2.2 Fuel Cost Policies and Guidelines(moved from Section 2.3)

A Market Seller may only submit a non-zero cost-based offer greater than the temporary cost offer methodology if it has a PJM-approved Fuel Cost Policy consistent with each fuel type on which the resource can operate in accordance with Section 2.2.1 of this manual and Operating Agreement, Schedule 2. Regulation only resources do not require a Fuel Cost Policy. The Fuel Cost Policy will be submitted in MIRA, or other system(s) made available for submission of such data. Submission to MIRA, or other system(s) made available is considered submission to PJM and the MMU. Market Sellers that offer a schedule with more than one fuel type must ensure that the portion of the offer for each fuel type is in accordance with the PJM approved Fuel Cost Policy.

2.2.1 Submission of and/or Modifications to Fuel Cost Policies

Prior to expiration of a Fuel Cost Policy, 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 Operating Agreement, Schedule 2 and PJM Manual 15, or confirm that their expiring Fuel Cost Policy remains compliant. PJM and the Market Monitoring Unit may work with Market Sellers to extend their currently approved Fuel Cost Policy prior to expiration.

A Market Seller shall submit a new or updated Fuel Cost Policy:

- If a Market Seller has an approved Fuel Cost Policy currently in place and needs to alter it in order to conform it to the provisions of this Manual or any applicable provisions of PJM's governing documents,
- If any action by a governmental or regulatory agency external to a Market Seller results in a need for the Market Seller to change its method of fuel cost calculation,
- If there are any material changes to Fuel Cost Policy,
- If PJM requests a Market Seller to submit an updated Fuel Cost Policy, or
- If a Market Seller will be entering a non-zero cost offer for a new or existing resource without an approved policy into PJM's energy markets.

The Market Seller shall notify PJM and the MMU that an update to an existing Fuel Cost Policy or the need for a Fuel Cost Policy for a new resource is required at the earliest possible opportunity. If PJM requests the Market Seller to submit an updated Fuel Cost Policy, then the expiration of the Market Seller's current Fuel Cost Policy shall follow the process set forth in Section 2.3.1.2. The Market Seller shall provide an updated policy to PJM and the MMU:

- For new resources, following the process delineated in Operating Agreement Schedule 2 Section 2.2 (a).
- For resources transferred to another Market Seller, the new Market Seller shall submit a Fuel Cost Policy to PJM and MMU for review prior to transfer or an alternative date agreed to by PJM. The new Market Seller may use the temporary cost offer methodology described in Section 2.2.1.3 for making cost based offers, as an alternative to offering zero, while a new policy is under evaluation. Note: Changes in dispatch agent do not require submission of a new policy.
- For existing resources, the Market Seller may use the temporary cost offer methodology described in Section 2.2.1.3 for making cost-based offers, as an alternative to offering

zero, while the requested update or new policy is under evaluation, in the absence of an approved Fuel Cost Policy.

2.2.1.1 PJM and MMU Review Timelines and Fuel Cost Policy Effective Date

The MMU shall have an initial 10 Business Days to review a submitted Fuel Cost Policy and an additional 5 Business Days every time the Market Seller revises the Fuel Cost Policy. At any time, the Market Seller may request:

- PJM begin its review prior to the completion of the MMU review; or
- PJM delay its review until after the completion of the MMU review.

Immediately following the MMU's review, or at the Market Seller's request for PJM to review, PJM shall have 20 Business Days to review a submitted Fuel Cost Policy and an additional 5 Business Days or an agreed upon date between PJM and the Market Seller every time the Market Seller revises the Fuel Cost Policy. If PJM rejects a Market Seller's updated Fuel Cost Policy, PJM must include an explanation for why the Fuel Cost Policy was rejected in its written notification. All approved Fuel Cost Policies will have an effective date of the next operating day following approval, or a later date as indicated by PJM in its written notification to the Market Seller and MMU. The approved policy will be in effect until superseded or expired.

2.2.1.2 Expiration of a Fuel Cost Policy

(a) PJM, in consultation with the Market Seller and with timely input and advice from the Market Monitoring Unit, may:

i. Update the Market Seller's Fuel Cost Policy expiration date, with at least 90 days notification to the Market Seller, due to a business rule change in the PJM governing documents.

ii. Immediately expire the Market Seller's Fuel Cost Policy with written notification to the Market Seller when a change in circumstance causes the Market Seller's fuel pricing and/or cost estimation method to be no longer consistent with the approved Fuel Cost Policy, this Operating Agreement, Schedule 2 or PJM Manual 15.

(b) If the Market Seller of a generation resource that has transferred from another Market Seller does not affirm the current approved Fuel Cost Policy on file, then such Fuel Cost Policy shall expire upon the generation resource's transfer of ownership.

(c) PJM shall notify the Market Seller and the Market Monitoring Unit in writing the updated Fuel Cost Policy expiration date and rationale for changing the expiration date.

