to the LLC or PJMSettlement:

- i) A defaulting Market Participant shall be precluded from buying or selling in the PJM Interchange Energy Market, the PJM Capacity Credit Market, or any other market operated by PJM until the default is remedied as set forth above;
- ii) A defaulting Member shall not be entitled to participate in the activities of any committee or other body established by the Members Committee or the Office of the Interconnection; and
- iii) A defaulting Member shall not be entitled to vote on the Members Committee or any other committee or other body established pursuant to this Agreement.

- iv) PJM shall notify all other members of the default.

#### **15.1.6 Reinstatement of Member Following Default and Remedy**

a. A Member that has been declared in default, solely of PJM's creditworthiness standards, or fails to otherwise comply with PJM's credit policies once within any 12 month period may be reinstated in full after remedying such default.

b. A Member that has been declared in default of this Agreement for failing to: (i) make timely payments when due once during any prior 12 month period, or (ii) adhere to PJM's creditworthiness standards and credit policies, twice during any prior 12 month period, may be subject to the following restrictions:

- a) Loss of stakeholder privileges, including voting privileges, for 12 months following such default; and
- b) Loss of the allowance of unsecured credit for 12 months following such default

c. A Member that has been declared in default of this Agreement for failing to: (i) make timely payments when due twice during any prior 12 month period, or (ii) adhere to PJM's creditworthiness standards and credit policies, three times during any prior 12 month period, shall, except as provided for below, not be eligible to be reinstated as a Member to this Agreement and its membership rights pursuant to this Agreement shall be terminated in accordance with Section 4.1(c) of this Agreement, notwithstanding whether such default has been remedied. Furthermore:

- a) PJM Settlement shall close out and liquidate all of the Member's current and forward positions in accordance with the provisions of this Agreement; and
- b) A Member terminated in accordance with these provisions shall be precluded from seeking future membership under this Agreement;

d. A Member may appeal a determination made pursuant to the foregoing procedures utilizing PJM's dispute resolution procedure as set forth in Schedule 5 of this Agreement, (provided, however, that a Member's decision to utilize these procedures shall not operate to stay the ability of PJM to exercise any and all of its rights under this Agreement and the PJM Tariff) and may be reinstated provided that the Member can demonstrate the following:

- a) that it has otherwise consistently complied with its obligations under this Agreement and the PJM Tariff; and
- b) the failure to comply was not material; and
- c) the failure to comply was due in large part to conditions that were not in the common course of business.

### **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 PJM Settlement or be paid by PJM Settlement at the market-clearing price, as determined in the auction, for such Financial Transmission Rights.

### **7.3.9 Liquidation of Settling Defaulting Member's 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 ~~settle~~liquidate the Financial Transmission Rights of ~~the defaulting~~the defaulting 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 of the defaulting Member's rights with respect to forward Financial Transmission Rights positions.

b) ~~Reserved~~The Office of the Interconnection shall post on its website all salient information relating to the closed-out portfolio of Financial Transmission Rights.

c) ~~Reserved~~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) Reserved 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) For all Financial Transmission Right positions within the defaulting Member's Financial Transmission Right portfolio that have not been not assumed by bilateral seller pursuant to section (c), above, notwithstanding section 7.3.9(a) of this Schedule, the actual net charges or credits resulting from the defaulting Member's Financial Transmission Rights positions as calculated through the normal settlement processes shall be included in calculating the Default Allocation Assessment charges as described in Operating Agreement, section 15.1.2.2, with the obligation for net charges on positions in the defaulting Member's Financial Transmission Rights portfolio obtained through bilateral transactions remaining with the indemnifying seller. The resulting Default Allocation Assessments 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.~~

~~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 November 30, 2018, the liquidation process of a defaulting Member's Financial Transmission Rights described in Tariff, Attachment K— Appendix, section 7.3.9(e) (f) and the parallel provisions in Operating Agreement, Schedule 1, section 7.3.9(e) (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)

## **15.1 Failure to Meet Obligations.**

### **15.1.1 Termination of Market Buyer Rights.**

The Office of the Interconnection shall terminate a Market Buyer's right to make purchases from the PJM Interchange Energy Market, the PJM Capacity Credit Market or any other market operated by PJM if it determines that the Market Buyer does not continue to meet the obligations set forth in this Agreement, including but not limited to the obligation to be in compliance with PJM's creditworthiness requirements and the obligation to make timely payment, provided that the Office of the Interconnection has notified the Market Buyer of any such deficiency and afforded the Market Buyer a reasonable opportunity to cure pursuant to Section 15.1.3. The Office of the Interconnection shall reinstate a Market Buyer's right to make purchases from the PJM Interchange Energy Market and PJM Capacity Credit Market upon demonstration by the Market Buyer that it has come into compliance with the obligations set forth in this Agreement.

