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July 5, 2018

Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426

Re: PJM Interconnection, L.L.C., Proposed Modifications to the Operating Agreement and Tariff re: Long-Term FTR Auction Rules, Docket No. ER18-1968-000

Dear Ms. Bose:

PJM Interconnection, L.L.C. (“PJM”), under section 205 of the Federal Power Act (“FPA”), 16 U.S.C. § 824d, submits proposed revisions to the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (“Operating Agreement”), Schedule 1 and parallel provisions in PJM Open Access Transmission Tariff (“Tariff”), Attachment K-Appendix.¹ As described herein, this proposal serves the public interest as a just and reasonable modification to the auction rules for long-term Financial Transmission Rights (“FTRs”).² Specifically, PJM proposes to (1) enhance long-term FTR auction modeling of residual system capability to better preserve capability for ARR holders; and (2) modify the long-term FTR auction biddable periods to improve FTR software performance.

PJM requests a September 3, 2018 effective date in order to implement these rules for the next round of the long-term FTR auction, which commences on September 4, 2018. Thus, PJM

¹ Where PJM refers herein to provisions in Operating Agreement, Schedule 1, those references also are intended to encompass the identical, parallel provisions in Tariff, Attachment K-Appendix.

² Capitalized terms not otherwise defined herein have the meaning specified in, as applicable, the Tariff, Operating Agreement, or Reliability Assurance Agreement Among Load Serving Entities in the PJM Region (“RAA”).

requests that the Commission issue an order on this filing by September 3, 2018, 60 days from the date of this filing, to permit the effective date of the enclosed revisions of September 3, 2018.

I. BACKGROUND AND BASIS FOR CHANGES

A. Proposed Revisions to the Long-Term FTR Auction Model

PJM conducts a long-term FTR auction for the selling and buying FTRs through a multi-round process for three consecutive Planning Periods. The Planning Periods covered by each long-term FTR auction are the three Planning Periods immediately subsequent to the Planning Period during which the long-term FTR auction is conducted (for example, the 2018 long-term FTR auction covers the 2019/2020-2021/2022 Planning Periods).

The long-term FTR auction process consists of three rounds: (1) the first round is conducted approximately 11 months prior to the start of the first of the three Planning Periods (*i.e.*, June); (2) the second round is conducted approximately three months after the first round (*i.e.*, September); and (3) the third round is conducted approximately three months after the second round (*i.e.*, December).³ In each round, one third of the feasible FTR available capability is awarded.⁴ The long-term FTR process immediately follows the annual ARR allocation process, which begins in March prior to the start of a given Planning Period.⁵

The capacity offered for sale in long-term FTR auctions is the residual system capability available after modeling the assumption that all ARRs allocated in the immediately prior annual ARR allocation process are self-scheduled into FTRs.⁶ PJM models these assumed self-

³ Operating Agreement, Schedule 1, section 7.1A.2.

⁴ *Id.*

⁵ *See id.* at section 7.4.2.

⁶ *See id.* at section 7.1A.1(ii).

scheduled FTRs as fixed injections and withdrawals in the long-term FTR auction.⁷ PJM limits the FTRs available in the long-term FTR auction to residual capability in order to preserve capability in future annual FTR auctions conducted after long-term FTR auctions for Network and Firm Point-To-Point customers (*i.e.*, ARR holders). ARR holders have priority rights to ARRs (which they can self-schedule to FTRs) because they pay for the embedded cost of the transmission system.⁸

As explained above, the ARRs modeled for determining residual capability in the long-term FTR auction are derived from the immediately prior annual ARR allocation. This annual ARR allocation includes the modeling of expected transmission outages for the subsequent Planning Period. By contrast, the long-term FTR auction does not include the modeling of these transmission outages because the effective period of the long-term FTR auction is for the subsequent three Planning Periods *after* the effective period of the annual ARR allocation for which the residual capability is derived. Accordingly, including transmission outages in the ARRs modeled for determining residual capability, when those outages are not actually expected to occur during the effective period of the long-term FTR auction, could potentially overstate available capability when compared to what the residual capability would be when transmission outages are not included. FTR Holders could receive revenue from participating in the long-term FTR auction ahead of ARR holders, who have priority rights to receive revenue from FTR auctions.⁹

⁷ *See id.*

⁸ *See id.* at section 7.4.1(b).

