PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigations Plans Discovery 2023-2025
Data Response

PG&E Data Request No.:	OEIS_026-Q001
PG&E File Name:	WMP-Discovery2023_DR_OEIS_026-Q001
Request Date:	November 7, 2024
Requester DR No.:	OEIS-Mitigation Selection-PG&E-001
Requesting Party:	Office of Energy Infrastructure Safety
Requester:	Will Dundon, PE
Date Sent:	December 20, 2024

QUESTION 001

Regarding the cost of mitigations:

a. PG&E discusses the following mitigation activities in its 2023-2025 Base WMP:
   i. Covered Conductor Installation;
   ii. Undergrounding;
   iii. Distribution Pole Replacements and Reinforcements;
   iv. Distribution Traditional Hardening;
   v. Transmission Pole/Tower Protections and Reinforcements;
   vi. Transmission Traditional Hardening;
   vii. Transmission Shunt Splices;
   viii. Distribution Protective Devices;
   ix. Breakaway Connector;
   x. Surge Arrestor Removal/Replacement;
   xi. Distribution Motorized Switch Operator (MSO) Replacements;
   xii. Non-Exempt Expulsion Fuse Removal/Replacement;
   xiii. Microgrids, including remote grids;
   xiv. Avian/animal protection plan;
   xv. Enhanced Powerline Safety Settings (EPSS);
   xvi. Distribution, Transmission, and Substation: Fire Action Schemes and Technology (DTS-FAST);
   xvii. Downed Conductor Detection (DCD);
   xviii. Rapid Earth Fault Current Limiter (REFCL);
   xix. Pole Mounted Sensors;
   xx. Early Fault Detection (EFD);
   xxi. Distribution Fault Anticipation (DFA); and

xxii. Smart Tape.

For each of the above activities, provide:

1) The projected average capital cost per circuit mile[1] of projects[2] expected to be completed[3] in 2025.
2) The average capital cost per circuit mile of projects completed from Jan 1, 2021, to Jun 30, 2024.
3) The average operation and maintenance cost per circuit mile per year[4] of projects completed from Jan 1, 2021, to Jun 30, 2024.
4) A discussion of factors that have resulted in projects completed from Jan 1, 2021, to Jun 30, 2024, with a capital cost per circuit mile 20 percent more than the average cost per circuit mile from Jan 1, 2021, to Jun 30, 2024, for that given activity. List the factors and discuss how each impacts the cost.
5) A discussion of factors that have resulted in projects completed from Jan 1, 2021, to Jun 30, 2024, with a capital cost per circuit mile 20 percent less than the average cost per circuit mile from Jan 1, 2021, to Jun 30, 2024, for that given activity. List the factors and discuss how each impacts the cost.
6) Complete the following table for the 10 projects with the highest capital cost per circuit mile and 10 projects with the lowest capital cost per circuit mile completed in 2023. If less than 20 projects were completed in 2023, complete the table for all projects completed in 2023.

Mitigation Activity					
Project ID	Location	Project length (circuit miles)	Project Capital Cost	Project Duration[(a)] (days)	Capital Cost per circuit mile

(a) Project duration refers to the number of days from the beginning of the design phase to electrification.

1 Cost per circuit mile in this Data Request refers to the cost per circuit mile of risk mitigated by the given activity, i.e., the number of circuit miles covered by a mitigation being implemented.

2 The average capital cost provided should be the average of all projects expected to be completed in 2025 and not a separate average capital cost per circuit mile for each project.

3 A project is considered complete when it is operationalized.

4 The average operation and maintenance (O&M) cost provided should be the average O&M cost per circuit mile per year of all projects expected to be completed for the years between 2021 and 2023, and not a separate O&M cost for each project.

ANSWER 001

Please see "*WMP-Discovery2023-2025_DR_OEIS_026-Q001Atch01.xlsx"* for data responsive to subparts 1 through 6 of this request.

Please note that, of the 22 mitigations listed here, only the following are unitized by circuit mile: Covered Conductor, Undergrounding, Transmission Traditional Hardening,[5] and Remote Grids.[6] We are unable to provide the information requested with respect to the other mitigations on a circuit mile basis.

Please note that operation and maintenance costs after mitigation work is complete are not traceable to a specific mitigation.

With regard to our response to subpart 6 for Covered Conductor and Undergrounding, please note that projects with very low milage may result in unrepresentatively high cost per circuit mile metrics. With regard to our response to subpart 6 for Remote Grid, please note that some projects do not currently have the necessary data in our system of record to calculate the project duration and are represented as "N/A."

With regard to our response to subpart 5 for Covered Conductor, Undergrounding, and Remote Grids, please note that work under our Base System Hardening (Base SH) program and work under our Fire Rebuild (FRRB) program are separated to provide visibility to the differences between the two programs.

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5 We do not have a separate program for overhead system component hardening that aligns with the updated OEIS definition of traditional overhead hardening. Please see Section 8.1.2.5.2 of our 2023-2025 WMP.

6 Our 2023-2025 WMP includes five activities under "Microgrids." Of these, only Remote Grids are unitized by circuit mile.