

**PACIFIC GAS AND ELECTRIC COMPANY  
Wildfire Mitigations Plans Discovery 2026-2028  
Data Response**

<b>PG&amp;E Data Request No.:</b>	OEIS_001-Q024
<b>PG&amp;E File Name:</b>	WMP-Discovery2026-2028_DR_OEIS_001-Q024
<b>Request Date:</b>	April 8, 2025
<b>Requester DR No.:</b>	OEIS-P-WMP_2025-PGE-001
<b>Requesting Party:</b>	Office of Energy Infrastructure Safety
<b>Requester:</b>	Nathan Poon
<b>Date Sent:</b>	April 16, 2025

**SUBJECT: REGARDING EXTREME WEATHER CONDITIONS**

**QUESTION 024**

- a. On page 87 of the 2026-2028 Base WMP, relating to vegetation, PG&E states that “For WFC, a set of worst weather days during historical fire seasons is used to develop fire simulations of potential ignitions given current fuel conditions.”
  - i. What timeframe is used for evaluating historical fire seasons?
  - ii. How does PG&E define “worst weather days”?
  - iii. How many “worst weather days” are included within the set used for WFC?
  - iv. Does PG&E use the same definition of “worst weather days” for weather and wind scenarios? If not, provide those definitions and the number of “worst weather days” within each set.
- b. On page 90 of the 2026-2028 Base WMP, PG&E states that it “seeks to incorporate the potential impacts of more extreme conditions in future models.”
  - i. When does PG&E anticipate completing this evaluation?
  - ii. Which future model is PG&E planning on- first incorporating these more extreme conditions?
  - iii. When does PG&E anticipate operationalizing this model?
  - iv. Is Figure PG&E-5.3.2-1 (p.90) exhaustive of the various extreme risks being studied? If not, provide a list of considerations currently being studied by PG&E.
  - v. PG&E’s 2023-2025 WMP included Table 6-4: Example of Extreme Event Scenarios Under Consideration (p. 193), which was not included in PG&E’s 2026-2028 WMP. Provide a similar table showing the extreme event scenarios currently under consideration.
- c. On page 88 of the 2026-2028 Base WMP, Table-5-2: Summary of Design Scenarios, PG&E lists the scenarios used for its various models. Provide a detailed description of how the design scenarios Wind Load 3, Wind Load 4, and

Vegetation 3 align and/or differ with extreme weather scenarios, as discussed in Section 5.3.2 Extreme-Event/High Uncertainty Scenarios.

- d. On page 46 of the 2026-2028 Base WMP, PG&E states that “in terms of risk modeling, this strategy entails paying special attention to tail risk—the low frequency, high consequence events” when discussing Cost-Benefit Analysis. Provide a detailed description of how the evaluation of these low frequency, high consequence events align and/or differ with extreme weather scenarios, as discussed in Section 5.3.2 Extreme-Event/High Uncertainty Scenarios.
- e. PG&E references fragility curves, shown in Figure PG&E-5.2.2.1-1, capturing Wind Load 1, 2, 3, and 4 conditions for its WTRM Planning Model.
  - i. Provide a detailed description of how PG&E is evaluating the use of fragility curves to perform similar risk analysis for its distribution-level models.
  - ii. If PG&E is not currently pursuing efforts to incorporate evaluations of impacts from conditions similar to Wind Loads 3 and 4 within its distribution-level models, explain why.

#### **Answer 024**

- a.
  - i. The months of June through November, inclusive, constitute the Fire season.
  - ii. The Worst Weather Days are determined by the PG&E Meteorology team based on historical red flag warnings, PG&E’s Fire Potential Index, historical Diablo wind event days and historical catastrophic fires. The final list of days is reviewed and curated by the meteorology team.
  - iii. PG&E includes 571 worst weather days from March 2003 to Dec 2020.
  - iv. See response ii.
- b.
  - i. The current suite of Wildfire Risk models (Wildfire Consequence, WDRM and WTRM) are used for long term planning wildfire mitigation strategies, which incorporate the full range of wildfire risk scenarios through the whole year. In parallel, PG&E is evaluating potential methodologies that can quantify the risk of urban conflagration type scenarios that are more likely to occur under extreme weather and fuel conditions. We anticipate completing the evaluation by Q2 2026.
  - ii. If the methodologies to quantify urban conflagration type scenarios are found to be useful and approved for use, they will be incorporated in v5 of the wildfire consequence model.
  - iii. The date of operationalization will depend on the model approval by PG&E’s internal Wildfire Risk Governance Steering Committee and consultations with the Asset Strategy teams.

- iv. PG&E is currently evaluating methodologies that quantify urban conflagration type scenarios that become more likely in extreme conditions.
- v. PG&E is currently evaluating methodologies that quantify urban conflagration type scenarios that become more likely in extreme conditions. The factors under consideration include structure density, terrain, wind speeds, distance from wildland urban interface and PG&E electrical assets.
- c. Please refer to pages 86 and 87 of 2026-2028 Base WMP that describes how the various risk models incorporate the weather, wind and vegetation scenarios as outlined in Section 5.3.1.
- d. PG&E's enterprise risk model pays "special attention to tail risk" by employing the following modeling approaches:
 

Fitting existing consequence data to Pareto/Power-Law probability distributions. These distributions have been established by extensive studies and considerable vetting in Phase 3 of the CPUC's Risk-based OIR, R.20-07-013 to adequately capture the risk of extreme consequences<sup>1</sup>.

Applying a market-based risk-scaling function to the distributions above<sup>2</sup>. This risk-adjustment step calibrates the loss distributions (obtained from historical data) with available prices from the insurance and catastrophic bond markets such that the resulting distribution of monetized losses is consistent with the magnitude of losses implied by the transacted prices and thereby represents a consensus view of future risk from wildfires. In its Evaluation Report on PG&E's RAMP, CPUC's Safety Policy Division (SPD) found that PG&E's risk-scaling approach to be valid<sup>3</sup>.

As such, the enterprise model adopts a different approach to model tail risks than relying on the construction of explicit extreme weather scenarios as contemplated in Section 5.3.2 Extreme-Event/High Uncertainty Scenarios.
- e.
  - i. PG&E is evaluating the use of fragility curves on the distribution system to help estimate the long-term impacts of climate change on distribution equipment.
  - ii. The Distribution Event Probability Models are machine learning models trained to predict system failures and ignitions during wildfire season based on historical events. The machine learning models combine environmental conditions, seasonal weather patterns, and distribution system attributes to predict a likelihood of failure and ignition. The models do not require fragility curves to produce a failure probability for the wildfire season because localized, seasonal weather patterns are already an input to the model if the algorithm finds them important to predict historical events.

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<sup>1</sup> CPUC Decision 24-05-064, pp. 49 to 57.

<sup>2</sup> Application (A.) 24-05-008, PG&E's 2024 Risk Assessment and Mitigation Phase (RAMP) Report Exhibit (PG&E-2), pp. 2-19 to 2-28.

<sup>3</sup> Safety Policy Division Evaluation Report on PG&E 2024 RAMP Application (A.)24-05-008, California Public Utilities Commission, November 8, 2024, p. 3.