⁹ *See id.*

To mitigate against this overstatement of residual ARR available for the long-term FTR auction, PJM proposes to conduct an additional, offline annual allocation¹⁰ in which transmission outages in the annual ARR allocations are treated as if they are returned to service. This offline allocation would occur prior to the opening of each round of the long-term FTR auction. The offline allocation would utilize the same topology as the actual annual ARR allocation, except that all transmission outages will be returned to service. This ensures the proper preservation of capability in the long-term FTR auction. In this offline allocation, PJM will perform the Simultaneous Feasibility Test to determine the feasible set of ARRs to be preserved for the long-term FTR auction capability.¹¹ If all ARR requests are not simultaneously feasible, proration will be required following the same procedures utilized in the annual ARR allocation. For example, if an annual ARR request contributes to a violation of a constraint in the offline allocation, then PJM will reduce the allocated quantity of ARRs for that request in order to remove the violation on the constraint. The resulting modeled ARRs for the determination of the

¹⁰ By offline, PJM means that the results of this allocation will not result in actual allocation of ARRs, but, rather, will be used to simulate the amount of additional ARRs PJM should take into account when determining the amount of residual ARRs that will inform the amount of FTRs that are available for the long-term FTR auctions. For example, assume in the March, 2018 annual ARR allocation, PJM would allocate 1,000 MWs ARRs and the residual going in to the June, 2018 first round of the 2019/2020-2021/2022 long-term FTR auction would have been 300 MWs. In the offline allocation, PJM looks at what the system would yield if all outages were removed and there would be an additional 100 MWs of ARRs allocated, PJM will then reduce the 300 MW residual to 200 MWs, thus preserving 100 MWs for the next annual ARR allocation in March, 2019.

¹¹ The Simultaneous Feasibility Test model will include any transmission upgrade which is: (i) approved to be in service by June 30 of the following year; and (ii) determined to individually, or together, have 10% or more impact on the transmission congestion on an individual constraint or constraints with congestion of \$5 million or more affecting a common congestion path. See PJM Manual 06, Financial Transmission Rights, section 9.1 (“Manual 06”) (effective June 1, 2018), available at <http://pjm.com/-/media/documents/manuals/m06-redline.ashx>.

long-term FTR auction residual capability will include the final offline allocated ARR modeled as fixed injections and withdrawals in the long-term FTR auction.¹²

PJM's proposal to conduct an offline annual ARR allocation that assumes transmission outages are returned to service from the associated annual ARR allocation is a just and reasonable modification that preserves transmission capability for ARR holders. By maximizing ARR transmission capability, PJM's proposal helps to mitigate concerns that FTR Holders can benefit from the uncertainty of transmission topology forecasting in the long-term FTR auction to gain priority over ARR holders. The proposal also better captures "residual capability" in the long-term FTR auction by accounting for the most accurate set of ARRs and treating them as fixed withdrawals and injections. The Commission should therefore approve PJM's proposed revisions as just and reasonable effective September 3, 2018.

B. Proposal to Eliminate Three Planning Period Term Product

PJM proposes to increase efficiency in FTR software performance by removing a low-value FTR market product. As discussed above, the long-term FTR auction process consists of three rounds, with each round corresponding to one Planning Period and one third of the feasible FTR available capability awarded for each round.¹³ Currently, participants in a given long-term FTR auction can participate either through (i) a single Planning Period within the three Planning Period term ("one year product") or (ii) the full three Planning Period term ("three year product" also referred to as "YRALL").¹⁴ PJM proposes to eliminate the three year product while

¹² See *id.* ("Specific to these [offline annual ARR] allocations, ARR capability will not be awarded. The sole purpose of these allocations is to preserve additional ARR capability as fixed injections and withdrawals in the long-term FTR model, but will not be allocated to ARR holders.").

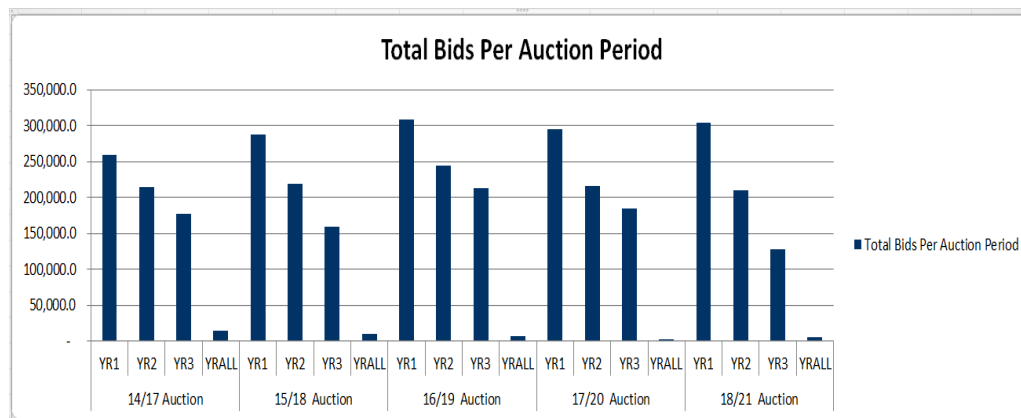
¹³ See Operating Agreement, section 7.1A.2.

