

SCHEDULE 2 - COMPONENTS OF COST

(a) Each Market Participant obligated to sell energy on the PJM Interchange Energy Market at cost-based rates may include the following components or their equivalent in the determination of costs for energy supplied to or from the PJM Region:

For generating units powered by boilers

Firing-up cost

Peak-prepared-for maintenance cost

For generating units powered by machines

Starting cost from cold to synchronized operation

For all generating units

Incremental fuel cost

Incremental maintenance cost

No-load cost during period of operation

Incremental labor cost

Other incremental operating costs

For a generating unit that is subject to operational limitations due to energy or environmental limitations imposed on the generating unit by Applicable Laws and Regulations (as defined in the PJM Tariff), the Market Participant may include in the calculation of its “other incremental operating costs” an amount reflecting the unit-specific Energy Market Opportunity Costs expected to be incurred. Such unit-specific Energy Market Opportunity Costs are calculated by forecasting Locational Marginal Prices based on future contract prices for electricity using PJM Western Hub forward prices, taking into account historical variability and basis differentials for the bus at which the generating unit is located for the prior three year period immediately preceding the relevant compliance period, and subtract therefrom the forecasted costs to generate energy at the bus at which the generating unit is located, as specified in more detail in PJM Manual 15. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting Energy Market Opportunity Cost shall be zero. Notwithstanding the foregoing, a Market Participant may submit a request to PJM for consideration and approval of an alternative method of calculating its Energy Market Opportunity Cost if the standard methodology described herein does not accurately represent the Market Participant’s Energy Market Opportunity Cost.

For a generating unit that is subject to operational limitations because it only has a limited number of starts or available run hours resulting from (i) the physical equipment limitations of the unit, for up to one year, due to original equipment manufacturer recommendations or insurance carrier restrictions, or (ii) a fuel supply limitation, for up to one year, resulting from an event of Catastrophic Force Majeure, the Market Participant may include in the calculation of its “other incremental operating costs” an amount reflecting the unit-specific Non-Regulatory Opportunity Costs expected to be incurred. Such unit-specific Non-Regulatory Opportunity Costs are calculated by forecasting Locational Marginal Prices based on future contract prices for electricity using PJM Western Hub forward prices, taking into account

historical variability and basis differentials for the bus at which the generating unit is located for the prior three year period immediately preceding the period of time in which the unit is bound by the referenced restrictions, and subtract therefrom the forecasted costs to generate energy at the bus at which the generating unit is located, as specified in more detail in PJM Manual 15. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting Non-Regulatory Opportunity Cost shall be zero.

—(b) All fuel costs shall employ the marginal fuel price experienced by the Member.

—(c) The PJM Board, upon consideration of the advice and recommendations of the Members Committee, shall from time to time define in detail the method of determining the costs entering into the said components, and the Members shall adhere to such definitions in the preparation of incremental costs used on the Interconnection.

(d) A Market Seller may only submit a non-zero cost-based offer into the PJM Interchange Energy Market for a generation resource if it has a PJM-approved Fuel Cost Policy for such generation resource.

(e) A Market Seller shall provide a Fuel Cost Policy to PJM and the Market Monitoring Unit for each generation resource that it intends to offer into the PJM Interchange Energy Market, for each fuel type utilized by the resource. The Market Seller shall submit the initial Fuel Cost Policy for a generation resource to PJM and the Market Monitoring Unit for review by no later than 45 days prior to the Market Seller's initial submittal of a cost-based offer for the resource and shall update existing Fuel Cost Policies consistent with the annual update requirements set forth below in subsection (k). The basis for the Market Monitoring Unit's review is described in PJM Tariff, Attachment M-Appendix. PJM shall consult with the Market Monitoring Unit, and consider any input and advice timely received from the Market Monitoring Unit, in its determination of whether to approve a Market Seller's Fuel Cost Policy. After it has completed its evaluation of the request, PJM shall notify the Market Seller in writing, with a copy to the Market Monitoring Unit, whether the Fuel Cost Policy is approved or rejected. If PJM rejects a Market Seller's Fuel Cost Policy, PJM shall include an explanation for why the Fuel Cost Policy was rejected in its written notification.

