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

PG&E Data Request No.:	OEIS_004-Q008
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Requester DR No.:	Energy Safety-DR-EUP-26-09
Requesting Party:	Office of Energy Infrastructure Safety
Requester:	Adam Berlinerman
Date Sent:	October 29, 2026
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SUBJECT: CPUC DATA TEMPLATE, PRESENT VALUE CALCULATION, SCREEN 2 BCR INPUTS, RISK MODELING

QUESTION 008

Present Value Calculation

a. As stated in WP006, PG&E is using the following formula to derive Present Value of O&M Costs

$$\sum_{t=1}^{Asset\ Lifetime} \frac{Annual\ O\&M\ Costs}{(1 + Real\ Discount\ Rate)^t}$$

Applying the above formula, Energy Safety is able to derive a present value that is close to, but not exactly matching, what is reported in CPUC Table 1. For example, looking at Proj00001-3UG-UGAS, incremental O&M costs are 0.001263181 per year.

$$\sum_{t=1}^{55} \frac{0.001263181}{(1 + 0.0461)^t} \approx 0.025103$$

This is close to the reported incremental_om_cost_pv of 0.026240755. Provide an explanation for the discrepancy.

b. Using the following formula and data fields, Energy Safety is able to derive a Benefit Cost Ratio (BCR) that is close to, but not exactly matching what is reported in CPUC Table 1.

$$\frac{total_mitigation_benefit_scaled}{(total_capex \times PVRR) + incremental_om_cost_pv + incremental_om_savings_pv}$$

Looking at Proj0008-3UG-UGAS as an example:

$$BCR = \frac{95.53408497}{(45.60679451 \times 1.39) + 0.107757102 - 5.644961677} \approx 1.651232$$

This is close to the reported benefit_cost_ratio_scaled of 1.6058. Provide an explanation for the discrepancy.

ANSWER 008

a. The discrepancy that Energy Safety has observed in deriving the present value incremental O&M cost in CPUC Table 1 can be substantially explained by two primary factors. First and foremost, the formula to derive Present Value of O&M Costs as stated in WP006 inadvertently omits the time offset necessary to produce a discount factor of 1 for the first year. The corrected formulation is:

$$Present\ Value\ of\ O\&M\ Costs = \sum_{t=1}^{Asset\ Lifetime} \frac{Annual\ O\&M\ Costs}{(1 + Real\ Discount\ Rate)^{t-1}}$$

PG&E acknowledges his error and will correct the formula shown in WP006 as part of the 10/30 non-substantive errata filing.

The second primary factor contributing to the discrepancy is suspected to be the use of rounded values. For example, the Real Discount Rate of 4.61% is evaluated by applying the Fisher Equation such that:

$$Real\ Discount\ Rate = \frac{1 + Nominal\ Discount\ Rate}{1 + Inflation\ Rate} - 1$$

For the WACC Discount Rate Scenario, this is:

$$Real\ Discount\ Rate = \frac{1 + 0.07}{1 + 0.0228} - 1 \approx 4.61\%$$

Applying the above formulas to the example for Proj00001-3UG-UGAS provided by Energy Safety yields:

$$\sum_{t=1}^{55} \frac{0.001263181}{(1 + \frac{1 + 0.07}{1 + 0.0228} - 1)^{t-1}} \approx 0.026240761$$

This is close to the reported incremental_om_cost_pv of 0.026240755 for Proj00001-3UG-UGAS reported in CPUC Table 1.

b. The discrepancy that Energy Safety has observed in deriving the Benefit Cost Ratio (BCR) values reported in CPUC Table 1 can be substantially explained by two primary factors related to the evaluation of incremental O&M values. First, there is an inherent methodological difference between the evaluation of lifetime O&M and incremental O&M values that has resulted in variances in derived net O&M values that, consequently, can result in discrepancies between the resulting BCRs.

Second, PG&E has identified that the incremental O&M values reported in CPUC Table 1 did not include benefits associated with the removal of idle miles where applicable. PG&E will reconcile these discrepancies and update the values reported in CPUC Table 1 as part of errata.