¹⁴ See *id.*, section 7.1A.3(i).

preserving the one year product for participation in the long-term FTR auction. Importantly, FTRs for up to three years in the future will remain available, but only at single year increments.

Eliminating the three year product will improve FTR software performance without decreasing participant flexibility. As demonstrated in Table 1, historically there has been low bidding activity with the three year product. Table 1 shows the extremely limited use of the three year product, which reflects Market Participants' low expectation of value of this product compared to the one year product.

Table 1 – Historical Use of Three Year Product



Additionally, as discussed during the stakeholder process, over 97 percent of three-year FTRs have been acquired by a very small number of Market Participants further demonstrating this product is not broadly used. The Independent Market Monitor for PJM demonstrated this using a Herfindahl-Hirschman index (HHI), which measures market concentration. The closer the value to 10000 using the HHI represents less competition and more opportunity for market

power. Table 2¹⁵ clearly demonstrates that the three-year product has some higher degrees of market concentration and consequently less competition.

Table 2
HHIs for Three Year Product

Class Type	Direction	2014/2017	2015/2018	2016/2019	2017/2020
On Peak	Prevailing	9489	9778	4646	8863
	Counter	10000	10000	4524	6760
Off Peak	Prevailing	9708	9816	5749	9324
	Counter	10000	10000	5671	9522

Accordingly, eliminating the three year product is a just and reasonable solution to increase FTR software performance without impeding auction participants' ability to choose biddable periods within a long-term FTR auction term. Auction participants may still purchase FTRs for all three Planning Periods covered by a given auction. The Commission should therefore accept PJM's proposed revisions to section 7.1A.3(i) as just and reasonable effective September 3, 2018, as requested.

II. PROPOSED TARIFF AND OPERATING AGREEMENT CHANGES

As discussed above, PJM proposes to modify Operating Agreement, section 7.1A.1(ii) and the identical provision of Tariff, Attachment K-Appendix, section 7.1A.1(ii) , in relevant part, to include an offline annual ARR allocation that removes modeled transmission outages:

The capacity offered for sale in long-term Financial Transmission Rights auctions shall be the residual system capability after the aAnnual Auction Revenue Rights allocations and the annual Financial Transmission Rights auction. In determining the residual capability the Office of the Interconnection shall assume that all Auction Revenue Rights allocated in the immediately prior annual Auction Revenue Rights allocation process, including additional Auction Revenue Rights

¹⁵ Table 2 was developed by the IMM and presented to PJM stakeholders during the September 13, 2017 meeting of the Markets Implementation Committee. See <http://www.pjm.com/-/media/committees-groups/committees/mic/20171011/20171011-item-08a-long-term-ftr-problem-statement.ashx>

that become available through an offline annual allocation without the modeling of transmission outages, are self-scheduled into Financial Transmission Rights, which shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction.

PJM also proposes to modify Operating Agreement, section 7.1A.3(i) and the identical provision in Tariff, Attachment K-Appendix, section 7.1A.3(i) to eliminate the three year product:

The periods covered by long-term Financial Transmission Rights auctions shall be: ~~(1) any single Planning Period within the three Planning Period term covered by the relevant auction; and (2) the three Planning Period term covered by the relevant auction.~~

III. STAKEHOLDER REVIEW AND EFFECTIVE DATE

The proposal filed herein received near unanimous endorsement. It was endorsed by acclamation by the Markets and Reliability Committee on June 21, 2018, with 0 objections and 9 abstentions and was also endorsed by acclamation by the Members Committee on June 21, 2018 with 0 objection and 0 abstentions. PJM is requesting a September 3, 2018 effective date in order implement these changes in the next round of its long-term FTR auction commencing on September 4, 2018. Thus, PJM requests that the Commission issue an order on this filing by September 3, 2018, 60 days from the date of this filing, to permit the effective date of the enclosed revisions on September 3, 2018.