### **15.1.2 Termination of Market Seller Rights.**

The Office of the Interconnection shall not accept offers from a Market Seller that has not complied with the prices, terms, or operating characteristics of any of its prior scheduled transactions in the PJM Interchange Energy Market, unless such Market Seller has taken appropriate measures to the satisfaction of the Office of the Interconnection to ensure future compliance.

### **15.1.3 Payment of Bills.**

A Member shall make full and timely payment, in accordance with the terms specified by the Office of the Interconnection, of all bills rendered in connection with or arising under or from this Agreement, any service or rate schedule, any tariff, or any services performed by the Office of the Interconnection or transactions with PJMSettlement, notwithstanding any disputed amount, but any such payment shall not be deemed a waiver of any right with respect to such dispute. Any Member that fails to make full and timely payment to PJMSettlement (of amounts owed either directly to PJMSettlement or PJMSettlement as agent for the LLC) or otherwise fails to meet its financial or other obligations to a Member, PJMSettlement, or the LLC under this Agreement, shall, in addition to any requirement set forth in Section 15.1 and upon expiration of the 2-day period specified below be in default.

### **15.1.4 Breach Notification and Remedy**

If the Office of the Interconnection concludes, upon its own initiative or the recommendation of or complaint by the Members Committee or any Member, that a Member is in breach of any obligation under this Agreement, including, but not limited to, the obligation to make timely payment and the obligation to meet PJM's creditworthiness standards and to otherwise comply with PJM's credit policies, the Office of the Interconnection shall so notify such Member. The notified Member may remedy such asserted breach by: (i) paying all amounts assertedly due, along with interest on such amounts calculated in accordance with the methodology specified for interest on refunds in FERC's regulations at 18 C.F.R. § 35.19a(a)(2)(iii); and (ii) demonstration

to the satisfaction of the Office of the Interconnection that the Member has taken appropriate measures to meet any other obligation of which it was deemed to be in breach; provided, however, that any such payment or demonstration may be subject to a reservation of rights, if any, to subject such matter to the PJM Dispute Resolution Procedures; and provided, further, that any such determination by the Office of the Interconnection may be subject to review by the PJM Board upon request of the Member involved or the Office of the Interconnection.

#### **15.1.5 Default Notification and Remedy**

If a Member has not remedied a breach by the 2nd Business Day following receipt of the Office of the Interconnection's notice, or receipt of the PJM Board's decision on review, if applicable, then the Member shall be in default and, in addition to such other remedies as may be available to the LLC or PJMSettlement:

- i) A defaulting Market Participant shall be precluded from buying or selling in the PJM Interchange Energy Market, the PJM Capacity Credit Market, or any other market operated by PJM until the default is remedied as set forth above;
- ii) A defaulting Member shall not be entitled to participate in the activities of any committee or other body established by the Members Committee or the Office of the Interconnection; and
- iii) A defaulting Member shall not be entitled to vote on the Members Committee or any other committee or other body established pursuant to this Agreement.
- iv) PJM shall notify all other members of the default.

#### **15.1.6 Reinstatement of Member Following Default and Remedy**

a. A Member that has been declared in default, solely of PJM's creditworthiness standards, or fails to otherwise comply with PJM's credit policies once within any 12 month period may be reinstated in full after remedying such default.

b. A Member that has been declared in default of this Agreement for failing to: (i) make timely payments when due once during any prior 12 month period, or (ii) adhere to PJM's creditworthiness standards and credit policies, twice during any prior 12 month period, may be subject to the following restrictions:

- a) Loss of stakeholder privileges, including voting privileges, for 12 months following such default; and
- b) Loss of the allowance of unsecured credit for 12 months following such default

c. A Member that has been declared in default of this Agreement for failing to: (i) make timely payments when due twice during any prior 12 month period, or (ii) adhere to PJM's creditworthiness standards and credit policies, three times during any prior 12 month period,

shall, except as provided for below, not be eligible to be reinstated as a Member to this Agreement and its membership rights pursuant to this Agreement shall be terminated in accordance with Section 4.1(c) of this Agreement, notwithstanding whether such default has been remedied. Furthermore:

- a) PJMSettlement shall close out and liquidate all of the Member's current and forward positions in accordance with the provisions of this Agreement; and
- b) A Member terminated in accordance with these provisions shall be precluded from seeking future membership under this Agreement;

d. A Member may appeal a determination made pursuant to the foregoing procedures utilizing PJM's dispute resolution procedure as set forth in Schedule 5 of this Agreement, (provided, however, that a Member's decision to utilize these procedures shall not operate to stay the ability of PJM to exercise any and all of its rights under this Agreement and the PJM Tariff) and may be reinstated provided that the Member can demonstrate the following:

- a) that it has otherwise consistently complied with its obligations under this Agreement and the PJM Tariff; and
- b) the failure to comply was not material; and
- c) the failure to comply was due in large part to conditions that were not in the common course of business.



### **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.

#### **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 Settling Defaulting Member's Financial Transmission Rights.**

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 settle the Financial Transmission Rights of the defaulting Member:

- a) The Office of the Interconnection shall close out the defaulting Member's positions as of the date of its default, by unilaterally terminating all of the defaulting Member's rights with respect to forward Financial Transmission Rights positions.
- b) Reserved.
- c) Reserved.
- d) Reserved.
- e) For all Financial Transmission Right positions within the defaulting Member's Financial Transmission Right portfolio that have not been not assumed by bilateral seller pursuant to section (c), above, notwithstanding section 7.3.9(a) of this Schedule, the actual net charges or credits resulting from the defaulting Member's Financial Transmission Rights positions as calculated through the normal settlement processes shall be included in calculating the Default Allocation Assessment charges as described in Operating Agreement, section 15.1.2.2, with the obligation for net charges on positions in the defaulting Member's Financial Transmission Rights

portfolio obtained through bilateral transactions remaining with the indemnifying seller. The resulting Default Allocation Assessments 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.

# 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”)<sup>1</sup> 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

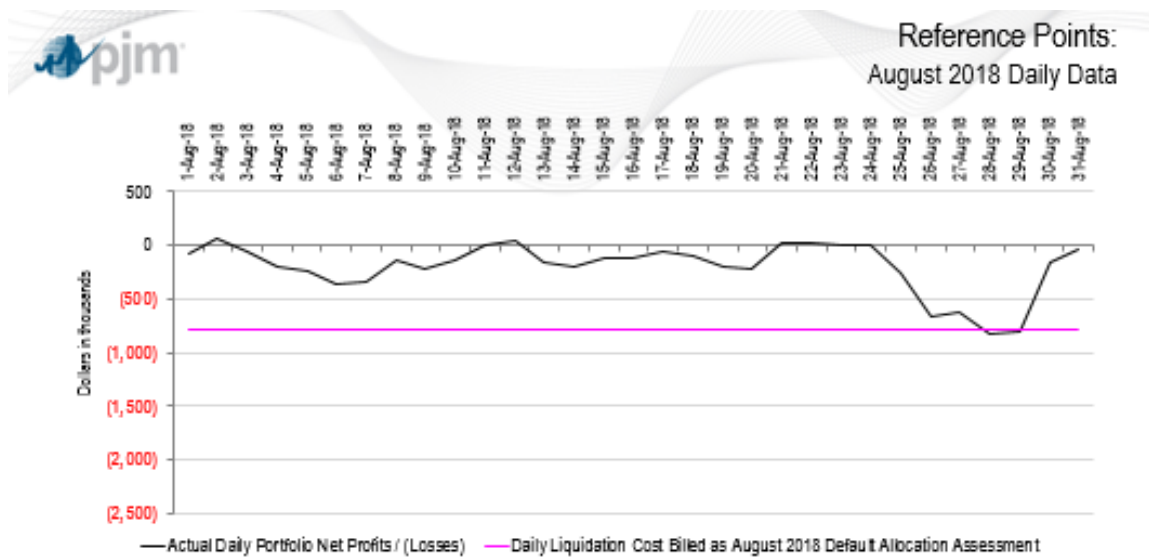
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<sup>1</sup> All capitalized terms that are not otherwise defined herein shall have the same meaning as they are defined in the Tariff, Operating Agreement, or the Reliability Assurance Agreement among Load Serving Entities in the PJM Region.

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  
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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

