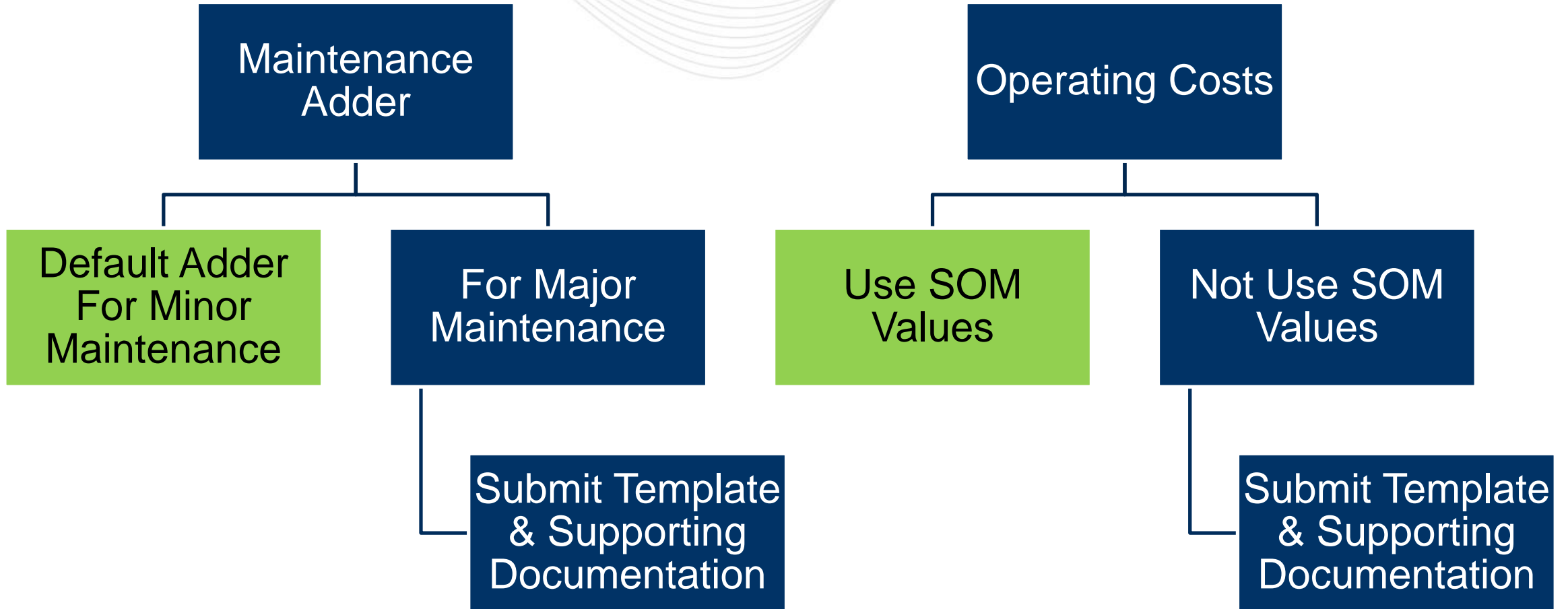




# PJM Package on Default VOM Adders

Roger Cao  
Performance Compliance  
Cost Development Subcommittee  
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- Market Seller 1 has not incurred a major maintenance expense to-date and elects to use SOM value as operating costs adder.
- The Market Seller will not need to submit any templates or supporting documentation for PJM/IMM to review.
- The Market Seller can include the following VOM adders in the cost-based energy offer:
  - *Default Maintenance Adder*
  - *Default Operating Costs Adder (from SOM report)*

- Market Seller 2 has no major maintenance in the maintenance history and seeks an operating costs adder greater than SOM value.
- The Market Seller will submit to PJM/IMM:
  - An operating costs template, and
  - Supporting documentation for all operating costs.
- The Market Seller can include the following VOM adders in the cost-based energy offer:
  - *Default Maintenance Adder*
  - *Approved Operating Costs Adder (from the template)*