(d) On the next business day following immediate expiration of a Fuel Cost Policy, the Market Seller may only submit a cost-based offer of zero or a cost-based offer that is consistent with the temporary cost offer methodology in Section 2.2.1.3 until a new Fuel Cost Policy is approved by PJM for the relevant resource.

(e) Market Sellers who have a Fuel Cost Policy that has been immediately expired by PJM will be provided a three (3) Business Day rebuttal period, starting from the date of expiration, to submit supporting documentation to PJM demonstrating that the expired Fuel Cost Policy accurately reflects the fuel pricing and/or estimation method documented in the previously approved Fuel Cost Policy that was expired. However, if, upon review of the Market Seller's supporting documentation, PJM determines that the expired policy accurately reflects the Market Seller's actual methodology used to develop the cost-based offer that was submitted at the time of expiration and that the Market Seller has not violated its Fuel Cost Policy, then

PJM will make whole the Market Seller via uplift payments for the time period for which the applicable Fuel Cost Policy had been expired and the generation resource was mitigated to its cost-based offer.

2.2.1.3 Temporary Cost Offer Methodology

The temporary cost offer methodology is intended to serve as a temporary Fuel Cost Policy for Market Sellers negotiating a new policy with PJM in good faith for the following:

- Generation resources that initiate participation in the PJM Energy Market
- Generation resources transferring from one Market Seller to another
- If the Market Seller does not have an approved Fuel Cost Policy in place upon expiration of its previously approved policy

The temporary cost offer methodology shall be comprised of the index settle price at the PJM assigned commodity pricing point multiplied by heat input curves submitted by the Market Seller, in accordance with Section 2.1:

- For generation resources that opt-out of intraday offers, the last published closing index settle price shall be used for all hours of the Operating Day
- For generation resources that opt-in to intraday offers, index settle prices shall be based on the last published closing settle price for a ll hours of the Operating Day to reflect the:
    - Last published closing settle price, if decreased, for hours ending 11 through 24 for natural gas
    - Last published closing settle price, if decreased, for all hours of the Operating Day for all other fuel types

The commodity pricing point and index publication source shall be assigned by PJM in consultation with the Market Seller and with timely input and advice from the IMM.

2.2.2 Fuel Cost Calculation

The method of calculation of fuel cost may be updated by the Market Seller no more frequently than once every 12 months, on a rolling basis, unless required to be changed per Section 2.2.1.

Each Market Seller must review and document its fuel costs in MIRA, or other system(s) made available for submission of such data, at minimum once per month (12 times per year). Additionally, each review must occur within forty (40) days of the preceding review. The results of this review will be used to determine whether a fuel cost update and subsequent change to the Fuel Cost Policy is necessary.

The method of calculation of fuel cost in MIRA, or other system(s) made available for submission of such data, may include the use of actual fuel prices paid, e.g. the contract price paid for fuel, or the spot price for fuel. The contract price for fuel must include the locational cost of fuel for the generating unit. The source used for spot price for fuel must be publicly available, ~~and~~ reflect the locational cost of fuel for the generating unit, and be verifiable by PJM or the IMM after-the-fact. The locational cost of fuel shall include specification of any additional incremental costs of delivery for the generating unit.

Gas pipeline penalties are not permitted to be included with a Market Seller's cost-based offer. Gas pipeline penalties, as referenced herein, are charges that are incurred for taking

2.2 Fuel Cost Policies and Guidelines(moved from Section 2.3)

unauthorized gas in violation of an interstate pipeline and/or LDC tariff or contract. In addition, gas balancing charges from ratable take gas cannot be included in a Market Seller's cost-based offer. However, gas pipeline storage, park and loan, or other similar tariff-based rate for gas balancing can be included in the cost-based offer once these expenses are incurred. Gas balancing due to a change in ownership cannot be included.

Each Market Seller must document a standardized method or methods for calculating fuel costs in the Day Ahead offer period. Fuel cost updates in the Rebid and Intraday periods are optional. If a Market Seller chooses to update fuel cost in the Rebid and/or Intraday they must document a standardized method or methods for those updates and idefine objective triggers like specific time periods, Hot/Cold Weather Alerts, pipeline events or notices, or liquidity volumes for optional updates during those periods in their Fuel Cost Policy.

In order to Opt In to Intraday Offers, Market Seller must validate their cost offers once per day or business day at a defined time period specified in the Fuel Cost Policy during the Intraday and update their cost-based offer intraday if costs change from original input used to create the day-ahead cost offer. Cost-based offers may be increased but must be decreased. Additional updates during the Intraday are optional. However, Market Sellers must define objective triggers like specific time periods, Hot/Cold Weather Alerts, pipeline events or notices, or liquidity volumes for each additional update.

Each Market Seller must account for situations where applicable indices or other objective market measures are not sufficiently liquid by documenting in the Fuel Cost Policy 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 specifing alternative pricing points or documented quotes for the procurement of natural gas.

Each Market Seller will be responsible for establishing its own method of calculating delivered fossil fuel cost, limited to inventoried cost, replacement cost or a combination thereof, which reflects the way fuel is purchased or scheduled for purchase.

