

# Maintenance Adder and Operating Cost Review

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# Market Monitoring Plan

- **The objectives of PJM's Market Monitoring Plan are to maintain an independent Market Monitoring Unit that will objectively monitor, investigate, evaluate and report on the PJM Markets, including, but not limited to, structural, design or operational flaws in the PJM Markets or the exercise of market power or manipulation in the PJM Markets.**
- **The Market Monitoring Unit has the responsibility for implementing the Market Monitoring Plan.**



# MMU Review

- **Compliance Review:** The MMU must monitor compliance with PJM Market Rules and must take action on compliance issues.
- **Mitigation:** The MMU may recommend to PJM that it take specific mitigation action that PJM is authorized to take under the PJM Market Rules to address market behavior or conditions.
- **Market Power Review:** The MMU is responsible for determinations about market power.

# Market Power Review

- **The MMU must review all offers to determine whether they raise market power concerns.**
- **The MMU must determine whether the offer level or cost inputs raise market power concerns.**
- **The MMU and Market Participants must attempt to come to agreement about the offer level of cost inputs.**

# VOM Review

- **The Market Monitor has a continuous process to review all cost inputs (e.g. fuel cost, heat rates, operating costs)**
- **Two of these cost inputs are Maintenance Adders and Operating Costs.**
- **The Market Monitor's review of Maintenance Adders and Operating Costs is ongoing. It occurs before, during and after PJM's annual review.**

# Operating Costs Review

- **Operating Costs: Cost of consumables needed to produce energy, and the costs associated with byproducts that result from consuming or converting materials to produce energy, net of any revenues from the sale of those byproducts. Examples may include:**
  - **Water**
  - **Chemicals**
  - **Lube oil**
  - **Fuel handling**

# Operating Costs Review

- **Operating costs are similar to fuel costs:**
  - They have a consistent rate of consumption, analogous to heat rates. For example, water in gallons per MWh.
  - They have a cost per unit, analogous to fuel costs. For example, \$0.05 per gallon of water.
  - More efficient units (units with lower heat rates) tend to have lower operating costs.
  - New units tend to have lower operating costs.



# Operating Costs Review

- **Lack of proper accounting and documentation can lead to confusion among operating costs, fixed costs, and maintenance costs.**
- **Clear and accurate cost accounting is required.**
- **Cost accounting should document the cost of operating a facility to allow identification of improvements and cost savings.**





# Operating Costs Review

- **Recommendations:**
  - **Cost Accounting: Generators should document the amount of consumables used and their per unit cost in order to validate whether the total operating cost is consistent with the total quantity used and that the total quantity used is consistent with the unit characteristics.**



# Operating Costs Review

- **Examples of actual operating costs that are avoidable costs and are not includable in cost-based offers under the FERC definition:**
  - **Water consumption not used for power production.**
  - **Chemicals used to meet a periodic (e.g. time based) environmental requirement.**
  - **Replacement of lube oil on a periodic schedule.**

# MMU's Position on Maintenance Costs

- **Competitive offers are equal to short run marginal costs.**
- **Maintenance costs are not short run marginal costs.**
- **The Market Monitor does not agree with PJM and FERC that maintenance costs should be includable in cost-based offers. Maintenance costs are avoidable costs that should be includable in ACR.**
- **Including maintenance costs is not required.**
- **Some generators are currently not including maintenance costs in cost and price offers.**

# Maintenance Adder Review

- **PJM defines Maintenance Adders as variable expenses directly related to electric production, which can be a function of starts and/or run hours.**
- **Maintenance costs can be developed using from one to 20 years of maintenance history.**
- **Maintenance costs must be based on actual historical expenditures and estimates cannot be used, under the PJM tariff.**

# Maintenance Adder Review

- **Recommendations:**
  - **Include only supportable costs:** Generators should be able to provide clear and unambiguous supporting documentation for all costs. Supporting documentation includes internal financial records, maintenance project documents, invoices, and contracts.
  - **Include only variable costs:** Generators should only include costs that are the direct result of electric production. For example, activities that must be performed after a defined number of run hours, starts or combination of run hours and starts.

# Maintenance Adder Review

- **Recommendations:**
  - **Include the operational history for the entire period of the calculation. For example, if the maintenance cycle was 10,000 run hours, the unit should provide at least 10,000 run hours of operational history.**



# Maintenance Adder Review

- **Potential issues that can result in costs that are not includable:**
  - **Lack of supporting documentation.**
  - **Irregular maintenance (e.g. forced outages, weather related events, improper unit operation).**
  - **Capital expenditures to extend the unit's life or improve the unit's performance.**



# Conclusion

- **These recommendations are intended to clarify the Market Monitor's review criteria.**
- **Failure to follow the Market Monitor's recommendations could result in:**
  - **Violation of Schedule 2 of the Operating Agreement.**
  - **Penalties. Penalties may apply to VOM adders previously reviewed by PJM.**
  - **Referral to FERC's Office of Enforcement.**





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