

Variable Operations and Maintenance Cost Proposals

MRC

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The Sole Purpose of Cost-Based Offers is Market Power Mitigation

- **The stated purpose of PJM Manual 15 is to support market power mitigation (see M15 Section 1.6.1).**
 - **Cost offers do not guarantee avoidable cost recovery.**
- **Market power is only mitigated if suppliers cannot raise prices above a competitive level.**
- **The competitive level is short run marginal cost.**
- **The IMM's package is the only proposal that would mitigate market power in the PJM Energy Market.**

Variable Operations Costs

- **Variable Operations and Maintenance Costs are currently separated in Manual 15.**
- **Manual 15 does not currently define variable operations costs. They appear throughout M15.**
 - **Other fuel related costs**
 - **Incremental adjustment parameter**
 - **VOM combined in some calculations, like no load.**
- **The IMM and RECO packages clarify and consolidate the use of variable operations costs.**
- **The PJM and AEP proposals do not.**

Magnitude of Short Run Marginal Costs

Unit Type	Short Run		
	Marginal Costs (\$/MWh)	Heat Rate (Btu/kWh)	VOM (\$/MWh)
CT	\$28.95	9,437	\$0.25
CC	\$20.07	6,679	\$1.00
CP	\$30.52	9,250	\$4.00
DS	\$142.62	9,660	\$0.25
Nuclear	\$8.50	NA	\$3.00
Wind	\$0.00	NA	\$0.00
Solar	\$0.00	NA	\$0.00

- **The VOM level in the State of the Market Report reflects only variable operations costs.**
- **Short run marginal costs also include fuel and emissions allowance costs.**

Variable Maintenance Costs

- **Manual 15 describes maintenance costs based on FERC accounts and excludes some maintenance costs from energy market cost-based offers.**
- **OA Schedule 2 describes:**
 - **incremental maintenance**
 - **incremental labor costs**
 - **peak prepared for maintenance costs**
 - **maintenance adder**
- **Only the IMM package would clarify that maintenance costs are not short run marginal costs and not includable in cost-based offers.**

Maintenance Costs in Cost-Based Offers

- **The IMM monitors and analyzes the use of maintenance costs in cost-based offers.**
- **Includable maintenance costs are not consistently defined across market participants.**
- **The IMM and RECO packages provide transparency around the application of the market rules with respect to VOM**
- **The PJM and AEP packages do not provide transparency around the application of the market rules with respect to VOM.**

Market Impacts

- **Maintenance costs affect LMP directly for marginal units. (See SOM Table 3-85)**
- **Maintenance costs affect uplift, run hours, cycling, and withholding for all units.**
- **Specific provisions in M15 exacerbate the effects of maintenance costs on the energy market.**
 - **Maintenance in dollars per start or per hour**
 - **Cyclic starting and peaking factors**

VOM Outcomes Ranked by Effectiveness of Market Power Mitigation

- 1. Short Run Marginal Cost, IMM package**
- 2. Capped VOM levels, RECO proposal**
- 3. Status Quo**
- 4. Increase allowable maintenance costs, optional EIA Defaults, no fixed maintenance for energy only resources, AEP package**
- 5. Increase allowable maintenance costs, include fixed maintenance for energy only resources, PJM package**

Tariff Changes

- **Clear definitions of includable costs in cost-based offers should be included in the PJM tariff.**
- **The IMM package includes tariff changes, because the IMM thinks the result of any VOM package should be clarified in the tariff.**
- **All packages should be held to the same standard regarding whether tariff changes are required to define VOM in cost-based energy offers.**

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