



MIC Administrative Update Variable Operations & Maintenance Costs (VOM) Summary of Proposed Packages

Melissa Piong
Sr Analyst, Market Analysis
Market Implementation Committee
May 2, 2018

- Three proposed VOM packages were voted on at the April MIC. Two packages received greater than 50% endorsement:
 - Default VOM Package (81% endorsement) – allow resources to utilize either actual maintenance costs attributed to running the unit and directly tied to electric production in a unit’s incremental energy offer (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).
 - PJM Package (75% endorsement) – only actual maintenance costs attributed to running the unit and directly tied to electric production can be included in a unit’s incremental energy offer.

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

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 or EIA Default

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

- Allow resources to utilize either actual maintenance costs attributed to running the unit and directly tied to electric production in a unit's incremental energy offer (PJM Package) or a default value published by the U.S. Energy Information Administration (EIA).
 - Resource class specific default Unit Variable O&M values that cannot be exceeded from EIA build data.
 - If EIA no longer publishes new-build data for a class of resource, the existing unit may utilize annual scalars (e.g. Handy Whitman Index) applied to the last EIA published data to represent an updated default value.

- Only actual 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 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.

- Operating Costs changes
 - Implement operating costs changes upon Manual 15 approval
- Units that did not include VOM costs in their capacity offer for the current Delivery Year.
 - Implement VOM changes upon Manual 15 approval.
- Units that did include VOM costs in their capacity offer and cleared 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's capacity offer.
- Units that did not clear in the current Delivery Year and Energy Resources
 - Include fixed costs in VOM After FERC approval

- MRC first read – 4/19/2018
- MRC endorsement – 5/24/2018
- MC endorsement Tariff & Manual 15– 6/21/2018
- Board approval Manual 15 – August 2018

- Actual VOM values used in unit's cost based offers are difficult to determine since it is not separated out in offer. Some units do not always include PJM accepted VOM adders in their offers.
- Overall cost impact should be minimal. From 2017 State of the Market Report percentage of unit's hours units on cost based offers:
 - DA local constraint offer capped unit hours – 0%
 - RT local constraint offer capped unit hours – 0.3%
 - DA reliability offer capped unit hours – 0.1%
 - RT reliability offer capped unit hours – 0.1%

- Best estimate of cost impact from a CT or CC setting LMP on its cost based offer from 2016 EIA data:
 - Natural gas CC - \$3.50/MWh
 - Conventional CT - \$3.48/MWh

Note EIA data includes all VOM cost not just major inspection and overhaul costs