(f) PJM shall review and approve a Fuel Cost Policy if it:

(i) Provides information sufficient for the verification of the Market Seller's fuel procurement practices, as further described below and in PJM Manual 15, and how those practices are utilized to determine cost-based offers the Market Seller submits into the PJM Interchange Energy Market;

(ii) Reflects the Market Seller's applicable commodity and/or transportation contracts (to the extent it holds such contracts), and sets forth all applicable indices as a measure that PJM can use to verify how anticipated spot market purchases are utilized in determining fuel costs;

(iii) Provides a detailed explanation of the basis for and reasonableness of any applicable adders included in determining fuel costs in accordance with PJM Manual 15;

(iv) Accounts for situations where applicable indices or other objective market measures are not sufficiently liquid by documenting the alternative means actually utilized by the Market Seller to price the applicable fuel used in the determination of its cost-based offers, such as documented quotes for the procurement of natural gas; and

(v) Adheres to all requirements of PJM Manual 15 applicable to the generation resource.

(g) To the extent a Market Seller proposes alternative measures to document its fuel costs in its Fuel Cost Policy for a generation resource, the Market Seller shall explain how such alternative measures are consistent with or superior to the standard specified in subsection (f) above, accounting for the unique circumstances associated with procurement of fuel to supply the generation resource.

(h) If PJM determines that a Fuel Cost Policy submitted for review does not contain adequate support for PJM to make a determination as to the acceptability of any portion of the proposed policy consistent with the standards set forth above, PJM shall reject the Fuel Cost Policy. If PJM rejects the Fuel Cost Policy, the Market Seller's previously PJM-approved Fuel Cost Policy shall apply to all of the Market Seller's cost-based offers until such time as, subject to the review process set forth below in subsection (k), PJM approves a new Fuel Cost Policy for the Market Seller.

(i) If, after having approved a Fuel Cost Policy, PJM determines, with input and advice timely received from the Market Monitoring Unit, that the Market Seller's procurement practices or the method for determining other components of cost-based offers is no longer consistent with the approved Fuel Cost Policy, this Schedule or PJM Manual 15, PJM may revoke its approval of the Fuel Cost Policy, and Market Seller shall be required to submit a new Fuel Cost Policy for approval pursuant to the process and deadlines set forth in PJM Manual 15. If PJM revokes a Market Seller's previously approved Fuel Cost Policy, PJM shall notify the Market Seller in writing, with a copy to the Market Monitoring Unit, and include an explanation for the revocation. Upon revocation of a Fuel Cost Policy, the penalty referenced in subsection (l) below shall apply beginning on the day after PJM issues the written notification of revocation to the Market Seller, with no additional requirement for PJM to provide any further notice to the Market Seller.

(j) Each Market Seller shall include in its Fuel Cost Policy the following information, as further described in the applicable provisions of PJM Manual 15:

(i) For all Fuel Cost Policies, regardless of fuel type, the Market Seller shall provide a detailed explanation of the Market Seller's established method of calculating fuel costs, indicating whether fuel purchases are subject to a contract price and/or spot pricing, and specifying how it is determined which of the contract prices and/or spot market prices to use. The Market Seller shall include its method for determining commodity, handling and transportation costs.

(ii) For Fuel Cost Policies applicable to generation resources using a fuel source other than natural gas, the Market Seller shall adhere to the following guidelines:

1. Fuel costs for solar, Energy Storage Resources and run-of-river hydro resources shall be zero.

2. Fuel costs for nuclear resources shall not include in-service interest charges whether related to fuel that is leased or capitalized.

3. For Pumped Storage Hydro resources, fuel cost shall be determined based on the amount of energy necessary to pump from the lower reservoir to the upper reservoir.

