



## Stakeholder Comments Template

### Variable Operations and Maintenance Cost Review Working Group – Hydro Resources

This template has been created for submission of stakeholder comments on the VOM Cost Review working group for Hydro resources that was held on July 19, 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](mailto:initiativecomments@caiso.com). Submissions are requested by close of business on **August 2, 2019**.

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

Submitted by	Organization	Date Submitted
<i>Tyson Brown</i>	<i>PG&amp;E</i>	<i>7/30/2019</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 Hydro resources. What maintenance activities are missing from this list that should be included for consideration?**

Circuit Breaker Maintenance should be added as other maintenance variable.

- 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.**

See table.

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.**
  
4. **Please provide any comments or updates to the categories/sub-categories of generation technologies for VOM adders. Should the categories currently found in the CAISO BPM for Market Instruments be further disaggregated into sub-categories (e.g. Solar PV and Solar Thermal)?**
  
5. **Please offer your feedback on structure of this stakeholder initiative and working groups.**

**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
<b>Inspections, Repairs and Overhauls, and Replacements:</b>	
1) Bearings and Bushings	Major Maintenance.
2) Communication Systems	
3) Distributed Control Systems	
4) Exciter Water Wheels and Turbines	
5) Generator Cooling System	
6) Generator Field Rewinds	
7) Lubricating Systems	
8) Main Penstock Valves and Appurtenances	
9) Main Turbines and Water Wheels	
10) Plant Electrical Systems	
11) Runner Seals	
12) Servomotors	
13) Shaft Sleeves and Seals	
14) Valves	
15) Wicket Gate Seals	

<b>Other</b>	
16) Balance-of-Plant	

<b>Materials</b>	
17) Instruments	
18) Safety Equipment	
19) Shop Supplies	
20) Tools	