## Scenario 3: Submit Maintenance Adder Template Only

- Market Seller 3 has at least one major maintenance in the maintenance history and elects to use SOM value as operating costs adder.
- The Market Seller will submit to PJM/IMM:
  - A maintenance adder template that only includes major maintenance history, and supporting documentation for the major maintenance costs
    - Template should be submitted for the first year and any of the subsequent years when major maintenance adds to or rolls off from selected maintenance history
    - Regardless of when the maintenance is completed the template will include a minimum of 10 years of operating history.
- The Market Seller can include the following VOM adders in the cost-based energy offer:
  - *Default Maintenance Adder*
  - *Approved Major Maintenance Adder (from the template)*
  - *Default Operating Costs Adder*



## Scenario 4: Submit Both Maintenance Adder and Operating Costs Template

- Market Seller 4 has at least one major maintenance in the maintenance history and seeks an operating costs adder greater than SOM value.
- The Market Seller will submit to PJM/IMM:
  - A maintenance adder template that only includes major maintenance history, and supporting documentation for all major maintenance costs
    - Template should be submitted for the first year and any of the subsequent years when major maintenance adds to or rolls off from selected maintenance history
    - Regardless of when the maintenance is completed the template will include a minimum of 10 years of operating history.
  - An operating costs template, and supporting documentation for all operating costs.
- The Market Seller can include the following VOM adders in the cost-based energy offer:
  - *Default Maintenance Adder*
  - *Approved Major Maintenance Adder*
  - *Approved Operating Costs Adder*

- Technology types:
  - frame CT
  - aero CT
  - sub-critical steam
  - combined cycle
  - super-critical steam
  - nuclear
  - diesel/reciprocating engine
- Data input:
  - historical values
    - Maintenance dollars
    - Operating history
  - submitted in the 2021 VOM review



- Escalated annually using Handy-Whitman Index

### Example:

- 2022 default maintenance adder = \$2/MWh,
- 2022 HWI = 888
- 2023 HWI = 920
- 2023 default adder will be escalated as:

$$2023 \text{ adder} = \$2/\text{MWh} * (920/888) = \$2.07/\text{MWh}$$



- turbine blade repair/replacement;
- turbine diaphragm repair;
- turbine casing repair/replacement;
- turbine bearing repair/refurbishment;
- turbine seal repair/replacement;
- steam stop, throttle, or intercept valve repairs;
- nozzle block repairs
- generator stator or rotor rewind, refurbishment, or replacement;
- compressor blade repair/replacement;
- hot gas path inspections, repairs, or replacements
- Selective Catalytic Reduction and CO Reduction Catalyst replacement;
- scrubber refurbishment;
- water wall panel replacement;
- pendant or super heater replacement;
- economizer replacement;
- generator stator or rotor rewind or replacement;
- diesel/reciprocating engine overhaul.

- \$/MWh for all units
  - Only applied to incremental energy offer.
  - Only for minor maintenance default adder;
    - Major maintenance adder (from the template) can be \$/MWh, \$/Hour, \$/Start, \$/mmBTU, or \$/ESH.

- Black Start service units using default maintenance adders shall not use 1% of maintenance dollars as part of their black start service annual revenue requirement
  - Status quo: Black Start service units can use 1% of maintenance dollars as part of their black start service annual revenue requirement.
  - Not allowing the use of 1% maintenance dollars prevents over-recovery of their black start service annual revenue requirement.
  - Black Start units can only use actual maintenance cost in the black start service annual revenue requirement.

Presenters:

Roger Cao, [roger.cao@pjm.com](mailto:roger.cao@pjm.com)

SME:

Performance Compliance Department

[FuelCostPolicyAnalysis@pjm.com](mailto:FuelCostPolicyAnalysis@pjm.com)

Example of Default VOM Adders



Member Hotline

(610) 666 – 8980

(866) 400 – 8980

[custsvc@pjm.com](mailto:custsvc@pjm.com)