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:

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V. DOCUMENTS ENCLOSED

This filing comprises:

1. This transmittal letter;
2. Revisions to the Operating Agreement and Tariff, in redlined format, as Attachment A; and
3. Revisions to the Operating Agreement and Tariff, in clean format, as Attachment B.

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,¹⁶ 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 e-mail on the same date as this filing to all PJM members and all state utility regulatory

¹⁶ See 18 C.F.R. §§ 35.2(e) and 385.2010(f)(3).

commissions in the PJM Region¹⁷ 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 24 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.

¹⁷ PJM already maintains, updates and regularly uses e-mail lists for all PJM members and affected state commissions.

VII. CONCLUSION

Accordingly, PJM requests that the Commission accept the proposed Operating Agreement and Tariff modifications described in this filing effective September 3, 2018.

Respectfully submitted,

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July 5, 2018

Attachment A

Revisions to the PJM Open Access Transmission Tariff and PJM Operating Agreement

(Marked / Redline Format)

Section(s) of the
PJM Open Access Transmission Tariff
(Marked / Redline Format)

7.1A Long-Term Financial Transmission Rights Auctions.

7.1A.1 Auctions.

(i) Subsequent to each annual Financial Transmission Rights auction conducted pursuant to Operating Agreement, Schedule 1, section 7.1, the Office of the Interconnection shall conduct a long-term Financial Transmission Rights auction for the three consecutive Planning Periods immediately subsequent to the Planning Period during which the long-term Financial Transmission Rights auction is conducted. PJMSettlement shall be the Counterparty to the purchases and sales of Financial Transmission Rights arising from such long-term Financial Transmission Rights 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.

(ii) The capacity offered for sale in long-term Financial Transmission Rights auctions shall be the residual system capability after the ~~a~~Annual Auction Revenue Rights allocations and the annual Financial Transmission Rights auction. In determining the residual capability the Office of the Interconnection shall assume that all Auction Revenue Rights allocated in the immediately prior annual Auction Revenue Rights allocation process, including Auction Revenue Rights made available in which transmission facilities which were modeled out of service in the annual Auction Revenue Rights allocations return to service, are self-scheduled into Financial Transmission Rights, which shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction. Additionally, residual ~~a~~Annual Auction Revenue Rights that become available through incremental capability created by future transmission upgrades as further described in the PJM Manuals shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction. The long-term Financial Transmission Rights auction model shall include all upgrades- planned to be placed into service on or before June 30th of the first Planning Period within the three year period covered by the auction. The transmission upgrades to be modeled for this purpose shall only include those upgrades that, individually, or together, have 10% or more impact on the transmission congestion on an individual constraint or constraints with congestion of \$5 million or more affecting a common congestion path. Transmission upgrades modeled for this purpose also will be modeled in the subsequent long-term Financial Transmission Rights auction, as further detailed in the PJM Manuals. Residual Auction Revenue Rights created by an increase in transmission capability due to future transmission upgrades, as specified above, are determined only for modeling purposes and will not be allocated to ~~M~~market ~~P~~participants.

7.1A.2 Frequency and Timing.

The long-term Financial Transmission Rights auction process shall consist of three rounds. The first round shall be conducted by the Office of the Interconnection approximately 11 months prior to the start of the three Planning Period term covered by the relevant long-term Financial Transmission Rights auction. The second round shall be conducted approximately 3 months

after the first round, and the third round shall be conducted approximately 3 months after the second round. In each round 1/3 of total capacity available in the long-term Financial Transmission Rights auction shall be offered for sale. Eligible entities may submit bids to purchase and offers to sell Financial Transmission Rights at the start of the bidding period in each round. The bidding period shall be three Business Days ending at 5:00 p.m. on the last day. PJM performs the Financial Transmission Rights auction clearing analysis for each round and posts the auction results on the market user interface within five Business Days after the close of the bidding period for each round 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. If the Office of the Interconnection discovers an error in the results posted for a long-term 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 immediately following the initial publication of the results for that auction. After this initial notification, if the Office of the Interconnection determines it is necessary to post modified auction 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 prices for that auction. Thereafter, the Office of the Interconnection must post the corrected prices by no later than 5:00 p.m. of the fourth calendar day following the initial publication of prices in the 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.