4. For wind resources, the Market Seller shall identify how it accounts for renewable energy credits and production tax credits.

5. For solid waste, bio-mass and landfill gas resources, the Market Seller shall include the costs of such fuels even when the cost is negative.

(iii) For emissions costs, Market Sellers shall report the emissions rate of each generation resource, the method for determining the emissions allowance cost, and the frequency of updating emission rates.

(iv) A Fuel Cost Policy may include any applicable Maintenance Adders. Such adders must be reviewed at least annually by the Market Seller and be changed if they are no longer accurate. Maintenance Adders cannot include any costs that are included in the generation resource's Avoidable Cost Rate.

(v) Market Sellers shall report, for all of the generation resource's operating modes, fuels, and at various operating temperatures, the incremental, no load and start heat requirements, the method of developing heat inputs, and the frequency of updating heat inputs.

(vi) A Fuel Cost Policy shall include any applicable unit specific performance factors, and the method used to determine them, which may be modified seasonally to reflect ambient conditions.

(vii) A Fuel Cost Policy shall include the cost-based Start-Up Cost calculation for the generation resource, and identify for each temperature state the starting fuel (MMBtu), station service (MWh), start Maintenance Adder, and any Start Additional Labor Cost.

(viii) A Fuel Cost Policy shall also include any other incremental operating costs included in a Market Seller's cost-based offer for a resource, including but not limited to the consumables used for operation and the marginal value of costs in terms of dollars per MWh or dollars per unit of fuel, along with all applicable descriptions, calculation methodologies associated with such costs, and frequency of updating such costs.

(k) On an annual basis, all Market Sellers will be required to either submit to PJM and the Market Monitoring Unit an updated Fuel Cost Policy that complies with this Schedule 2 and PJM Manual 15, or confirm that their currently effective and approved Fuel Cost Policy remains compliant, pursuant to the procedures and deadlines specified in PJM Manual 15. Market Sellers must submit such information by no later than June 15 of each year. PJM shall consult with the Market Monitoring Unit, and consider any input timely received from the Market Monitoring Unit, in its determination of whether to approve a Market Seller's updated Fuel Cost Policy. After it has completed its evaluation of the request, PJM shall notify the Market Seller in writing, with a copy to the Market Monitoring Unit, of its determination whether the updated Fuel Cost Policy is approved or rejected by no later than November 1. If PJM rejects a Market Seller's updated Fuel Cost Policy, in its written notification, PJM shall provide an explanation for why the Fuel Cost Policy was rejected. If a Market Seller desires to update its Fuel Cost Policy, or PJM determines either on its own or based on input received from the Market Monitoring Unit, that the Market Seller must update its Fuel Cost Policy outside of the annual review process, the Market Seller shall follow the applicable processes and deadlines specified in PJM Manual 15.

(l) If upon review of a Market Seller's cost-based offer, PJM determines that the offer is not in compliance with the Market Seller's PJM-approved Fuel Cost Policy and the Market Monitoring Unit agrees with that determination, or the Market Monitoring Unit determines that the offer is not in compliance with any provision of the Market Seller's PJM-approved Fuel Cost Policy and PJM agrees with the Market Monitoring Unit's determination, or the Market Seller does not have a PJM-approved Fuel Cost Policy, the Market Seller shall be subject to the following penalty summed for each hour that the offer applied:

$$\sum \text{Penalty}_{dh} = \min(d, 15) \times \text{LMP}_h \times \text{MW}_h$$

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where:

d is the greater of one and the number of days since PJM first notified the Market Seller of PJM's and the Market Monitoring Unit's agreement regarding applicability of the penalty

h is the applicable hour of the day for which the offer applies

LMP_h is the real-time LMP at the applicable pricing location for the resource for the hour

MW_h is the available capacity of the resource for the hour

All charges collected pursuant to this provision shall be allocated by Load Ratio Share to all Load Serving Entities in the PJM Region.

