



# MIC Special Session

## Variable Operations & Maintenance Costs (VOM)

### Summary of Proposed Packages

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- Special Session on VOM Costs has developed three proposed packages for consideration:
  - IMM Package – only short run marginal operating costs can be included in a unit's cost-based energy offer. All maintenance/labor costs are included in the unit's capacity offer.
  - PJM Package – only maintenance costs attributed to running the unit and directly tied to electric production can be included in a unit's incremental energy offer.
  - Default VOM Package – Allow resources to utilize either the PJM Package or a default value for Variable O&M, no greater than the new build data published by the U.S. Energy Information Administration (EIA).

## NOT RUN

### ACR

*Avoidable Cost Rates*

#### FIXED

Avoidable costs

- Plant Staff
- Taxes
- Fees
- Insurance
- Carrying Charges
- Fuel Availability

## RUN

### VOM-M15

*Variable Operations and Maintenance – Manual 15*

#### ONE TO TEN YEARS

Major overhauls and inspections

- CT Hot Gas Path Inspections
- Turbine Overhaul
- Boiler Overhaul
- CT and CC Overhaul & Major Inspection Excluded June 15, 2015

#### ANNUAL

Annual repairs from operating

- Pump/Valve Repair
- Boiler Tube Leak Repair
- CT Air Filter Replacement

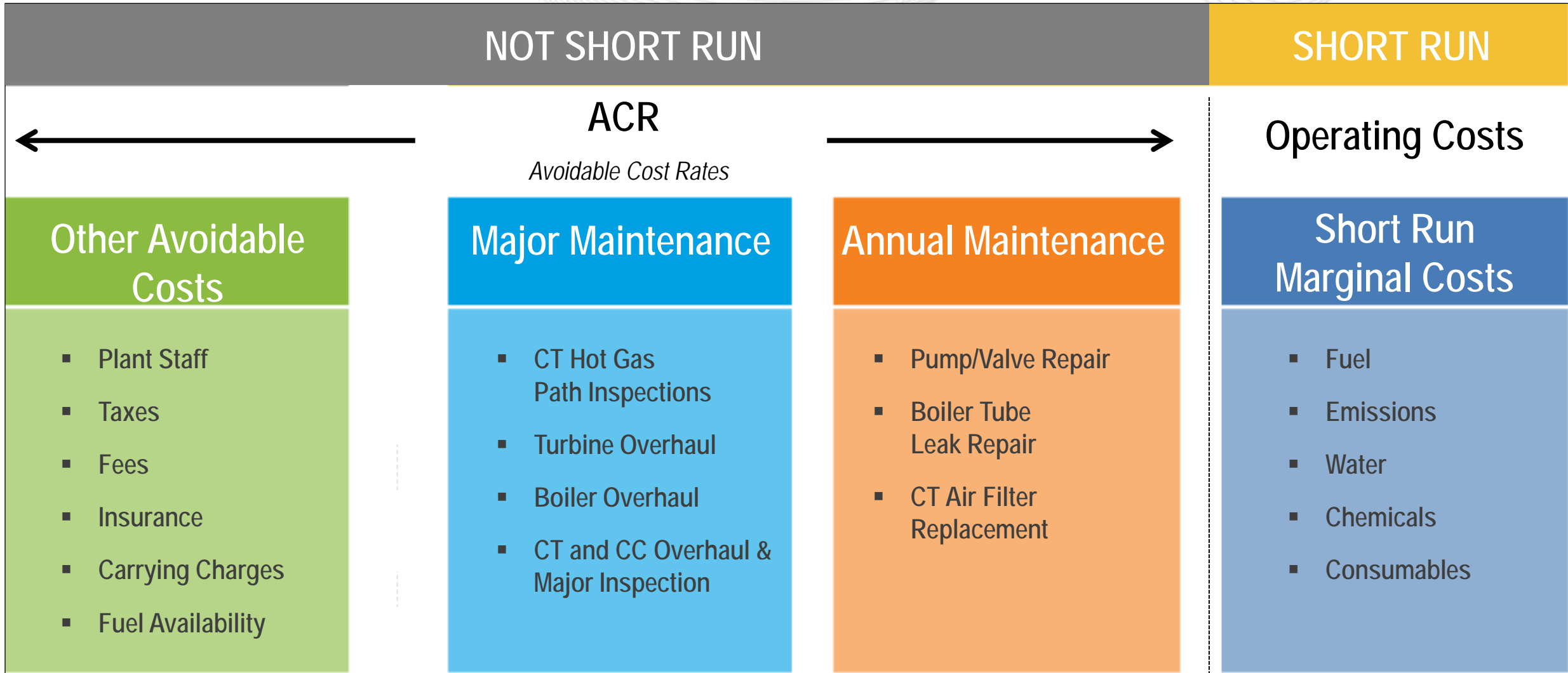
#### OPERATING DAY

Short run marginal cost

- Short Run Marginal Cost
- Water
- Chemicals
- Consumables

- Only operating costs (short run marginal costs) can be included in a unit's cost-based energy offer.
- Operating costs can be calculated:
  - Actual current costs.
  - Average for a 12 month period (updated annually or monthly).
  - Equal to benchmark by unit type provided by the MMU.
  - Method must be specified in FCP.
- For transparency, M15 will list all allowable operating costs.
  - Market Sellers will be able to include other operating costs if approved. New operating costs will be included in the M15 list during the manual's annual review.

