



October 4, 2021

The 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., Docket Nos. EL19-47-000, EL19-63-000, ER21-2877-001
Compliance Filing Concerning Replacement Market Seller Offer Cap Tariff Revisions*

Dear Secretary Bose:

In compliance with the September 2, 2021 Order of the Federal Energy Regulatory Commission (“Commission”) in the above referenced proceeding,¹ PJM Interconnection, L.L.C. (“PJM”) submits this compliance filing concerning proposed Tariff revisions related to the Market Seller Offer Cap (“MSOC”). This compliance filing includes ordered revisions to certain provisions of PJM’s Open Access Transmission Tariff (“Tariff”) consistent with the Commission’s adoption of a Unit-Specific Avoidable Cost Rate methodology. Pursuant to the Order, PJM requests that the Tariff revisions are effective as of September 2, 2021.²

I. BACKGROUND

On March 18, 2021, the Commission issued an order granting complaints from the Independent Market Monitor for PJM Interconnection, L.L.C. (Market Monitor) and the Joint

¹ *PJM Interconnection, L.L.C., et al.*, 176 FERC ¶ 61,137 (2021) (“September 2 Order”).

² September 2 Order at PP 30, 35.

Consumer Advocates.³ In that order, the Commission found PJM’s then MSOC to be unjust and unreasonable “regarding the calculation of the default market seller offer cap.”⁴ In finding the existing default offer cap unjust and unreasonable, the Commission decided additional record evidence was necessary to set the appropriate replacement rate and directed the parties to brief the issue.⁵ After reviewing the parties’ briefs, the Commission found the Market Monitor’s Unit-Specific ACR Proposal was 1) just and reasonable and 2) preferable to the other options presented.⁶ As such, the Commission directed PJM to submit a compliance filing to effectuate the revised MSOC provisions. In accordance with the Commission’s September 2 Order, PJM hereby submits this compliance filing to address related Tariff revisions.

II. SATISFACTION OF THE COMPLIANCE REQUIREMENTS OF THE SEPTEMBER 2 ORDER

A. PJM Submits Revisions to Tariff, Attachment DD, sections 6.4, 6.5 and 6.7 In Accordance with the Commission’s Directive.

In the September 2 Order, the Commission directed PJM to submit a compliance filing revising Tariff, Attachment DD, sections 6.4, 6.5, and 6.7 as set forth in Appendix A of the September 2 Order.⁷ Through this filing, PJM is incorporating the Commission provided redlines to the relevant sections of the Tariff noted above. These revisions are provided in redline and clean versions in Attachments A and B of this filing.

³ *Independent Market Monitor for PJM v. PJM Interconnection, L.L.C.*, 174 FERC ¶ 61,212 (2021).

⁴ (Emphasis added) *Id.* at P 1.

⁵ *Id.* at 23-24.

⁶ *Id.* at 24. The Commission reasoned this method would best ensure the capacity market’s overall competitiveness and enable the Market Monitor and PJM to sufficiently review and mitigate offers to prevent the exercise of market power.

⁷ September 2 Order, Appendix A.

PJM is adopting the Commission’s redlines in full with two limited exceptions. The first is the omission of Demand Resources and Energy Efficiency Resources from the default gross Avoidable Cost Rate (“ACR”) table in Tariff, Attachment DD, section 6.4(a). As PJM notes in the separate Request for Clarification and Rehearing, Demand Resources and Energy Efficiency Resources are currently exempt from the MSOC pursuant to Tariff, Attachment DD, section 6.5(b), which explicitly states that “Market Seller Offer Cap shall not be applied to Sell Offers of Demand Resources or Energy Efficiency Resources.” Inclusion of Demand Resources and Energy Efficiency Resources in the default gross ACR table creates unnecessary uncertainty as to whether the MSOC is to be applied to Demand Resources and Energy Efficiency Resources. As further explained in PJM’s Request for Clarification and Rehearing, the scope of the MSOC should not be expanded to include Demand Resources and Energy Efficiency Resources.

In addition to the aforementioned modification from the Commission directed redlines provided in the September 2 Order, PJM also proposes to include one clarifying sentence to Attachment DD, section 6.4(b) of the Tariff to clarify what offer cap a market seller may utilize if PJM rejects their requested unit-specific cap. Without this language, if PJM rejects a Capacity Market Seller’s requested unit-specific Market Seller Offer Cap, it is unclear what the Capacity Market Seller may offer for the relevant Capacity Resource. Therefore, to address this administrative gap, PJM proposes to make clear that if PJM rejects a Capacity Market Seller’s requested unit-specific Market Seller Offer Cap for a particular resource, the Capacity Market Seller may submit an offer up to the default Net ACR or the unit-specific Market Seller Offer Cap proposed by the Market Monitoring Unit upon PJM approval of such value.

To effectuate the foregoing, PJM proposes the following modified language as shown in blackline below:

(b) For each Existing Generation Capacity Resource, a potential Capacity Market Seller must provide to the Market Monitoring Unit and the Office of the Interconnection data and documentation required under section 6.7 below to establish the level of the Market Seller Offer Cap applicable to each resource by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller must promptly address any concerns identified by the Market Monitoring Unit regarding the data and documentation provided, review the Market Seller Offer Cap proposed by the Market Monitoring Unit, and attempt to reach agreement with the Market Monitoring Unit on the level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller shall notify the Market Monitoring Unit in writing, with a copy to the Office of the Interconnection, whether an agreement with the Market Monitoring Unit has been reached or, if no agreement has been reached, specifying the level of Market Seller Offer Cap to which it commits by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction. The Office of the Interconnection shall review the data submitted by the Capacity Market Seller, make a determination whether to accept or reject the requested unit-specific Market Seller Offer Cap, and notify the Capacity Market Seller and the Market Monitoring Unit of its determination in writing, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction. In the event the Office of the Interconnection rejects the Capacity Market Seller's requested unit-specific Market Seller Offer Cap for a particular Capacity Resource, the Capacity Market Seller of such Capacity Resource may submit an offer up to (1) should one exist, the default gross Avoidable Cost Rate for the applicable resource type net of projected PJM market revenues equal to the resource's net energy and ancillary service revenues for the resource type, or (2) the unit-specific Market Seller Offer Cap proposed by the Market Monitoring Unit upon PJM approval of such value. If the Market Monitoring Unit does not provide its determination to the Capacity Market Seller and the Office of the Interconnection by the specified deadline, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction the Office of the Interconnection will make the determination of the level of the Market Seller Offer Cap, which shall be deemed to be final. If the Capacity Market Seller does not notify the Market Monitoring Unit and the Office of the Interconnection of the Market Seller Offer Cap it desires to utilize by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction, it shall be required to utilize a Market Seller Offer Cap determined using the applicable default Avoidable Cost Rate specified in section 6.4(a) above~~6.7(e) below~~.

III. EFFECTIVE DATE

Consistent with the Order, PJM proposes the revisions herein to be effective as of September 2, 2021.⁸

IV. DOCUMENTS ENCLOSED

PJM encloses the following:

1. This transmittal letter;
2. Attachment A – Revisions to Tariff, Attachment DD, sections 6.4, 6.5, and 6.7 in redlined format; and
3. Attachment B – Revisions to Tariff, Attachment DD, sections 6.4, 6.5, and 6.7 in clean format.

