



Stakeholder Comments Template

Variable Operations and Maintenance Cost Review Working Group – Gas Resources

This template has been created for submission of stakeholder comments on the VOM Cost Review working group for gas resources that was held on July 15, 2019. The workshop, stakeholder meeting presentations, and other information related to this initiative may be found on the initiative webpage at:

<http://www.caiso.com/informed/Pages/StakeholderProcesses/VariableOperations-MaintenanceCostReview.aspx>.

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **July 26, 2019**.

Note: Upon submission, please indicate if you would like your comments to be confidential.

Submitted by	Organization	Date Submitted
<i>Tyson Brown (415)-973-6484</i>	<i>Pacific Gas and Electric</i>	<i>7/26/2019</i>

Please provide your organization's comments on the following topics and questions.

- 1. Appendix A to this template contains a list of maintenance activities for gas-resources. What maintenance activities are missing from this list that should be included for consideration?**

N/A

- 2. Appendix A also allocates the maintenance activities to three cost components (Major Maintenance [green], Other Maintenance – Variable [yellow], Other Maintenance – Fixed [red]). Please review and note whether you disagree with our proposed allocation and why.**

N/A

- 3. Please provide any comments or updates you may have to the definitions of Major Maintenance Costs, Variable Operations Costs, and General and Administrative Costs, if any, listed in the July 2, 2019 report found on the stakeholder initiative website.**

N/A

- 4. Please provide any comments or updates to the categories/sub-categories of generation technologies for VOM adders. Should the “Combined Cycle and Steam” or “Combustion Turbine & Reciprocating Engine” categories currently found in the CAISO BPM for Market Instruments be further disaggregated into sub-categories (e.g. CC H Frame, CC F Frame, E Class CT, H Class CT)?**

N/A

- 5. Please offer your feedback on structure of this stakeholder initiative and working groups.**

The CAISO should have a process for reviewing contract-based costs that reflect variable operation and maintenance expenses in the event that these costs are higher than the final VOMs that come out of this process. This can be achieved by having a catchall review process to vet these legacy contracts similar to the structure the CAISO developed for use-limited thermal resources in the Commitment Cost Enhancements Phase 3 implementation.

Additional comments

Please offer any other feedback your organization would like to provide on the topics discussed during the working group.

Appendix A:

Cost Component Allocation		
Major Maintenance	Other Maintenance - Variable	Other Maintenance - Fixed

Maintenance Activity	Please note if you disagree and why
Inspections, Repairs and Overhauls, and Replacements:	
1) Air Heater/Pre-Heater	
2) Alignment Checks	
3) Battery System	
4) Bearings	
5) Boilers, Burners, and Related Items	
6) Borescopes	
7) Casings, Shells, and Frames/Diffusers	
8) Combustion Turbine Generator Evaporative Cooling System Media	
9) Combustion Turbines and Related Items	
10) Compressor, Generator, and/or Turbine Rotors	
11) Condensers and Evaporators	
12) Communication Systems	
13) Compressor Blades	
14) Compressor Wash System	
15) Condensate Systems	
16) Clutches and Gears	
17) Cooling Tower Equipment	
18) Demineralization Systems	
19) Device Calibrations	
20) Distributed Control Systems	
21) Duct Burner and Liners	
22) Emissions Control Equipment Repairs	
23) Emissions Monitoring Tests	
24) Filters	
25) Fuel Metering Equipment	
26) Fuel Treatment System	
27) Generator Field Rewinds	
28) Heat Transfers	
29) High Energy Piping	

30) Hot Gas Paths	
31) Hot Sections	
32) Hotwell and Related Items	
33) Instrument and Service Air and Water Supply Systems	
34) Main Steam Piping	
35) Nozzle Block	
36) Oil Changes	
37) Oxygen Boiler	
38) Plant Electrical Systems	
39) Pumps & Motors	
40) Radial and Axial Clearance Checks	
41) Seals	
42) Steam Drum and Related Items	
43) Tubes and Piping	
44) Transformer	
45) Turbine Blades and Diaphragms	
46) Turbine Lube Oil Sampling	
47) Turning and Ratchet Gear Maintenance	
48) Valves	
49) Vibration Analysis Monitoring	
50) Water Circuits	
51) Waterbox	

Cleaning	
52) Boiler Cleaning	
53) Chemical Cleaning	
54) Heat Transfer Cleaning	
56) Hydro-Blast Cleaning	
57) Relay Cleaning	

Testing	
58) Hydrogen Embrittlement Testing	
59) Non-Destructive Testing	
60) Performance Testing (Oxygen Boiler Tests, On-Line Testing, Pre-Air Heater Test)	
61) Relay & Interlock Testing	

Other	
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62) Balance-of-Plant	
63) Distributed Control System Upkeep	

Materials	
64) Instruments	
65) Safety Equipment	
66) Shop Supplies	
67) Tools	