7.1A.3 Products.

(i) The periods covered by long-term Financial Transmission Rights auctions shall be: ~~(1) any single Planning Period within the three Planning Period term covered by the relevant auction; and (2) the three Planning Period term covered by the relevant auction.~~

(ii) On-peak, off-peak and 24-hour Financial Transmission Right Obligations, shall be offered in long-term Financial Transmission Rights auctions; Financial Transmission Rights options shall not be offered.

7.1A.4 Participation Eligibility.

(i) To participate in long-term Financial Transmission Rights auctions an entity shall be a PJM Member or a PJM Transmission Customer. Eligible entities may submit bids or offers in long-term Financial Transmission Rights auctions, provided they own Financial Transmission Rights offered for sale.

7.1A.5 Specified Receipt and Delivery Points.

The Office of the Interconnection will post a list of available receipt and delivery points for each long-term Financial Transmission Rights auction. Eligible receipt and delivery points in long-

term Financial Transmission Rights auctions shall be limited to the posted available hubs, Zones, aggregates, generators, and Interface Pricing Points.

Section(s) of the
PJM Operating Agreement
(Marked / Redline Format)

7.1A Long-Term Financial Transmission Rights Auctions.

7.1A.1 Auctions.

(i) Subsequent to each annual Financial Transmission Rights auction conducted pursuant to Operating Agreement, Schedule 1, section 7.1, the Office of the Interconnection shall conduct a long-term Financial Transmission Rights auction for the three consecutive Planning Periods immediately subsequent to the Planning Period during which the long-term Financial Transmission Rights auction is conducted. PJMSettlement shall be the Counterparty to the purchases and sales of Financial Transmission Rights arising from such long-term Financial Transmission Rights 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.

(ii) The capacity offered for sale in long-term Financial Transmission Rights auctions shall be the residual system capability after the ~~a~~Annual Auction Revenue Rights allocations and the annual Financial Transmission Rights auction. In determining the residual capability the Office of the Interconnection shall assume that all Auction Revenue Rights allocated in the immediately prior annual Auction Revenue Rights allocation process, including Auction Revenue Rights made available in which transmission facilities which were modeled out of service in the annual Auction Revenue Rights allocations return to service, are self-scheduled into Financial Transmission Rights, which shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction. Additionally, residual ~~a~~Annual Auction Revenue Rights that become available through incremental capability created by future transmission upgrades as further described in the PJM Manuals shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction. The long-term Financial Transmission Rights auction model shall include all upgrades planned to be placed into service on or before June 30th of the first Planning Period within the three year period covered by the auction. The transmission upgrades to be modeled for this purpose shall only include those upgrades that, individually, or together, have 10% or more impact on the transmission congestion on an individual constraint or constraints with congestion of \$5 million or more affecting a common congestion path. Transmission upgrades modeled for this purpose also will be modeled in the subsequent long-term Financial Transmission Rights auction, as further detailed in the PJM Manuals. Residual Auction Revenue Rights created by an increase in transmission capability due to future transmission upgrades, as specified above, are determined only for modeling purposes and will not be allocated to ~~m~~Market ~~p~~Participants.

7.1A.2 Frequency and Timing.

The long-term Financial Transmission Rights auction process shall consist of three rounds. The first round shall be conducted by the Office of the Interconnection approximately 11 months prior to the start of the three Planning Period term covered by the relevant long-term Financial Transmission Rights auction. The second round shall be conducted approximately 3 months

after the first round, and the third round shall be conducted approximately 3 months after the second round. In each round 1/3 of total capacity available in the long-term Financial Transmission Rights auction shall be offered for sale. Eligible entities may submit bids to purchase and offers to sell Financial Transmission Rights at the start of the bidding period in each round. The bidding period shall be three Business Days ending at 5:00 p.m. on the last day. PJM performs the Financial Transmission Rights auction clearing analysis for each round and posts the auction results on the market user interface within five Business Days after the close of the bidding period for each round 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. If the Office of the Interconnection discovers an error in the results posted for a long-term 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 immediately following the initial publication of the results for that auction. After this initial notification, if the Office of the Interconnection determines it is necessary to post modified auction 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 prices for that auction. Thereafter, the Office of the Interconnection must post the corrected prices by no later than 5:00 p.m. of the fourth calendar day following the initial publication of prices in the 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.

7.1A.3 Products.