V. COMMUNICATIONS

Correspondence and communications with respect to this filing should be sent to the following persons:

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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

⁸ September 2 Order at PP 30, 35.

Commission's regulations,⁹ 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.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 commissions in the PJM Region¹⁰ alerting them that this filing has been made by PJM today and is available by following such link.

VII. CONCLUSION

PJM respectfully requests that the Commission accept this compliance filing and establish an effective date as discussed herein.

Respectfully submitted,



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*On behalf of
PJM Interconnection, L.L.C.*

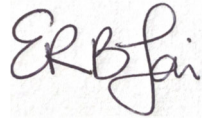
⁹ See 18 C.F.R §§ 35.2(e) and 385.2010(f)(3).

¹⁰ PJM already maintains, updates, and regularly uses e-mail lists for all PJM members and affected commissions.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Audubon, PA, this 4th day of October, 2021.

A handwritten signature in black ink, appearing to read "ERB Lai", is positioned above a horizontal line. The signature is written in a cursive style.

Erin Lai
Attorney for PJM Interconnection, L.L.C.

Attachment A – Marked Tariff

6.4 Market Seller Offer Caps

(a) The Market Seller Offer Cap, stated in dollars per MW/day of unforced capacity, applicable to price-quantity offers within the Base Offer Segment for an Existing Generation Capacity Resource shall be the Avoidable Cost Rate for such resource, less the Projected PJM Market Revenues for such resource, stated in dollars per MW/day of unforced capacity; ~~provided, however, that the default Market Seller Offer Cap for any Capacity Performance Resource shall be the product of (the Net Cost of New Entry applicable for the Delivery Year and Locational Deliverability Area for which such Capacity Performance Resource is offered times the average of the Balancing Ratios in the three consecutive calendar years (during the Performance Assessment Intervals in such calendar years) that precede the Base Residual Auction for such Delivery Year), however, for the Base Residual Auction for the 2021/2022 Delivery Year, the Balancing Ratio used in the determination of the default Market Seller Offer Cap shall be 78.5 percent, and provided further that the submission of a Sell Offer with an Offer Price at or below the revised Market Seller Offer Cap permitted under this proviso shall not, in and of itself, be deemed an exercise of market power in the RPM market. Notwithstanding the previous sentence, a. A Capacity Market Seller offering above \$0/MW-day must may seek and obtain a Market Seller Offer Cap for a Capacity Performance Resource that exceeds the revised Market Seller Offer Cap permitted under the prior sentence, if it supports and obtains approval of such alternative offer cap a unit-specific Market Seller Offer Cap pursuant to the procedures and standards of subsection (b) of this section 6.4 or may, at its election, if available, utilize a Market Seller Offer Cap determined using the applicable default gross Avoidable Cost Rate for the applicable resource type shown in the table below, as adjusted for Delivery Years subsequent to the 2022/2023 Delivery Year to reflect changes in avoidable costs, net of projected PJM market revenues equal to the resource's net energy and ancillary service revenues for the resource type, as determined in accordance with Tariff, Attachment DD, section 6.8(d-1).- A Capacity Market Seller may not use the Capacity Performance default Market Seller Offer Cap, and also seek to include any one or more categories of the Avoidable Cost Rate defined in Tariff, Attachment DD, section 6.8 below.~~

| Existing Resource Type | Default Gross ACR (2022/2023) (\$/MW-day) (Nameplate) |
|----------------------------------|--|
| Nuclear – single | \$697 |
| Nuclear – dual | \$445 |
| Coal | \$80 |
| Combined Cycle | \$56 |
| Combustion Turbine | \$50 |
| Solar PV (fixed and tracking) | \$40 |
| Wind Onshore | \$83 |

The Market Seller Offer Cap for an Existing Generation Capacity Resource shall be the Opportunity Cost for such resource, if applicable, as determined in accordance with Tariff, Attachment DD, section 6.7. Nothing herein shall preclude any Capacity Market Seller and the Market Monitoring Unit from agreeing to, nor require either such entity to agree to, an

alternative market seller offer cap determined on a mutually agreeable basis. Any such alternative offer cap shall be filed with the Commission for its approval. This provision is duplicated in Tariff, Attachment M-Appendix, section II.E.3.

(b) For each Existing Generation Capacity Resource, a potential Capacity Market Seller must provide to the Market Monitoring Unit and the Office of the Interconnection data and documentation required under section 6.7 below to establish the level of the Market Seller Offer Cap applicable to each resource by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller must promptly address any concerns identified by the Market Monitoring Unit regarding the data and documentation provided, review the Market Seller Offer Cap proposed by the Market Monitoring Unit, and attempt to reach agreement with the Market Monitoring Unit on the level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller shall notify the Market Monitoring Unit in writing, with a copy to the Office of the Interconnection, whether an agreement with the Market Monitoring Unit has been reached or, if no agreement has been reached, specifying the level of Market Seller Offer Cap to which it commits by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction. The Office of the Interconnection shall review the data submitted by the Capacity Market Seller, make a determination whether to accept or reject the requested unit-specific Market Seller Offer Cap, and notify the Capacity Market Seller and the Market Monitoring Unit of its determination in writing, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction. In the event the Office of the Interconnection rejects the Capacity Market Seller's requested unit-specific Market Seller Offer Cap for a particular Capacity Resource, the Capacity Market Seller of such Capacity Resource may submit an offer up to (1) should one exist, the default gross Avoidable Cost Rate for the applicable resource type net of projected PJM market revenues equal to the resource's net energy and ancillary service revenues for the resource type, or (2) the unit-specific Market Seller Offer Cap proposed by the Market Monitoring Unit upon PJM approval of such value. If the Market Monitoring Unit does not provide its determination to the Capacity Market Seller and the Office of the Interconnection by the specified deadline, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction the Office of the Interconnection will make the determination of the level of the Market Seller Offer Cap, which shall be deemed to be final. If the Capacity Market Seller does not notify the Market Monitoring Unit and the Office of the Interconnection of the Market Seller Offer Cap it desires to utilize by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction, it shall be required to utilize a Market Seller Offer Cap determined using the applicable default Avoidable Cost Rate specified in section ~~6.4(a) above~~~~6.7(e) below~~.

(c) Nothing in this section precludes the Capacity Market Seller from filing a petition with FERC seeking a determination of whether the Sell Offer complies with the requirements of the Tariff.