- Replace “incremental” with “short run marginal” in OA Schedule 2 and Manual 15.
- Starting and peaking cyclic factors are not included.
- All maintenance/labor costs are included in the unit’s capacity offer.
  - Remove all costs that are not short run marginal costs from M15 and OA Schedule 2.
  - Revise Net Cone calculation to include labor and maintenance costs.
  - Market Sellers will be allowed to include projected maintenance expenses in their ACR.



- Operating Costs changes
  - Implement operating cost changes upon Manual 15 approval.
- Net CONE Changes to include maintenance and labor
  - Implement during first Base Residual Auction after FERC approval.
- VOM removed from Unit's cost based offers
  - Implement June 1 of the Delivery Year three years after Base Residual Auction with Net CONE changes.

- Only maintenance costs attributed to running the unit and directly tied to electric production can be included in a unit's incremental energy offer.
  - CT and CC major inspection, overhaul and LTSA cost can be included
  - Capacity units cannot include ACR fixed cost (i.e. normal labor & maintenance not tied to running)
  - Energy Only Resources and units that did not clear in the Delivery Year auctions can include ACR fixed cost
  - FERC Accounts minus labor cost can be included
  - Remove fixed Title V and emissions fees
- Immature units can use existing history (less than 10 years) or PJM defaults



- Operating costs can be included in a unit's incremental energy offer but not its VOM.
  - Allowable operating costs include lubricants, chemicals, Limestone, Trona, Ammonia, acids, caustics, water injection, and demineralizers.
  - Market Sellers will be allowed to include additional operating costs via the 1.8 exception process. Acceptable items will be added to M15 during the biennial revision.

**NOT RUN**

**ACR**

*Avoidable Cost Rates*

**FIXED**

Avoidable costs

- Plant Staff
- Taxes / Fees/ Insurance
- Carrying Charges
- Fuel Availability
- Energy Only Resources and units that did not clear can include ACR fixed cost in VOM

**RUN**

**VOM-M15**

*Variable Operations and Maintenance – Manual 15*

**ONE TO TEN YEARS**

Major overhauls and inspections

- CT Hot Gas Path Inspections
- Turbine Overhaul
- Boiler Overhaul
- CT and CC Overhaul & Major Inspection
- FERC accounts cost minus labor

**ANNUAL**

Annual repairs from operating

- Pump/Valve Repair
- Boiler Tube Leak Repair
- CT Air Filter Replacement
- FERC account cost minus labor

**Operating Costs**

**OPERATING DAY**

Short run marginal cost

- Short Run Marginal Cost
- Water
- Chemicals
- Consumables

- Operating Costs changes
  - Implement operating costs changes upon Manual 15 approval
- Units that did not submit a unit specific ACR & cleared for the current Delivery Year.
  - Implement VOM changes upon Manual 15 approval.
- Units that did submit a unit specific ACR but did not include VOM costs & cleared for the current Delivery Year
  - Implement VOM changes upon Manual 15 approval.
- Units that did submit a unit specific ACR & did include VOM cost for the current Delivery Year
  - Implement VOM changes June 1 of the first Delivery Year where the VOM costs are not included in the unit specific ACR.

- Units that did not clear in the current Delivery Year and Energy Resources
  - Implement VOM changes upon Manual 15 approval
  - Include fixed costs in VOM After FERC approval

- Allow resources to utilize the PJM Package or a default value for Variable O&M, no greater than the new build data published by the U.S. Energy Information Administration (EIA). If these values are insufficient, the resource may seek an approval of costs via PJM, with review by the market monitor.
  - Creates resource class specific default Unit Variable O&M values that cannot be exceeded, unless higher actual costs are approved by PJM.

- If EIA no longer publishes new-build data for a class of resource, the existing unit may utilize annual scalars (e.g. 1.5%) applied to the last EIA published data to represent an updated default value.

## Fixed

### EIA

#### Fixed O&M

Do not vary with generation

- Staff & monthly fees
- General & Admin plant expenses
- Routine preventive & predictive maintenance
- Maintenance of Structures & Grounds

## Default VOM by Resource Class

### VOM-EIA

*Variable Operations and Maintenance*

#### Major Maintenance

- Scheduled Overhauls
- Major Maintenance Labor
- Major Maintenance Spare Parts Costs
- BOP Major Maintenance

#### ANNUAL

Production related costs

- Purchase Power, Demand Charges, and related Utilities
- Wastewater Disposal Expense

#### OPERATING DAY

Production related costs

- Water
- Chemicals, Catalyst & Gases
- Lubricants
- Ammonia, Lime, Urea, or other chemicals for Emission Reductions
- Consumables

- Operating Costs changes
  - Implement operating costs changes upon Manual 15 approval
- Units that did not submit a unit specific ACR & cleared for the current Delivery Year.
  - Implement VOM changes upon Manual 15 approval.
- Units that did submit a unit specific ACR but did not include VOM costs & cleared for the current Delivery Year
  - Implement VOM changes upon Manual 15 approval.
- Units that did submit a unit specific ACR & did include VOM cost for the current Delivery Year
  - Implement VOM changes June 1 of the first Delivery Year where the VOM costs are not included in the unit specific ACR.



- Units that did not clear in the current Delivery Year and Energy Resources
  - Implement VOM changes upon Manual 15 approval
  - Include fixed costs in VOM After FERC approval