- (i) The periods covered by long-term Financial Transmission Rights auctions shall be: ~~(1) any single Planning Period within the three Planning Period term covered by the relevant auction; and (2) the three Planning Period term covered by the relevant auction.~~ ⁽¹⁾
- (ii) On-peak, off-peak and 24-hour Financial Transmission Right Obligations, shall be offered in long-term Financial Transmission Rights auctions; Financial Transmission Rights options shall not be offered.

7.1A.4 Participation Eligibility.

- (i) To participate in long-term Financial Transmission Rights auctions an entity shall be a PJM Member or a PJM Transmission Customer. Eligible entities may submit bids or offers in long-term Financial Transmission Rights auctions, provided they own Financial Transmission Rights offered for sale.

7.1A.5 Specified Receipt and Delivery Points.

The Office of the Interconnection will post a list of available receipt and delivery points for each long-term Financial Transmission Rights auction. Eligible receipt and delivery points in long-

term Financial Transmission Rights auctions shall be limited to the posted available hubs, Zones, aggregates, generators, and Interface Pricing Points.

Attachment B

PJM Open Access Transmission Tariff and PJM Operating Agreement

(Clean Format)

Section(s) of the
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7.1A Long-Term Financial Transmission Rights Auctions.

7.1A.1 Auctions.

(i) Subsequent to each annual Financial Transmission Rights auction conducted pursuant to Operating Agreement, Schedule 1, section 7.1, the Office of the Interconnection shall conduct a long-term Financial Transmission Rights auction for the three consecutive Planning Periods immediately subsequent to the Planning Period during which the long-term Financial Transmission Rights auction is conducted. PJMSettlement shall be the Counterparty to the purchases and sales of Financial Transmission Rights arising from such long-term Financial Transmission Rights 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.

(ii) The capacity offered for sale in long-term Financial Transmission Rights auctions shall be the residual system capability after the annual Auction Revenue Rights allocations and the annual Financial Transmission Rights auction. In determining the residual capability the Office of the Interconnection shall assume that all Auction Revenue Rights allocated in the immediately prior annual Auction Revenue Rights allocation process, including Auction Revenue Rights made available in which transmission facilities which were modeled out of service in the annual Auction Revenue Rights allocations return to service, are self-scheduled into Financial Transmission Rights, which shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction. Additionally, residual annual Auction Revenue Rights that become available through incremental capability created by future transmission upgrades as further described in the PJM Manuals shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction. The long-term Financial Transmission Rights auction model shall include all upgrades planned to be placed into service on or before June 30th of the first Planning Period within the three year period covered by the auction. The transmission upgrades to be modeled for this purpose shall only include those upgrades that, individually, or together, have 10% or more impact on the transmission congestion on an individual constraint or constraints with congestion of \$5 million or more affecting a common congestion path. Transmission upgrades modeled for this purpose also will be modeled in the subsequent long-term Financial Transmission Rights auction, as further detailed in the PJM Manuals. Residual Auction Revenue Rights created by an increase in transmission capability due to future transmission upgrades, as specified above, are determined only for modeling purposes and will not be allocated to Market Participants.

7.1A.2 Frequency and Timing.

The long-term Financial Transmission Rights auction process shall consist of three rounds. The first round shall be conducted by the Office of the Interconnection approximately 11 months prior to the start of the three Planning Period term covered by the relevant long-term Financial Transmission Rights auction. The second round shall be conducted approximately 3 months

after the first round, and the third round shall be conducted approximately 3 months after the second round. In each round 1/3 of total capacity available in the long-term Financial Transmission Rights auction shall be offered for sale. Eligible entities may submit bids to purchase and offers to sell Financial Transmission Rights at the start of the bidding period in each round. The bidding period shall be three Business Days ending at 5:00 p.m. on the last day. PJM performs the Financial Transmission Rights auction clearing analysis for each round and posts the auction results on the market user interface within five Business Days after the close of the bidding period for each round 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. If the Office of the Interconnection discovers an error in the results posted for a long-term 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 immediately following the initial publication of the results for that auction. After this initial notification, if the Office of the Interconnection determines it is necessary to post modified auction 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 prices for that auction. Thereafter, the Office of the Interconnection must post the corrected prices by no later than 5:00 p.m. of the fourth calendar day following the initial publication of prices in the 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.

7.1A.3 Products.

(i) The periods covered by long-term Financial Transmission Rights auctions shall be any single Planning Period within the three Planning Period term covered by the relevant auction.