~~(d) For any Third Incremental Auction for Delivery Years through the 2017/2018 Delivery Year, the Market Seller Offer Cap for an Existing Generation Capacity Resource shall be determined pursuant to subsection (a) of this Section 6.4, or if elected by the Capacity Market~~

~~Seller, shall be equal to 1.1 times the Capacity Resource Clearing Price in the Base Residual Auction for the relevant LDA and Delivery Year. For any Third Incremental Auction for the 2018/2019 or 2019/2020 Delivery Years, the Market Seller Offer Cap for an Existing Generation Capacity Resource offering as a Base Capacity resource shall be determined pursuant to subsection (a) of this Section 6.4, or if elected by the Capacity Market Seller, shall be equal to 1.1 times the Capacity Resource Clearing Price in the Base Residual Auction for the relevant LDA and Delivery Year.~~ For any Third Incremental Auction for the 2018/2019 Delivery Year or any subsequent Delivery Year, the Market Seller Offer Cap for an Existing Generation Capacity Resource offering as a Capacity Performance Resource shall be determined pursuant to subsection (a) of this Section 6.4, or if elected by the Capacity Market Seller, shall be equal to ~~the greater of the Net Cost of New Entry times the Balancing Ratio for the relevant LDA and Delivery Year or~~ 1.1 times the Capacity Resource Clearing Price in the Base Residual Auction for the relevant LDA and Delivery Year.

6.5 Mitigation

The Office of the Interconnection shall apply market power mitigation measures in any Base Residual Auction or Incremental Auction for any LDA, Unconstrained LDA Group, or the PJM Region that fails the Market Structure Test.

(a) Mitigation for Generation Capacity Resources.

i) Existing Generation Capacity Resource

Mitigation will be applied on a unit-specific basis and only if the Sell Offer of Unforced Capacity from an Existing Generation Capacity Resource: (1) is greater than \$0/MW-day, except as described in Tariff, Attachment DD, section 6.4(a)~~the Market Seller Offer Cap applicable to such resource~~; and (2) would, absent mitigation, increase the Capacity Resource Clearing Price in the relevant auction. If such conditions are met, such Sell Offer shall be set equal to the Market Seller Offer Cap.

ii) Planned Generation Capacity Resources

(A) Sell Offers based on Planned Generation Capacity Resources (including External Planned Generation Capacity Resources) shall be presumed to be competitive and shall not be subject to market power mitigation in any Base Residual Auction or Incremental Auction for which such resource qualifies as a Planned Generation Capacity Resource, but any such Sell Offer shall be rejected if it meets the criteria set forth in subsection (C) below, unless the Capacity Market Seller obtains approval from FERC for use of such offer prior to the close of the offer period for the applicable RPM Auction.

(B) Sell Offers based on Planned Generation Capacity Resources (including Planned External Generation Capacity Resources) shall be deemed competitive and not be subject to mitigation if: (1) collectively all such Sell Offers provide Unforced Capacity in an amount equal to or greater than two times the incremental quantity of new entry required to meet the LDA Reliability Requirement; and (2) at least two unaffiliated suppliers have submitted Sell Offers for Planned Generation Capacity Resources in such LDA. Notwithstanding the foregoing, any Capacity Market Seller, together with Affiliates, whose Sell Offers based on Planned Generation Capacity Resources in that modeled LDA are pivotal, shall be subject to mitigation.

(C) Where the two conditions stated in subsection (B) above are not met, or the Sell Offer is pivotal, the Sell Offer shall be rejected if it exceeds 140 percent of: 1) the average of location-adjusted Sell Offers for Planned Generation Capacity Resources from the same asset class as such Sell Offer, submitted (and not rejected) (Asset-Class New Plant Offers)

for such Delivery Year; or 2) if there are no Asset-Class New Plant Offers for such Delivery Year, the average of Asset-Class New Plant Offers for all prior Delivery Years; or 3) if there are no Asset-Class New Plant Offers for any prior Delivery Year, the Net CONE applicable for such Delivery Year in the LDA for which such Sell Offer was submitted. For purposes of this section, asset classes shall be as stated in section 6.7(c) below as effective for such Delivery Year, and Asset-Class New Plant Offers shall be location-adjusted by the ratio between the Net CONE effective for such Delivery Year for the LDA in which the Sell Offer subject to this section was submitted and the average, weighted by installed capacity, of the Net CONEs for all LDAs in which the units underlying such Asset Class New Plant Offers are located. Following the conduct of the applicable auction and before the final determination of clearing prices, in accordance with Section 6.2(b) above, each Capacity Market Seller whose Sell Offer is so rejected shall be notified in writing by the Office of the Interconnection by no later than one (1) Business Day after the close of the offer period for the applicable RPM Auction and allowed an opportunity to submit a revised Sell Offer that does not exceed such threshold within one (1) Business Day of the Office of the Interconnection's rejection of such Sell Offer. If such revised Sell Offer is accepted by the Office of the Interconnection, the Office of the Interconnection then shall clear the auction with such revised Sell Offer in place. Pursuant to Tariff, Attachment M-Appendix, Section II.F, the Market Monitoring Unit shall notify in writing each Capacity Market Seller whose Sell Offer has been determined to be non-competitive and subject to mitigation, with a copy to the Office of the Interconnection, by no later than one (1) Business Day after the close of the offer period for the applicable RPM Auction.

(b) Mitigation for Demand Resources

The Market Seller Offer Cap shall not be applied to Sell Offers of Demand Resources or Energy Efficiency Resources.

6.7 Data Submission

(a) Potential participants in any PJM Reliability Pricing Model Auction shall submit, together with supporting documentation for each item, to the Market Monitoring Unit and the Office of the Interconnection no later than one hundred twenty (120) days prior to the posted date for the conduct of such auction, a list of owned or controlled generation resources by PJM transmission zone for the specified Delivery Year, including the amount of gross capacity, the EFORd and the net (unforced) capacity. A potential participant intending to offer any Capacity Performance Resource ~~at or below the default Market Seller Offer Cap~~ above \$0/MW-day, except as described in Tariff, Attachment DD, section 6.4(a) must provide the associated offer cap and the MW to which the offer cap applies.

(b) Except as provided in subsection (c) below, potential participants in any PJM Reliability Pricing Model Auction in any LDA or Unconstrained LDA Group that request a unit specific Avoidable Cost Rate shall, in addition, submit the following data, together with supporting documentation for each item, to the Market Monitoring Unit no later than one hundred twenty (120) days prior to the commencement of the offer period for such auction:

i. If the Capacity Market Seller intends to submit a non-zero price in its Sell Offer in any such auction, the Capacity Market Seller shall submit a calculation of the Avoidable Cost Rate and Projected PJM Market Revenues, as defined in subsection (d) below, together with detailed supporting documentation.

ii. If the Capacity Market Seller intends to submit a Sell Offer based on opportunity cost, the Capacity Market Seller shall also submit a calculation of Opportunity Cost, as defined in subsection (d), with detailed supporting documentation.

(c) Potential auction participants identified in subsection (b) above need not submit the data specified in that subsection for any Generation Capacity Resource:

i. that is in an Unconstrained LDA Group or, if this is the relevant market, the entire PJM Region, and is in a resource class identified in the table below as not likely to include the marginal price-setting resources in such auction; or

ii. for which the potential participant commits that any Sell Offer it submits as to such resource shall not include any price above: (1) the applicable default level identified below for the relevant resource class, less (2) the Projected PJM Market Revenues for such resource, as determined in accordance with this Tariff.