The method of calculation will be consistent with the current effective Fuel Cost Policy and may only be changed by receipt of final approval pursuant to Section 2.2.1. Fossil fuel cost adjustments compensating for previous estimate inaccuracies should not be considered when determining the basic fossil cost component of Total Fuel Related Cost.

Units that co-fire more than one fuel shall weight average the cost of the fuel on a per MMBtu basis. Units that fire solid waste, bio-mass, or landfill gas shall include the cost of such fuel when calculating the average even when the cost of such fuel is negative. However, cost offers for units that fire solid waste, biomass, or landfill gas are not required to be less than zero.

2.2.3 Total Fuel Related Costs

Total Fuel Related Cost is the sum of fuel costs, emission allowance cost, maintenance cost, and operating cost.

$$TotalFuelRelatedCosts =$$

$$FuelCosts + SO_2AllowanceCost + CO_2AllowanceCost + NO_x AllowanceCost + MaintenanceAdder + OperatingCostAdder$$

Escalation of previous year dollar amounts is permitted when the term of calculation exceeds twelve months. When used, escalation indexes will be the same as those developed for calculation of incremental Maintenance Adders.

2.2.4 Types of Fuel Costs

Basic Fuel Cost – The cost of fuel calculated as stated in the Market Sellers' Fuel Cost Policy (excluding fixed lease expenses).

Note:
Basic Fuel Cost for each unit type will be addressed in subsequent sections.

Incremental Energy Cost –The incremental heat or fuel required to produce an incremental MWh at a specific unit loading level multiplied by the applicable Performance Factor, multiplied by the fuel cost plus the appropriate maintenance & operating cost.

Total Cost – The total theoretical heat input minus the no-load heat input at a specific unit loading level, multiplied by the applicable Performance Factor, multiplied by the fuel cost plus the appropriate maintenance & operating cost, plus the No-Load Cost.

2.2.5 Emission Allowances

Each unit that requires SO_2 /CO_2 /NO_x emission allowances (EAs) to operate may include in the unit's TFRC the cost ($/MMBtu) of the EAs as determined in the Market Seller's Emissions Policy.

Each Market Seller must submit a policy that would state the method of determining the cost of SO_2 /CO_2 /NO_x EAs for evaluation pursuant to the Cost Methodology and Approval Process. An example of the calculation must be included in the policy. The method of calculation may be changed only after evaluation pursuant to the Cost Methodology and Approval Process and should be updated at least annually

The period used for determining the projected SO_2 /CO_2 /NO_x discharge and the MMBtu's burned must be included in the Market Seller's policy and may be based on historical or projected data.

For units that have dual fuel firing capability, a Market Seller should use different EA factors based on the SO_2 /CO_2 /NO_x emitted for each particular fuel or fuel mix.

NOx /CO_2 emissions costs will be included in TFRC only during a NOx /CO_2 compliance period and only by affected generating units. Details of the cost calculation methodology and example calculations will be contained in each Market Seller's Emissions policy. Compliance requirements and dates may vary by geographic region.

Emissions adder calculations must be submitted to PJM and the MMU for review annually, in accordance with Operating Agreement Schedule 2 Section 3.

2.2.6 Leased Fuel Transportation Equipment

Leased Fuel Transportation Equipment Cost –Expenses incurred using leased equipment to transport fuel to the plant gate. If expenses are fixed, they must be excluded from fuel cost determination.

When calculating the Total Fuel Related Costs, fixed charges for transportation equipment (e.g., pipelines, train cars, and barges) should be excluded. Dollars that represent lease charges are considered fixed charges if the total amount to be paid over a period is fixed regardless of the amount of fuel transported. Should the terms of the lease agreement be such that there is a fixed charge plus a charge for every unit of fuel delivered, the "charge per unit of fuel delivered" should be included in the Fuel on Board (FOB) delivered cost or in the calculation of the Operating Costs as per the documented Fuel Cost Policy.

The above guideline applies when a unit, plant, or system is served totally by leased fuel transportation equipment. When fuel is supplied by both leased and common carrier fuel transportation systems, the common carrier rate should be included in the Fuel On Board (FOB) delivered cost or included in the calculation of the Operating Costs as per the documented Fuel Cost Policy of each Market Seller. This assumes that the leased fuel transportation equipment would serve base fuel requirements, while common carrier deliveries would change, based on incremental generation changes.

2.2.7 Engineering Judgement in Fuel Cost Calculations

A Market Seller may apply engineering judgement to manufacturer's data, operating data or the results of start and run tests in order to derive the components of the total fuel cost. A record of the results of these determinations shall be kept on file by each Market Seller for use as a single, consistent basis for scheduling, operating, and accounting applications. These records shall be made available to PJM or the MMU upon request.

2.2.8 Required Documentation for Cost Offer Development

The Market Seller shall maintain all documentation needed to verify the development of cost-based energy offers and validate offers intraday. The documentation may include, but is not limited to, invoices, contracts, screenshots, instant messages, text messages, e-mails, or recorded phone calls. This information may be requested by PJM or the IMM to verify the development of cost-based energy offers.