If upon review of a Market Seller's cost-based offer PJM and the Market Monitoring Unit disagree about whether the offer is in compliance with the Market Seller's PJM-approved Fuel Cost Policy, PJM and/or the Market Monitoring Unit may confidentially refer the matter to FERC Office of Enforcement for resolution and determination whether the applicable penalties should be assessed.

(m) Nothing in this Schedule 2 is intended to abrogate or in any way alter the responsibility of the Market Monitoring Unit to make determinations about market power pursuant to PJM Tariff, Attachment M and Attachment M-Appendix.

Tariff, Section 1

Maintenance Adder:

“Maintenance Adder” shall mean an adder that may be included to account for variable operation and maintenance expenses in a Market Seller’s Fuel Cost Policy. The Maintenance Adder is calculated in accordance with the applicable provisions of PJM Manual 15, and may only include expenses incurred as a result of electric production.

Start Additional Labor Costs:

“Start Additional Labor Costs” shall mean additional labor costs for startup required above normal station manning levels.

Fuel Cost Policy:

“Fuel Cost Policy” shall mean the document provided by a Market Seller to PJM and the Market Monitoring Unit in accordance with PJM Manual 15 which reflects the Market Seller’s methodologies used to price fuel and compute the Market Seller’s total fuel-related costs applicable to cost-based offers for a generation resource.

Tariff, Attachment M-Appendix

II. DEVELOPMENT OF INPUTS FOR PROSPECTIVE MITIGATION

A. Offer Price Caps:

1. The Market Monitor or his designee shall advise the Office of the Interconnection whether it believes that the cost references, methods and rules included in the Cost Development Guidelines are accurate and appropriate, as specified in the PJM Manuals.

2. The Market Monitoring Unit shall review ~~upon request of a Market Seller, and may review upon its own initiative at any time,~~ the incremental costs (defined in Section 6.4.2 of Schedule 1 of the Operating Agreement) included in the Offer Price Cap of a generating unit in order to ensure that the Market Seller has correctly applied the Cost Development Guidelines, including its PJM-approved Fuel Cost Policy, and that the level of the Offer Price Cap is otherwise acceptable. The Market Monitoring Unit shall inform PJM if it believes a Market Seller has submitted a cost-based offer that is not compliant with these criteria and whether it recommends that PJM assess the applicable penalty therefor, pursuant to Schedule 2 of the Operating Agreement.

3. On or before the 21st day of each month, the Market Monitoring Unit shall calculate in accordance with the applicable criteria whether each generating unit with an offer cap calculated under Section 6.4.2 of Schedule 1 of the Operating Agreement is eligible to include an adder based on Frequently Mitigated Unit or Associated Unit status, and shall issue a written notice of the applicable adder, with a copy to the Office of the Interconnection, to the Market Seller for each unit that meets the criteria for Frequently Mitigated Unit or Associated Unit status.

4. Notwithstanding the number of jointly pivotal suppliers in any hour, if the Market Monitoring Unit determines that a reasonable level of competition will not exist based on an evaluation of all facts and circumstances, it may propose to the Commission the removal of offer-capping suspensions otherwise authorized by Section 6.4 of Schedule 1 of the Operating Agreement. Such proposals shall take effect upon Commission acceptance of the Market Monitoring Unit's filing.

5. The Market Monitoring Unit shall review all Fuel Cost Policies submitted by Market Sellers for market power concerns. The Market Monitoring Unit shall communicate its determination regarding these criteria to PJM and the Market Seller pursuant to the process further described in PJM Manual 15. The Market Monitoring Unit may contest PJM's approval of a Fuel Cost Policy through a confidential referral to FERC's Office of Enforcement. Once a Fuel Cost Policy is approved by PJM, the Market Monitoring Unit's objections to a particular cost-based offer submitted pursuant to that Fuel Cost Policy shall be made known to PJM and may also be referred to FERC's Office of Enforcement.