

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans Discovery 2023
Data Response**

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Risk Methodology and Assessment

QUESTION 005

P. 161 of PG&E’s WMP discusses Group G, Above-Grade Hardware, in the context of PG&E’s WTRM. Group G has two sub-groups. PG&E states, “Sub-Group 1 consists of components where the life cycle closely aligns with that of the structure. These include the hanger plate and bolts.”

- a) Does the WTRM apply the same hazards and threats to all components within a grouping? Please explain your answer.
- b) Does PG&E’s grouping within the WTRM account for any hazards that may be unique to a subset of hardware within a group? Please explain your answer.
- c) Hanger plates may be subject to wear such as “keyholing” that the main structure may not experience. How does PG&E account for this potential difference in life cycle between hanger plates and the structure?
- d) Which group within the WTRM includes c-hooks?
- e) Please explain your justification for your answer to part (d).

ANSWER 005

a) Yes, the same hazard and threats are applied to all components within a grouping. Grouping a set of components is based on the following considerations:

- 1. Similar asset lifecycle;
- 2. Sensitivity to similar threats and hazards; and
- 3. Similar Asset Management strategy.

b) As a starting point, the WTRM assumes that all components have been designed to the minimum design wind loads and are equally susceptible to the threats affecting the component group. As more data is collected on individual components, the model framework will be used to select the most vulnerable component for a given hazard. For example, if thicker hanger plates than required by minimum design wind loads have been installed on a structure, it may be determined that another component in the above grade hardware grouping has a higher probability of failure during high winds. In that case, the most vulnerable component would then represent the component grouping probability of failure.

- c) The WTRM incorporates the differences between hanger plates and the structure by modelling the threats and hazards that apply to each of them in different models. For hanger plates, inspection data (in this case, any observed wear or “keyholing”) is incorporated by decreasing the expected “strength” which increases the failure likelihood of that component. The structure itself has different and unique threats that are modeled separately from the C-hook and hanger plate.
- d) C-hooks are included in the Above Grade Hardware group.
- e) C-hooks are considered to be in the Above Grade Hardware group because they have the most in common with hardware in terms of materials, general size, location on the structure, and degradation mechanisms.