Nothing herein precludes the Market Monitoring Unit from requesting additional information from any potential auction participant as deemed necessary by the Market Monitoring Unit, including, without limitation, additional cost data on resources in a class that is not otherwise expected to include the marginal price setting resource as outlined in Tariff, Attachment M-Appendix, section II.G. Any Sell Offer submitted in any auction that is inconsistent with any agreement or commitment made pursuant to this subsection shall be rejected, and the Capacity Market Seller shall be required to resubmit a Sell Offer that complies with such agreement or

commitment within one (1) Business Day of the Office of the Interconnection's rejection of such Sell Offer. If the Capacity Market Seller does not timely resubmit its Sell Offer, fails to request a unit-specific Avoidable Cost Rate by the specified deadline, or if the Office of the Interconnection determines that the information provided by the Capacity Market Seller in support of the requested unit-specific Avoidable Cost Rate or Sell Offer is incomplete, the Capacity Market Seller shall be deemed to have submitted a Sell Offer that complies with the commitments made under this subsection, with a default offer for the applicable class of resource or nearest comparable class of resource determined under this subsection (c)(ii). The obligation imposed under section 6.6(a) above shall not be satisfied unless and until the Capacity Market Seller submits (or is deemed to have submitted) a Sell Offer that conforms to its commitments made pursuant to this subsection or subject to the procedures set forth in section 6.4 above and Tariff, Attachment M-Appendix, section II.H.

The default retirement and mothball Avoidable Cost Rates ("ACR") referenced in this subsection (c)(ii) are as set forth in the tables below for the 2013/2014 Delivery Year through the 2016/2017 Delivery Year. Capacity Market Sellers shall use the one-year mothball Avoidable Cost Rate shown below, unless such Capacity Market Seller satisfies the criteria set forth in section 6.7(e) below, in which case the Capacity Market Seller may use the retirement Avoidable Cost Rate. PJM shall also publish on its Web site the number of Generation Capacity Resources and megawatts per LDA that use the retirement Avoidable Cost Rates. A Capacity Market Seller may not use the default Market Seller Offer Cap contained in the ACR tables in this subsection, and also seek to include any one or more categories of the Avoidable Cost Rate defined section 6.8 below.

Maximum Avoidable Cost Rates by Technology Class

| Technology | 2013/14 Mothball ACR (\$/MW-Day) | 2013/14 Retirement ACR (\$/MW-Day) | 2014/15 Mothball ACR (\$/MW-Day) | 2014/15 Retirement ACR (\$/MW-Day) | 2015/16 Mothball ACR (\$/MW-Day) | 2015/16 Retirement ACR (\$/MW-Day) | 2016/2017 Mothball ACR (\$/MW-Day) | 2016/2017 Retirement ACR (\$/MW-Day) |
|---|---|---|---|---|---|---|---|---|
| Nuclear | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pumped Storage | \$23.64 | \$33.19 | \$24.56 | \$34.48 | \$25.56 | \$35.89 | \$24.05 | \$33.78 |
| Hydro | \$80.80 | \$105.67 | \$83.93 | \$109.76 | \$87.35 | \$114.24 | \$82.23 | \$107.55 |
| Sub-Critical Coal | \$193.98 | \$215.02 | \$201.49 | \$223.35 | \$209.71 | \$232.46 | \$197.43 | \$218.84 |
| Super Critical Coal | \$200.41 | \$219.21 | \$208.17 | \$227.70 | \$216.66 | \$236.99 | \$203.96 | \$223.10 |
| Waste Coal - Small | \$255.81 | \$309.83 | \$265.72 | \$321.83 | \$276.56 | \$334.96 | \$260.35 | \$315.34 |
| Waste Coal – Large | \$94.61 | \$114.29 | \$98.27 | \$118.72 | \$102.28 | \$123.56 | \$96.29 | \$116.32 |
| Wind | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CC-2 on 1 Frame F | \$35.18 | \$49.90 | \$36.54 | \$51.83 | \$38.03 | \$53.94 | \$35.81 | \$50.79 |
| CC-3 on 1 Frame E/Siemens | \$39.06 | \$52.89 | \$40.57 | \$54.94 | \$42.23 | \$57.18 | \$39.75 | \$53.83 |
| CC-3 or More on 1 or More Frame F | \$30.46 | \$42.28 | \$31.64 | \$43.92 | \$32.93 | \$45.71 | \$30.99 | \$43.03 |
| CC-NUG Cogen. Frame B or E Technology | \$130.76 | \$175.71 | \$135.82 | \$182.52 | \$141.36 | \$189.97 | \$133.09 | \$178.83 |
| CT - 1st & 2nd Gen. Aero (P&W FT 4) | \$27.96 | \$37.19 | \$29.04 | \$38.63 | \$30.22 | \$40.21 | \$28.45 | \$37.85 |
| CT - 1st & Gen. Frame B | \$27.63 | \$36.87 | \$28.70 | \$38.30 | \$29.87 | \$39.86 | \$28.11 | \$37.52 |
| CT - 2nd Gen. Frame E | \$26.26 | \$35.14 | \$27.28 | \$36.50 | \$28.39 | \$37.99 | \$26.73 | \$35.77 |
| CT - 3rd Gen. Aero (GE LM 6000) | \$63.57 | \$93.70 | \$66.03 | \$97.33 | \$68.72 | \$101.30 | \$64.70 | \$95.37 |
| CT - 3rd Gen. Aero (P&W FT - 8 TwinPak) | \$33.34 | \$49.16 | \$34.63 | \$51.06 | \$36.04 | \$53.14 | \$33.93 | \$50.03 |
| CT - 3rd Gen. Frame F | \$26.96 | \$38.83 | \$28.00 | \$40.33 | \$29.14 | \$41.98 | \$27.43 | \$39.52 |
| Diesel | \$29.92 | \$37.98 | \$31.08 | \$39.45 | \$32.35 | \$41.06 | \$30.44 | \$38.66 |

| | | | | | | | | |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Oil and Gas Steam | \$74.20 | \$90.33 | \$77.07 | \$93.83 | \$80.21 | \$97.66 | \$75.51 | \$91.94 |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|

Commencing with the Base Residual Auction for the 2017/2018 Delivery Year, the Office of the Interconnection shall determine the default retirement and mothball Avoidable Cost Rates referenced in section (c)(ii) above, and post them on its website, by no later than one hundred fifty (150) days prior to the commencement of the offer period for each Base Residual Auction. To determine the applicable ACR rates, the Office of the Interconnection shall use the actual rate of change in the historical values from the Handy-Whitman Index of Public Utility Construction Costs or a comparable index approved by the Commission (“Handy-Whitman Index”) to the extent they are available to update the base values for the Delivery Year, and for future Delivery Years for which the updated Handy-Whitman Index values are not yet available the Office of the Interconnection shall update the base values for the Delivery Year using the most recent ten-calendar-year annual average rate of change. The ACR rates shall be expressed in dollar values for the applicable Delivery Year.