(ii) On-peak, off-peak and 24-hour Financial Transmission Right Obligations, shall be offered in long-term Financial Transmission Rights auctions; Financial Transmission Rights options shall not be offered.

7.1A.4 Participation Eligibility.

(i) To participate in long-term Financial Transmission Rights auctions an entity shall be a PJM Member or a PJM Transmission Customer. Eligible entities may submit bids or offers in long-term Financial Transmission Rights auctions, provided they own Financial Transmission Rights offered for sale.

7.1A.5 Specified Receipt and Delivery Points.

The Office of the Interconnection will post a list of available receipt and delivery points for each long-term Financial Transmission Rights auction. Eligible receipt and delivery points in long-

term Financial Transmission Rights auctions shall be limited to the posted available hubs, Zones, aggregates, generators, and Interface Pricing Points.

Section(s) of the
PJM Operating Agreement
(Clean Format)

7.1A Long-Term Financial Transmission Rights Auctions.

7.1A.1 Auctions.

(i) Subsequent to each annual Financial Transmission Rights auction conducted pursuant to Operating Agreement, Schedule 1, section 7.1, the Office of the Interconnection shall conduct a long-term Financial Transmission Rights auction for the three consecutive Planning Periods immediately subsequent to the Planning Period during which the long-term Financial Transmission Rights auction is conducted. PJMSettlement shall be the Counterparty to the purchases and sales of Financial Transmission Rights arising from such long-term Financial Transmission Rights 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.

(ii) The capacity offered for sale in long-term Financial Transmission Rights auctions shall be the residual system capability after the annual Auction Revenue Rights allocations and the annual Financial Transmission Rights auction. In determining the residual capability the Office of the Interconnection shall assume that all Auction Revenue Rights allocated in the immediately prior annual Auction Revenue Rights allocation process, including Auction Revenue Rights made available in which transmission facilities which were modeled out of service in the annual Auction Revenue Rights allocations return to service, are self-scheduled into Financial Transmission Rights, which shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction. Additionally, residual annual Auction Revenue Rights that become available through incremental capability created by future transmission upgrades as further described in the PJM Manuals shall be modeled as fixed injections and withdrawals in the long-term Financial Transmission Rights auction. The long-term Financial Transmission Rights auction model shall include all upgrades planned to be placed into service on or before June 30th of the first Planning Period within the three year period covered by the auction. The transmission upgrades to be modeled for this purpose shall only include those upgrades that, individually, or together, have 10% or more impact on the transmission congestion on an individual constraint or constraints with congestion of \$5 million or more affecting a common congestion path. Transmission upgrades modeled for this purpose also will be modeled in the subsequent long-term Financial Transmission Rights auction, as further detailed in the PJM Manuals. Residual Auction Revenue Rights created by an increase in transmission capability due to future transmission upgrades, as specified above, are determined only for modeling purposes and will not be allocated to Market Participants.

7.1A.2 Frequency and Timing.

The long-term Financial Transmission Rights auction process shall consist of three rounds. The first round shall be conducted by the Office of the Interconnection approximately 11 months prior to the start of the three Planning Period term covered by the relevant long-term Financial Transmission Rights auction. The second round shall be conducted approximately 3 months

after the first round, and the third round shall be conducted approximately 3 months after the second round. In each round 1/3 of total capacity available in the long-term Financial Transmission Rights auction shall be offered for sale. Eligible entities may submit bids to purchase and offers to sell Financial Transmission Rights at the start of the bidding period in each round. The bidding period shall be three Business Days ending at 5:00 p.m. on the last day. PJM performs the Financial Transmission Rights auction clearing analysis for each round and posts the auction results on the market user interface within five Business Days after the close of the bidding period for each round 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. If the Office of the Interconnection discovers an error in the results posted for a long-term 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 immediately following the initial publication of the results for that auction. After this initial notification, if the Office of the Interconnection determines it is necessary to post modified auction 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 prices for that auction. Thereafter, the Office of the Interconnection must post the corrected prices by no later than 5:00 p.m. of the fourth calendar day following the initial publication of prices in the 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.

7.1A.3 Products.

- (i) The periods covered by long-term Financial Transmission Rights auctions shall be any single Planning Period within the three Planning Period term covered by the relevant auction.
- (ii) On-peak, off-peak and 24-hour Financial Transmission Right Obligations, shall be offered in long-term Financial Transmission Rights auctions; Financial Transmission Rights options shall not be offered.

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