PACIFIC GAS AND ELECTRIC COMPANY
10-Year Electrical Undergrounding Plan (EUP)
Data Response

PG&E Data Request No.:	TURN_001-Q002
PG&E File Name:	EUP-PhI_DR_TURN_001-Q002
Request Date:	October 19, 2026
Requester DR No.:	001
Requesting Party:	The Utility Reform Network
Requester:	A Mireille Fall
Date Sent:	October 22, 2026
Responsible Person(s):	Justin Sadler

Subject: EUP-PGE

QUESTION 002

Regarding PGE_Initial_2026_09_30_T11_R0, in Excel with supporting data and working formulas please provide all inputs and outputs to the benefit-cost ratio for the 28 projects, including alternatives (proj0001 to proj00028 identified in Column B). This should include, but is not limited to, values of all benefits including assumptions. For these 28 projects please also provide:

a. The amount of reliability vs. wildfire risk reduced in absolute units and as a percentage of total risk. Please provide in Excel with all assumptions.

b. A list of all alternative mitigations modeled and their associated mitigation effectiveness for wildfire risk and reliability risk, separately. Please provide the source of mitigation effectiveness values.

   i. What mitigations did PG&E model to reduce reliability risk, specifically?

   ii. Did PG&E model battery or backup diesel generator rebates as an alternative? Why or why not?

c. The unit cost assumed for each alternative mitigation and the source of these values.

d. The BCR of each project and alternative modeled but remove the avoided O&M component. Please provide in Excel with all supporting assumptions.

e. The unscaled BCR of each project and alternative. Please provide in Excel with all supporting assumptions.

f. Please provide the unscaled BCR of each project removing the net O&M component of the calculation. Please provide in Excel with all supporting assumptions.

g. Please explain why there are negative BCRs for each instance of a negative BCR (if different). Please interpret the meaning of a negative benefit-cost ratio.

h. Please add Columns to this spreadsheet that indicates the number of overhead miles for each circuit segment and which of these circuit segments are part of the 4,000 overhead miles of the proposed portfolio.

i. If not previously provided, for all projects with a negative BCR of the 28 projects, please provide the annual cost and avoided O&M assumptions in Excel for all years and all values.

ANSWER 002

a. Please see Columns AX and BA in the "TURN_001_Q002a-h" tab of "*EUP-PhI_DR_TURN_001-Q002Atch01.xlsx*" for the reliability and wildfire risk reduced in absolute units and as a percentage of total risk on the circuit segment.

b. Please see Columns BB and BF in the "TURN_001_Q002a-h" tab of "*EUP-PhI_DR_TURN_001-Q002Atch01.xlsx".*

i. PG&E models the following mitigation comparison types during Screen 2 of the Portfolio Screening Process: No Build Baseline, 100% Underground (UG), Alternative Mitigation 1 (Alt 1 or Covered Conductor), Alternative Mitigation 2 (Alt 2 or Remote Grid), and Additional Comparison 1 (AC1 or 50% UG and 50% CC). The discussion of PG&E's portfolio screening methodology and evaluation of mitigation comparison types is provided in Volume 1, Chapter 4, Portfolio Framework, including the discussion of Screen 2 mitigation alternatives. Additional information regarding each mitigation comparison type is provided in Table 3-9 in PG&E's EUP Filing, Volume 1.

Information regarding the mitigation effectiveness values used to calculate reliability risk reduction for the given mitigation comparisons, including the methodology and supporting assumptions can be found in PG&E's EUP Filing, Volume 2, Workpaper B-WP001, "Mitigation Effectiveness Analysis."

ii. No. PG&E did not model customer battery or generator rebate programs as Alternative Mitigations in the EUP. The EUP evaluates Circuit Segment-level mitigations that reduce Ignition Risk and/or reduce the need for outage programs such as Public Safety Power Shutoff (PSPS) and Enhanced Powerline Safety Settings (EPSS). Customer battery and generator programs are resiliency measures intended to help participating customers manage the impacts of outages; however, they do not reduce Circuit Segment Ignition Risk and do not reduce the need to initiate PSPS or EPSS under wildfire conditions.

Additionally, customer battery systems generally provide backup power only to selected critical loads rather than restoring normal electric service to the entire premise. While backup generators may provide broader customer-side backup capability, their operation and effectiveness depend on customer installation, maintenance, and fuel availability. Regardless of whether a customer has a battery or generator, a PSPS or EPSS event would still be recorded as an outage for the customer because electric service from the distribution system has been interrupted. Accordingly, customer battery and generator programs were not evaluated as alternatives to the Circuit Segment-level infrastructure mitigations considered in the EUP.

c. Please see Column BG in the "TURN_001_Q002a-h" tab of "*EUP-PhI_DR_TURN_001-Q002Atch01.xlsx"* for the unit cost assumed for each alternative mitigation. The circuit segment level unit cost per mile for a mitigation scenario is derived by dividing the total initial capital spend by the total HFTD-HFRA union miles in the circuit segment. Please see Section D, Subsection J of Chapter 2 in PG&E's EUP Filing Volume 1 for additional information on how the unit costs were derived. Please note the Unit Cost per Mile of Proposed Mitigation includes the Present Value Revenue Requirement (PVRR) of 1.39.

d. Please see Column BO in the "TURN_001_Q002a-h" tab of "*EUP-PhI_DR_TURN_001-Q002Atch01.xlsx*" for the BCR of each project and alternative modeled without the avoided O&M component. PG&E interprets avoided O&M cost as the O&M cost of the baseline scenario that is no longer incurred as a cost under the given Comparison Name.

e. Please see Column BP in the "TURN_001_Q002a-h" tab of "*EUP-PhI_DR_TURN_001-Q002Atch01.xlsx*." for the unscaled BCR of each project and alternative.

f. Please see Column BQ in the "TURN_001_Q002a-h" tab of "*EUP-PhI_DR_TURN_001-Q002Atch01.xlsx*." for the unscaled BCR of each project without the net O&M component. PG&E interprets net O&M cost being the net of O&M cost of mitigation and the baseline scenario.

g. A negative benefit-cost ratio ("BCR") can occur under the following circumstances:

   For projects that include Undergrounding as a mitigation: A negative BCR can occur when the net lifetime cost savings, from Underground O&M cost reductions relative to the No Build Baseline, exceed the capital installation costs of undergrounding (and capital installation costs of other mitigations, if applicable). As a result, the denominator of the BCR calculation is negative, producing a negative BCR.

   A negative benefit cost ratio has no direct interpretation for selecting investments, other than they effectively have no cost. If PG&E has multiple negative BCRs when evaluating alternatives, it will select the project with the greatest benefits, as the best investment candidate.

h. Please see Column BR in the "TURN_001_Q002a-h" tab of "*EUP-PhI_DR_TURN_001-Q002Atch01.xlsx*." The miles reported in this column represent the scoped mileage from Screen 3, which corresponds to the existing overhead line miles that are proposed to be removed and replaced with underground facilities. These circuit segments are part of the proposed 5,000-mile undergrounding portfolio.

i. Please see Column E to DJ in the "TURN_001_Q002i" tab in the provided attachment "*EUP-PhI_DR_TURN_001-Q002Atch01.xlsx*". PG&E is interpreting the annual cost and avoided O&M cost assumptions to mean the costs and savings as it pertains to O&M.