



## **PJM Market Implementation Committee**

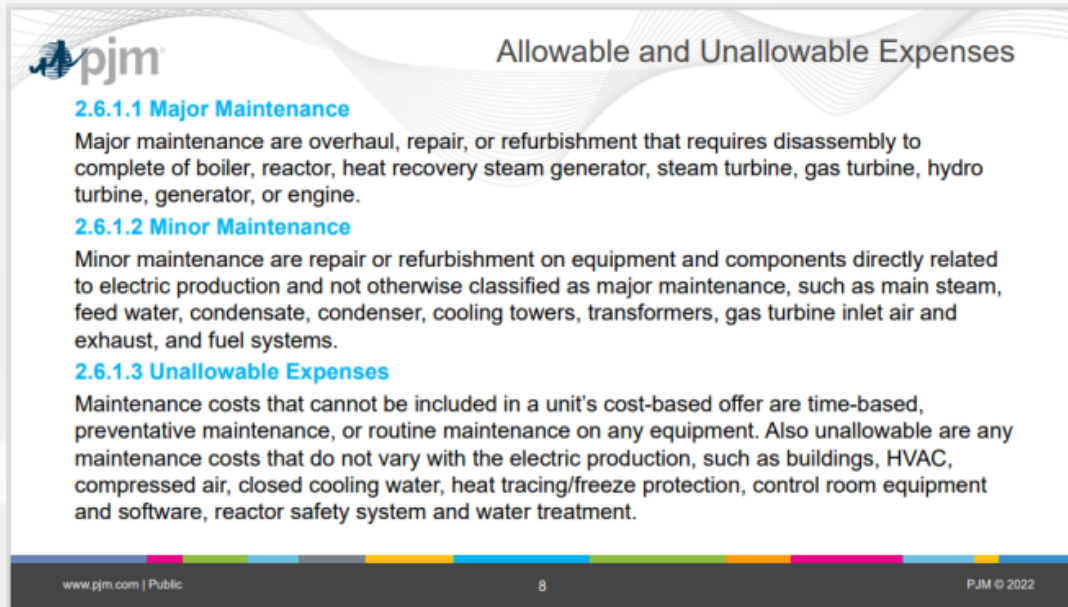
**Agenda Item #6  
Variable O&M Cost Development**

**August 10, 2022**

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# Constellation Package - Modifications to PJM Package

Constellation package mimics the terms of the PJM Package except for the definition of Major Maintenance and the description of allowable expenses



The screenshot shows a document from PJM titled "Allowable and Unallowable Expenses". It contains three sections: 2.6.1.1 Major Maintenance, 2.6.1.2 Minor Maintenance, and 2.6.1.3 Unallowable Expenses. The footer includes the PJM logo, the website www.pjm.com | Public, the page number 8, and the copyright notice PJM © 2022.

**2.6.1.1 Major Maintenance**  
Major maintenance are overhaul, repair, or refurbishment that requires disassembly to complete of boiler, reactor, heat recovery steam generator, steam turbine, gas turbine, hydro turbine, generator, or engine.

**2.6.1.2 Minor Maintenance**  
Minor maintenance are repair or refurbishment on equipment and components directly related to electric production and not otherwise classified as major maintenance, such as main steam, feed water, condensate, condenser, cooling towers, transformers, gas turbine inlet air and exhaust, and fuel systems.

**2.6.1.3 Unallowable Expenses**  
Maintenance costs that cannot be included in a unit's cost-based offer are time-based, preventative maintenance, or routine maintenance on any equipment. Also unallowable are any maintenance costs that do not vary with the electric production, such as buildings, HVAC, compressed air, closed cooling water, heat tracing/freeze protection, control room equipment and software, reactor safety system and water treatment.

-Strike references to “reactor” and “reactor refueling”  
-Add to the following addendum to the OA and Manual provisions to be developed from the provisions described in Matrix Row 5a (Allowable Expenses on Systems Directly Related to Electric Production) and 8d (Definition of Major Maintenance):

*Notwithstanding the foregoing, for the purposes of this provision, nuclear refueling and associated major maintenance are considered fixed costs not directly attributed to the production of energy and therefore not includable in VOM.*

# Constellation Package Rationale

- Costs that vary directly with run time or starts, such as LTSAs, are properly classified as variable costs and properly includable in VOM and a unit's cost-based offer, as reflected in the PJM package.
- The PJM proposal incorrectly defines projects associated with a nuclear planned outage as Major Maintenance costs.
  - PJM defines Major Maintenance as costs that “vary directly with electric production.”
  - Costs that “vary with electric production” are typically measured by number of run hours or number of starts (e.g., LTSA).
  - Cost accounting for most (if not all) PJM nuclear facilities treats costs incurred during planned refueling outages as *fixed*.
- The PJM proposal mandates that all costs classified as Major Maintenance must be included in VOM and reflected in a unit's cost-based energy offer.
  - Conversely, costs includable in VOM are not allowed as a component of gross costs in developing an ACR.
- Nuclear units, due to the must-run nature of the technology, are self-scheduled and thus would not likely have the opportunity for cost recovery via the cost-based offer.
- Defining planned outage costs as a component of VOM may not permit financially challenged nuclear units from developing an accurate ACR to assess retirement.