| Maximum Avoidable Cost Rates by Technology Class (Expressed in 2011 Dollars for the 2011/2012 Delivery Year) | | |
|---|---------------------------------|-----------------------------------|
| Technology | Mothball ACR (\$/MW-Day) | Retirement ACR (\$/MW-Day) |
| Combustion Turbine - Industrial Frame | \$24.13 | \$33.04 |
| Coal Fired | \$136.91 | \$157.83 |
| Combined Cycle | \$29.58 | \$40.69 |
| Combustion Turbine - Aero Derivative | \$26.13 | \$37.18 |
| Diesel | \$25.46 | \$32.33 |
| Hydro | \$68.78 | \$89.96 |
| Oil and Gas Steam | \$63.16 | \$76.90 |
| Pumped Storage | \$20.12 | \$28.26 |

To determine the default retirement and mothball ACR values for the 2017/2018 Delivery Year, the Office of the Interconnection shall multiply the base default retirement and mothball ACR values in the table above by a factor equal to one plus the most recent annual average rate of change in the July Handy-Whitman Indices for the 2011 to 2013 calendar years to determine updated base default retirement and mothball ACR values. The updated base default retirement and mothball ACR values shall then be multiplied by a factor equal to one plus the most recent ten-calendar-year annual average rate of change in the applicable Handy-Whitman Index, taken to the fourth power, as calculated by the Office of the Interconnection and posted to its website.

To determine the default retirement and mothball ACR values for the 2018/2019 and 2019/2020 Delivery Years for Base Capacity Resources, the Office of the Interconnection shall multiply the updated base default retirement and mothball ACR values from the immediately preceding Delivery Year by a factor equal to one plus the most recent annual average rate of change in the July Handy-Whitman Index. These values become the new adjusted base default retirement and

mothball ACR values, as calculated by the Office of the Interconnection and posted to its website. These resulting adjusted base values for the Delivery Year shall be multiplied by a factor equal to one plus the most recent ten-calendar-year annual average rate of change in the applicable Handy-Whitman Index, taken to the fourth power, as calculated by the Office of the Interconnection and posted to its website.

PJM shall also publish on its website the number of Generation Capacity Resources and megawatts per LDA that use the retirement Avoidable Cost Rates.

After the Market Monitoring Unit conducts its annual review of the table of default Avoidable Cost Rates included in section 6.7(c) above in accordance with the procedure specified in Tariff, Attachment M-Appendix, section II.H, it will provide updated values or notice of its determination that updated values are not needed to Office of the Interconnection. In the event that the Office of the Interconnection determines that the values should be updated, the Office of the Interconnection shall file its proposed values with the Commission by no later than October 30th prior to the commencement of the offer period for the first RPM Auction for which it proposes to apply the updated values.

(d) In order for costs to qualify for inclusion in the Market Seller Offer Cap, the Capacity Market Seller must provide to the Market Monitoring Unit and the Office of the Interconnection relevant unit-specific cost data concerning each data item specified as set forth in section 6 by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. If cost data is not available at the time of submission for the time periods specified in section 6.8 below, costs may be estimated for such period based on the most recent data available, with an explanation of and basis for the estimate used, as may be further specified in the PJM Manuals. Based on the data and calculations submitted by the Capacity Market Sellers for each existing generation resource and the formulas specified below, the Market Monitoring Unit shall calculate the Market Seller Offer Cap for each such resource, and notify the Capacity Market Seller and the Office of the Interconnection in writing of its determination pursuant to Tariff, Attachment M-Appendix, section II.E.

i. Avoidable Cost Rate: The Avoidable Cost Rate for an existing generation resource shall be determined using the formula below and applied to the unit's Base Offer Segment.

ii. Opportunity Cost: Opportunity Cost shall be the documented price available to an existing generation resource in a market external to PJM. In the event that the total MW of existing generation resources submitting opportunity cost offers in any auction for a Delivery Year exceeds the firm export capability of the PJM system for such Delivery Year, or the capability of external markets to import capacity in such year, the Office of the Interconnection will accept such offers on a competitive basis. PJM will construct a supply curve of opportunity cost offers, ordered by opportunity cost, and accept such offers to export starting with the highest opportunity cost, until the maximum level of such exports is reached. The maximum level of such exports is the lesser of the Office of the Interconnection's ability to permit firm exports or the ability of the importing area(s) to accept firm imports or imports of capacity, taking account of relevant export limitations by location. If, as a result, an opportunity

cost offer is not accepted from an existing generation resource, the Market Seller Offer Cap applicable to Sell Offers relying on such generation resource shall be the Avoidable Cost Rate less the Projected Market Revenues for such resource (as defined in section 6.4 above). The default Avoidable Cost Rate shall be the one year mothball Avoidable Cost Rate set forth in the tables in section 6.7(c) above unless Capacity Market Seller satisfies the criteria delineated in section 6.7(e) below.

iii. Projected PJM Market Revenues: Projected PJM Market Revenues are defined by section 6.8(d) below, for any Generation Capacity Resource to which the Avoidable Cost Rate is applied.

(e) In order for the retirement Avoidable Cost Rate set forth in the table in section 6.7(c) to apply, by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction, a Capacity Market Seller must submit to the Office of the Interconnection and the Market Monitoring Unit a written sworn, notarized statement of a corporate officer representing that the Capacity Market Seller will retire the Generation Capacity Resource if it does not receive during the relevant Delivery Year at least the applicable retirement Avoidable Cost Rate because it would be uneconomic to continue to operate the Generation Capacity Resource in the Delivery Year without the retirement Avoidable Cost Rate, and specifying the date the Generation Capacity Resource would otherwise be retired.

Attachment B – Clean Tariff

6.4 Market Seller Offer Caps

(a) The Market Seller Offer Cap, stated in dollars per MW/day of unforced capacity, applicable to price-quantity offers within the Base Offer Segment for an Existing Generation Capacity Resource shall be the Avoidable Cost Rate for such resource, less the Projected PJM Market Revenues for such resource, stated in dollars per MW/day of unforced capacity. A Capacity Market Seller offering above \$0/MW-day must support and obtain approval of a unit-specific Market Seller Offer Cap pursuant to the procedures and standards of subsection (b) of this section 6.4 or may, at its election, if available, utilize a Market Seller Offer Cap determined using the applicable default gross Avoidable Cost Rate for the applicable resource type shown in the table below, as adjusted for Delivery Years subsequent to the 2022/2023 Delivery Year to reflect changes in avoidable costs, net of projected PJM market revenues equal to the resource's net energy and ancillary service revenues for the resource type, as determined in accordance with Tariff, Attachment DD, section 6.8(d-1).

| Existing Resource Type | Default Gross ACR (2022/2023) (\$/MW-day) (Nameplate) |
|-------------------------------|---|
| Nuclear – single | \$697 |
| Nuclear – dual | \$445 |
| Coal | \$80 |
| Combined Cycle | \$56 |
| Combustion Turbine | \$50 |
| Solar PV (fixed and tracking) | \$40 |
| Wind Onshore | \$83 |

The Market Seller Offer Cap for an Existing Generation Capacity Resource shall be the Opportunity Cost for such resource, if applicable, as determined in accordance with Tariff, Attachment DD, section 6.7. Nothing herein shall preclude any Capacity Market Seller and the Market Monitoring Unit from agreeing to, nor require either such entity to agree to, an alternative market seller offer cap determined on a mutually agreeable basis. Any such alternative offer cap shall be filed with the Commission for its approval. This provision is duplicated in Tariff, Attachment M-Appendix, section II.E.3.

