

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

PG&E Data Request No.:	SPD_004-Q041
PG&E File Name:	WMP-Discovery2026-2028_DR_SPD_004-Q041
Request Date:	May 1, 2025
Requester DR No.:	CONF-SPD-PGE-WMP2026-004
Requesting Party:	Safety Policy Division
Requester:	Edwin Schmitt
Date Sent:	May 6, 2025

SUBJECT: MITIGATION COST EFFICIENCY ASSESSMENT (SPD-PGE-WMP2026-004)

QUESTION 041

On page 153 in the 2026-2028 Base WMP, PG&E describes the Activity Effectiveness – Wildfire Risk calculation and notes that a study was conducted with subject matter experts (SME) who were asked to “fill out a questionnaire about the effectiveness of these activities against roughly 2,000 failure modes”.

- a. How many SMEs participated in this study?
 - i. Provide a list of the expertise for each SME that participated in this study.
- b. How does the questionnaire compare with the mitigation effectiveness study submitted to SPD as “WMP-Discovery2026-2028_DR_SPD_001-Q010Atch01”?
- c. Provide a narrative explanation of the questionnaire and how SMEs were expected to fill it out.
 - i. Describe what is meant by categorical level of effectiveness.
 - ii. If a scale was used for SMEs to respond to the questionnaire, provide a detailed explanation of that scale and how it was established.
 - iii. If a scale was used, was a variance and standard deviation calculated for the SME responses to each failure mode? If so, provide a table that displays the mean, variance and standard deviation for the SME’s scaled responses to each of the failure modes.
- d. Provide a copy of the questionnaire about the effectiveness of these activities against the failure modes.
- e. Provide a copy of the results of the study PG&E notes on page 153 in the 2026-2028 Base WMP.

ANSWER 041

- a. Approximately 3-4 SMEs from the Grid Design team participated in the study.
 - i. The SMEs are Senior Electric Distribution Engineers whose position requires a Bachelor of Science in Electrical Engineering from a college or university accredited by the Accreditation Board of Engineering and Technology. The Senior Electric Distribution Engineers have a minimum of 8 years' experience in engineering and design. Some of the Grid Design Engineers are licensed professional engineers with the state of California though this license was not required for the completion of the study.
- b. The mitigation effectiveness study submitted to SPD as "*WMP-Discovery2026-2028_DR_SPD_001-Q010Atch01.xlsx*" are the outputs from the mitigation effectiveness study. SMEs were asked to provide an estimated level of effectiveness for each mitigation activity considering various combinations of outage cause, supplemental cause, equipment affected, and equipment condition.
- c. The questionnaire listed observed combinations of outage cause, supplemental cause, equipment affected, and equipment condition. For each combination, and for each mitigation activity, SMEs were asked to assign a level of effectiveness such as "None," "Medium," or "High."

Table PG&E-8.2.1-2 in PG&E's 2026-2028 WMP is an example of this analysis.

- i. Categorical level of effectiveness refers to a qualitative description of the estimated mitigation effectiveness of an activity against an outage considering combinations of the cause, supplemental cause, equipment affected, and equipment condition that have been observed across historic outages.
- ii. The scale used by SMEs to respond to the questionnaire is described in PG&E's 2026-2028 Base WMP (pages 188-189):
 - All: 100 percent effective – Assumes no ignition events;
 - Very High: 90 percent effective – Assumes the mitigation addresses most ignition concerns, but still leaves a potential for ignition;
 - High: 75 percent effective – Assumes the mitigation provides significant ignition reduction; however, there is still a chance for contact or failure;
 - Medium High: 60 percent effective – More than likely ignition reduction for an event;
 - Medium: 40 percent effective – Less probable ignition reduction for an event;
 - Low: 10 percent effective – Some ignition reduction mitigation but not significant; and
 - None: 0 percent effective – No protection against ignition.

These average effectiveness ratings were developed based on a review of ten years of unplanned outage history between 2015 and 2024.

- iii. No, the scale does not use calculations of standard deviation or variance.

- d. The questionnaire was an Excel workbook listing each combination of failure mode (each row of the workbook showed a different combination) and each mitigation alternative (the columns included the mitigations such as underground all, underground primary, etc.). The SMEs were asked to input an effectiveness value for each mitigation alternative and each failure mode combination.

Please see worksheet “Effectiveness Analysis Detail” in attachment “*WMP-Discovery2026-2028_DR_SPD_001-Q010Atch01.xlsx*,” which is the summary view of the individual questionnaires.

- e. The study referenced on page 153 is the same study discussed in Section 8.2. The results of the study were submitted to SPD as “*WMP-Discovery2026-2028_DR_SPD_001-Q010Atch01.xlsx*.”