(b) For each Existing Generation Capacity Resource, a potential Capacity Market Seller must provide to the Market Monitoring Unit and the Office of the Interconnection data and documentation required under section 6.7 below to establish the level of the Market Seller Offer Cap applicable to each resource by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller must promptly address any concerns identified by the Market Monitoring Unit regarding the data and documentation provided, review the Market Seller Offer Cap proposed by the Market Monitoring Unit, and attempt to reach agreement with the Market Monitoring Unit on the level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller shall notify the

Market Monitoring Unit in writing, with a copy to the Office of the Interconnection, whether an agreement with the Market Monitoring Unit has been reached or, if no agreement has been reached, specifying the level of Market Seller Offer Cap to which it commits by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction. The Office of the Interconnection shall review the data submitted by the Capacity Market Seller, make a determination whether to accept or reject the requested unit-specific Market Seller Offer Cap, and notify the Capacity Market Seller and the Market Monitoring Unit of its determination in writing, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction. In the event the Office of the Interconnection rejects the Capacity Market Seller's requested unit-specific Market Seller Offer Cap for a particular Capacity Resource, the Capacity Market Seller of such Capacity Resource may submit an offer up to (1) should one exist, the default gross Avoidable Cost Rate for the applicable resource type net of projected PJM market revenues equal to the resource's net energy and ancillary service revenues for the resource type, or (2) the unit-specific Market Seller Offer Cap proposed by the Market Monitoring Unit upon PJM approval of such value. If the Market Monitoring Unit does not provide its determination to the Capacity Market Seller and the Office of the Interconnection by the specified deadline, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction the Office of the Interconnection will make the determination of the level of the Market Seller Offer Cap, which shall be deemed to be final. If the Capacity Market Seller does not notify the Market Monitoring Unit and the Office of the Interconnection of the Market Seller Offer Cap it desires to utilize by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction, it shall be required to utilize a Market Seller Offer Cap determined using the applicable default Avoidable Cost Rate specified in section 6.4(a) above.

(c) Nothing in this section precludes the Capacity Market Seller from filing a petition with FERC seeking a determination of whether the Sell Offer complies with the requirements of the Tariff.

(d) For any Third Incremental Auction for the 2018/2019 Delivery Year or any subsequent Delivery Year, the Market Seller Offer Cap for an Existing Generation Capacity Resource offering as a Capacity Performance Resource shall be determined pursuant to subsection (a) of this Section 6.4, or if elected by the Capacity Market Seller, shall be equal to 1.1 times the Capacity Resource Clearing Price in the Base Residual Auction for the relevant LDA and Delivery Year.

6.5 Mitigation

The Office of the Interconnection shall apply market power mitigation measures in any Base Residual Auction or Incremental Auction for any LDA, Unconstrained LDA Group, or the PJM Region that fails the Market Structure Test.

(a) Mitigation for Generation Capacity Resources.

i) Existing Generation Capacity Resource

Mitigation will be applied on a unit-specific basis and only if the Sell Offer of Unforced Capacity from an Existing Generation Capacity Resource: (1) is greater than \$0/MW-day, except as described in Tariff, Attachment DD, section 6.4(a); and (2) would, absent mitigation, increase the Capacity Resource Clearing Price in the relevant auction. If such conditions are met, such Sell Offer shall be set equal to the Market Seller Offer Cap.

ii) Planned Generation Capacity Resources

(A) Sell Offers based on Planned Generation Capacity Resources (including External Planned Generation Capacity Resources) shall be presumed to be competitive and shall not be subject to market power mitigation in any Base Residual Auction or Incremental Auction for which such resource qualifies as a Planned Generation Capacity Resource, but any such Sell Offer shall be rejected if it meets the criteria set forth in subsection (C) below, unless the Capacity Market Seller obtains approval from FERC for use of such offer prior to the close of the offer period for the applicable RPM Auction.

(B) Sell Offers based on Planned Generation Capacity Resources (including Planned External Generation Capacity Resources) shall be deemed competitive and not be subject to mitigation if: (1) collectively all such Sell Offers provide Unforced Capacity in an amount equal to or greater than two times the incremental quantity of new entry required to meet the LDA Reliability Requirement; and (2) at least two unaffiliated suppliers have submitted Sell Offers for Planned Generation Capacity Resources in such LDA. Notwithstanding the foregoing, any Capacity Market Seller, together with Affiliates, whose Sell Offers based on Planned Generation Capacity Resources in that modeled LDA are pivotal, shall be subject to mitigation.

(C) Where the two conditions stated in subsection (B) above are not met, or the Sell Offer is pivotal, the Sell Offer shall be rejected if it exceeds 140 percent of: 1) the average of location-adjusted Sell Offers for Planned Generation Capacity Resources from the same asset class as such Sell Offer, submitted (and not rejected) (Asset-Class New Plant Offers) for such Delivery Year; or 2) if there are no Asset-Class New Plant Offers

for such Delivery Year, the average of Asset-Class New Plant Offers for all prior Delivery Years; or 3) if there are no Asset-Class New Plant Offers for any prior Delivery Year, the Net CONE applicable for such Delivery Year in the LDA for which such Sell Offer was submitted. For purposes of this section, asset classes shall be as stated in section 6.7(c) below as effective for such Delivery Year, and Asset-Class New Plant Offers shall be location-adjusted by the ratio between the Net CONE effective for such Delivery Year for the LDA in which the Sell Offer subject to this section was submitted and the average, weighted by installed capacity, of the Net CONEs for all LDAs in which the units underlying such Asset Class New Plant Offers are located. Following the conduct of the applicable auction and before the final determination of clearing prices, in accordance with Section 6.2(b) above, each Capacity Market Seller whose Sell Offer is so rejected shall be notified in writing by the Office of the Interconnection by no later than one (1) Business Day after the close of the offer period for the applicable RPM Auction and allowed an opportunity to submit a revised Sell Offer that does not exceed such threshold within one (1) Business Day of the Office of the Interconnection's rejection of such Sell Offer. If such revised Sell Offer is accepted by the Office of the Interconnection, the Office of the Interconnection then shall clear the auction with such revised Sell Offer in place. Pursuant to Tariff, Attachment M-Appendix, Section II.F, the Market Monitoring Unit shall notify in writing each Capacity Market Seller whose Sell Offer has been determined to be non-competitive and subject to mitigation, with a copy to the Office of the Interconnection, by no later than one (1) Business Day after the close of the offer period for the applicable RPM Auction.

(b) Mitigation for Demand Resources

The Market Seller Offer Cap shall not be applied to Sell Offers of Demand Resources or Energy Efficiency Resources.

6.7 Data Submission

(a) Potential participants in any PJM Reliability Pricing Model Auction shall submit, together with supporting documentation for each item, to the Market Monitoring Unit and the Office of the Interconnection no later than one hundred twenty (120) days prior to the posted date for the conduct of such auction, a list of owned or controlled generation resources by PJM transmission zone for the specified Delivery Year, including the amount of gross capacity, the EFORd and the net (unforced) capacity. A potential participant intending to offer any Capacity Performance Resource above \$0/MW-day, except as described in Tariff, Attachment DD, section 6.4(a) must provide the associated offer cap and the MW to which the offer cap applies.

(b) Except as provided in subsection (c) below, potential participants in any PJM Reliability Pricing Model Auction in any LDA or Unconstrained LDA Group that request a unit specific Avoidable Cost Rate shall, in addition, submit the following data, together with supporting documentation for each item, to the Market Monitoring Unit no later than one hundred twenty (120) days prior to the commencement of the offer period for such auction:

i. If the Capacity Market Seller intends to submit a non-zero price in its Sell Offer in any such auction, the Capacity Market Seller shall submit a calculation of the Avoidable Cost Rate and Projected PJM Market Revenues, as defined in subsection (d) below, together with detailed supporting documentation.

ii. If the Capacity Market Seller intends to submit a Sell Offer based on opportunity cost, the Capacity Market Seller shall also submit a calculation of Opportunity Cost, as defined in subsection (d), with detailed supporting documentation.

(c) Potential auction participants identified in subsection (b) above need not submit the data specified in that subsection for any Generation Capacity Resource:

i. that is in an Unconstrained LDA Group or, if this is the relevant market, the entire PJM Region, and is in a resource class identified in the table below as not likely to include the marginal price-setting resources in such auction; or

ii. for which the potential participant commits that any Sell Offer it submits as to such resource shall not include any price above: (1) the applicable default level identified below for the relevant resource class, less (2) the Projected PJM Market Revenues for such resource, as determined in accordance with this Tariff.

Nothing herein precludes the Market Monitoring Unit from requesting additional information from any potential auction participant as deemed necessary by the Market Monitoring Unit, including, without limitation, additional cost data on resources in a class that is not otherwise expected to include the marginal price setting resource as outlined in Tariff, Attachment M-Appendix, section II.G. Any Sell Offer submitted in any auction that is inconsistent with any agreement or commitment made pursuant to this subsection shall be rejected, and the Capacity Market Seller shall be required to resubmit a Sell Offer that complies with such agreement or commitment within one (1) Business Day of the Office of the Interconnection's rejection of such

Sell Offer. If the Capacity Market Seller does not timely resubmit its Sell Offer, fails to request a unit-specific Avoidable Cost Rate by the specified deadline, or if the Office of the Interconnection determines that the information provided by the Capacity Market Seller in support of the requested unit-specific Avoidable Cost Rate or Sell Offer is incomplete, the Capacity Market Seller shall be deemed to have submitted a Sell Offer that complies with the commitments made under this subsection, with a default offer for the applicable class of resource or nearest comparable class of resource determined under this subsection (c)(ii). The obligation imposed under section 6.6(a) above shall not be satisfied unless and until the Capacity Market Seller submits (or is deemed to have submitted) a Sell Offer that conforms to its commitments made pursuant to this subsection or subject to the procedures set forth in section 6.4 above and Tariff, Attachment M-Appendix, section II.H.

The default retirement and mothball Avoidable Cost Rates (“ACR”) referenced in this subsection (c)(ii) are as set forth in the tables below for the 2013/2014 Delivery Year through the 2016/2017 Delivery Year. Capacity Market Sellers shall use the one-year mothball Avoidable Cost Rate shown below, unless such Capacity Market Seller satisfies the criteria set forth in section 6.7(e) below, in which case the Capacity Market Seller may use the retirement Avoidable Cost Rate. PJM shall also publish on its Web site the number of Generation Capacity Resources and megawatts per LDA that use the retirement Avoidable Cost Rates. A Capacity Market Seller may not use the default Market Seller Offer Cap contained in the ACR tables in this subsection, and also seek to include any one or more categories of the Avoidable Cost Rate defined section 6.8 below.

Maximum Avoidable Cost Rates by Technology Class

| Technology | 2013/14 Mothball ACR (\$/MW-Day) | 2013/14 Retirement ACR (\$/MW-Day) | 2014/15 Mothball ACR (\$/MW-Day) | 2014/15 Retirement ACR (\$/MW-Day) | 2015/16 Mothball ACR (\$/MW-Day) | 2015/16 Retirement ACR (\$/MW-Day) | 2016/2017 Mothball ACR (\$/MW-Day) | 2016/2017 Retirement ACR (\$/MW-Day) |
|---|---|---|---|---|---|---|---|---|
| Nuclear | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Pumped Storage | \$23.64 | \$33.19 | \$24.56 | \$34.48 | \$25.56 | \$35.89 | \$24.05 | \$33.78 |
| Hydro | \$80.80 | \$105.67 | \$83.93 | \$109.76 | \$87.35 | \$114.24 | \$82.23 | \$107.55 |
| Sub-Critical Coal | \$193.98 | \$215.02 | \$201.49 | \$223.35 | \$209.71 | \$232.46 | \$197.43 | \$218.84 |
| Super Critical Coal | \$200.41 | \$219.21 | \$208.17 | \$227.70 | \$216.66 | \$236.99 | \$203.96 | \$223.10 |
| Waste Coal - Small | \$255.81 | \$309.83 | \$265.72 | \$321.83 | \$276.56 | \$334.96 | \$260.35 | \$315.34 |
| Waste Coal – Large | \$94.61 | \$114.29 | \$98.27 | \$118.72 | \$102.28 | \$123.56 | \$96.29 | \$116.32 |
| Wind | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| CC-2 on 1 Frame F | \$35.18 | \$49.90 | \$36.54 | \$51.83 | \$38.03 | \$53.94 | \$35.81 | \$50.79 |
| CC-3 on 1 Frame E/Siemens | \$39.06 | \$52.89 | \$40.57 | \$54.94 | \$42.23 | \$57.18 | \$39.75 | \$53.83 |
| CC–3 or More on 1 or More Frame F | \$30.46 | \$42.28 | \$31.64 | \$43.92 | \$32.93 | \$45.71 | \$30.99 | \$43.03 |
| CC-NUG Cogen. Frame B or E Technology | \$130.76 | \$175.71 | \$135.82 | \$182.52 | \$141.36 | \$189.97 | \$133.09 | \$178.83 |
| CT - 1st & 2nd Gen. Aero (P&W FT 4) | \$27.96 | \$37.19 | \$29.04 | \$38.63 | \$30.22 | \$40.21 | \$28.45 | \$37.85 |
| CT - 1st & Gen. Frame B | \$27.63 | \$36.87 | \$28.70 | \$38.30 | \$29.87 | \$39.86 | \$28.11 | \$37.52 |
| CT - 2nd Gen. Frame E | \$26.26 | \$35.14 | \$27.28 | \$36.50 | \$28.39 | \$37.99 | \$26.73 | \$35.77 |
| CT - 3rd Gen. Aero (GE LM 6000) | \$63.57 | \$93.70 | \$66.03 | \$97.33 | \$68.72 | \$101.30 | \$64.70 | \$95.37 |
| CT - 3rd Gen. Aero (P&W FT - 8 TwinPak) | \$33.34 | \$49.16 | \$34.63 | \$51.06 | \$36.04 | \$53.14 | \$33.93 | \$50.03 |
| CT - 3rd Gen. Frame F | \$26.96 | \$38.83 | \$28.00 | \$40.33 | \$29.14 | \$41.98 | \$27.43 | \$39.52 |
| Diesel | \$29.92 | \$37.98 | \$31.08 | \$39.45 | \$32.35 | \$41.06 | \$30.44 | \$38.66 |

| | | | | | | | | |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Oil and Gas Steam | \$74.20 | \$90.33 | \$77.07 | \$93.83 | \$80.21 | \$97.66 | \$75.51 | \$91.94 |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|

Commencing with the Base Residual Auction for the 2017/2018 Delivery Year, the Office of the Interconnection shall determine the default retirement and mothball Avoidable Cost Rates referenced in section (c)(ii) above, and post them on its website, by no later than one hundred fifty (150) days prior to the commencement of the offer period for each Base Residual Auction. To determine the applicable ACR rates, the Office of the Interconnection shall use the actual rate of change in the historical values from the Handy-Whitman Index of Public Utility Construction Costs or a comparable index approved by the Commission (“Handy-Whitman Index”) to the extent they are available to update the base values for the Delivery Year, and for future Delivery Years for which the updated Handy-Whitman Index values are not yet available the Office of the Interconnection shall update the base values for the Delivery Year using the most recent ten-calendar-year annual average rate of change. The ACR rates shall be expressed in dollar values for the applicable Delivery Year.

| Maximum Avoidable Cost Rates by Technology Class (Expressed in 2011 Dollars for the 2011/2012 Delivery Year) | | |
|---|---------------------------------|-----------------------------------|
| Technology | Mothball ACR (\$/MW-Day) | Retirement ACR (\$/MW-Day) |
| Combustion Turbine - Industrial Frame | \$24.13 | \$33.04 |
| Coal Fired | \$136.91 | \$157.83 |
| Combined Cycle | \$29.58 | \$40.69 |
| Combustion Turbine - Aero Derivative | \$26.13 | \$37.18 |
| Diesel | \$25.46 | \$32.33 |
| Hydro | \$68.78 | \$89.96 |
| Oil and Gas Steam | \$63.16 | \$76.90 |
| Pumped Storage | \$20.12 | \$28.26 |

To determine the default retirement and mothball ACR values for the 2017/2018 Delivery Year, the Office of the Interconnection shall multiply the base default retirement and mothball ACR values in the table above by a factor equal to one plus the most recent annual average rate of change in the July Handy-Whitman Indices for the 2011 to 2013 calendar years to determine updated base default retirement and mothball ACR values. The updated base default retirement and mothball ACR values shall then be multiplied by a factor equal to one plus the most recent ten-calendar-year annual average rate of change in the applicable Handy-Whitman Index, taken to the fourth power, as calculated by the Office of the Interconnection and posted to its website.

To determine the default retirement and mothball ACR values for the 2018/2019 and 2019/2020 Delivery Years for Base Capacity Resources, the Office of the Interconnection shall multiply the updated base default retirement and mothball ACR values from the immediately preceding Delivery Year by a factor equal to one plus the most recent annual average rate of change in the July Handy-Whitman Index. These values become the new adjusted base default retirement and

mothball ACR values, as calculated by the Office of the Interconnection and posted to its website. These resulting adjusted base values for the Delivery Year shall be multiplied by a factor equal to one plus the most recent ten-calendar-year annual average rate of change in the applicable Handy-Whitman Index, taken to the fourth power, as calculated by the Office of the Interconnection and posted to its website.

PJM shall also publish on its website the number of Generation Capacity Resources and megawatts per LDA that use the retirement Avoidable Cost Rates.

After the Market Monitoring Unit conducts its annual review of the table of default Avoidable Cost Rates included in section 6.7(c) above in accordance with the procedure specified in Tariff, Attachment M-Appendix, section II.H, it will provide updated values or notice of its determination that updated values are not needed to Office of the Interconnection. In the event that the Office of the Interconnection determines that the values should be updated, the Office of the Interconnection shall file its proposed values with the Commission by no later than October 30th prior to the commencement of the offer period for the first RPM Auction for which it proposes to apply the updated values.

(d) In order for costs to qualify for inclusion in the Market Seller Offer Cap, the Capacity Market Seller must provide to the Market Monitoring Unit and the Office of the Interconnection relevant unit-specific cost data concerning each data item specified as set forth in section 6 by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. If cost data is not available at the time of submission for the time periods specified in section 6.8 below, costs may be estimated for such period based on the most recent data available, with an explanation of and basis for the estimate used, as may be further specified in the PJM Manuals. Based on the data and calculations submitted by the Capacity Market Sellers for each existing generation resource and the formulas specified below, the Market Monitoring Unit shall calculate the Market Seller Offer Cap for each such resource, and notify the Capacity Market Seller and the Office of the Interconnection in writing of its determination pursuant to Tariff, Attachment M-Appendix, section II.E.

i. **Avoidable Cost Rate:** The Avoidable Cost Rate for an existing generation resource shall be determined using the formula below and applied to the unit's Base Offer Segment.

ii. **Opportunity Cost:** Opportunity Cost shall be the documented price available to an existing generation resource in a market external to PJM. In the event that the total MW of existing generation resources submitting opportunity cost offers in any auction for a Delivery Year exceeds the firm export capability of the PJM system for such Delivery Year, or the capability of external markets to import capacity in such year, the Office of the Interconnection will accept such offers on a competitive basis. PJM will construct a supply curve of opportunity cost offers, ordered by opportunity cost, and accept such offers to export starting with the highest opportunity cost, until the maximum level of such exports is reached. The maximum level of such exports is the lesser of the Office of the Interconnection's ability to permit firm exports or the ability of the importing area(s) to accept firm imports or imports of capacity, taking account of relevant export limitations by location. If, as a result, an opportunity

cost offer is not accepted from an existing generation resource, the Market Seller Offer Cap applicable to Sell Offers relying on such generation resource shall be the Avoidable Cost Rate less the Projected Market Revenues for such resource (as defined in section 6.4 above). The default Avoidable Cost Rate shall be the one year mothball Avoidable Cost Rate set forth in the tables in section 6.7(c) above unless Capacity Market Seller satisfies the criteria delineated in section 6.7(e) below.

iii. Projected PJM Market Revenues: Projected PJM Market Revenues are defined by section 6.8(d) below, for any Generation Capacity Resource to which the Avoidable Cost Rate is applied.

(e) In order for the retirement Avoidable Cost Rate set forth in the table in section 6.7(c) to apply, by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction, a Capacity Market Seller must submit to the Office of the Interconnection and the Market Monitoring Unit a written sworn, notarized statement of a corporate officer representing that the Capacity Market Seller will retire the Generation Capacity Resource if it does not receive during the relevant Delivery Year at least the applicable retirement Avoidable Cost Rate because it would be uneconomic to continue to operate the Generation Capacity Resource in the Delivery Year without the retirement Avoidable Cost Rate, and specifying the date the Generation Capacity Resource would otherwise be retired.