PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans Discovery 2023
Data Response

PG&E Data Request No.:	OEIS_004-Q013		
PG&E File Name:	WMP-Discovery2023_DR_OEIS_004-Q013		
Request Date:	May 4, 2023	Requester DR No.:	P-WMP_2023-PG&E-004
Date Sent:	May 23, 2023	Requesting Party:	Office of Energy Infrastructure Safety
DRU Index #:		Requester:	Colin Russell Lang

SUBJECT: REGARDING PG&E'S ASSET TRACKING DATABASE

QUESTION 013

While PG&E provided information in the 2023-25 WMP's Appendix F on its overall progress in Asset Inventory Data Gaps, it is not clear what PG&E's progress is on the high-risk electric distribution assets, such as primary conductors and poles, that are not in the Asset Registry and therefore not included in the WMP's initiatives. In regards to PG&E's plans and progress on the Asset Registry Data Quality Program (ARDQ), please provide the following, including via Excel file as applicable:

a.   Greater detail on plans for identifying and correcting missing electric distribution asset types in High Fire Risk Districts (HFRD).

b.   Greater details regarding plans and timelines on the known gaps on the twelve T&D risk prioritized asset types (Footnote 217, pg. 966) in the HFRD. The content provided should address specific actions being taken and the timeline to address the gaps in the historical data on service-aged poles and primary conductor risk-prioritized asset types located in the HFRD.

c.   Does the Asset Data Quality Remediation initiative (pg. 966) include a discrete project aimed at addressing specific gaps in the high-risk electric distribution asset types in the HFRD?

d.   On pg. 966, it states that in 2022 "…over 570 Critical Data Elements (CDE)" were identified. Did this number include any poles and/or primary conductors in HFRD?

e.   Please describe what actions are taken after missing assets are found, i.e., are immediate field inspections performed? Does the ARDQ Program expedite entering the assets found into the Asset Registry?

f.   Is the data shown in "Appendix F.5.1 – PG&E-22-33 Progress on Filling Asset Inventory Data Gaps" include electric assets in PG&E's entire service territory? If so, please provide a breakdown of the number of assets in the HFRD.

g.   Which of the Data Quality Programs (Table 22-33-2) are responsible for finding the missing historical high-risk asset types in the HFRD?

h.   What is PG&E's estimated number of poles and primary conductors that are missing from the "Asset Count -All" in Table 22-33-1 "Current Fill Rates"? Of the poles and primary conductors that are missing, how many are in the HFRA?

ID	Asset Family	Asset Type	Asset Component	Asset Count• All	Install Date Fill Rate	Material Type Fill Rate	Manufacturer Fill Rate	Manufacture Date Fill Rate	Nominal Voltage Fill Rate
5	Distribution Overhead	Support Structure	Support Structures (Poles)	2,261,376	97.5%	100.0%	81.9%	80.0%	N/A
6	Distribution Overhead	Primary Overhead Conductor	Primary Overhead Conductor	1,671,801	72.9%	99.9%	N/A	N/A	100.0%

ANSWER 013

In responding to this request, PG&E is unfamiliar with the term "High Fire Risk Districts" and assumes this is a reference to "High Fire Risk Areas" (HFRA).

a. As stated in response to Subpart (d) of "*WMP-Discovery2023_DR_OEIS_003-Q010.pdf*", PG&E is not presently able to quantify the number of assets missing from the asset inventory. However, when missing assets are identified, the assets are added to the inventory.

    PG&E's asset registry program identifies and addresses asset inventory completeness (missing asset) improvements in the following ways:

    - Timely processing of as-built documents associated with completed construction work into the asset registry;

    - Asset data inventory corrections (Map Corrections) provided by field inspections, and

    - Asset data projects designed to assess and improve the completeness of records and attribute data for critical assets.

    Due to the criticality of distribution primary structure assets to wildfire risk management activities and historical mapping practices, PG&E's primary focus has been to ensure the completeness of that asset registry. To date, greater than 98% of PG&E wildfire areas (HFTD and HFRA) have undergone an assessment using LiDAR data to identify any missing distribution primary structures (poles). Approximately 3,000 structures have been added to the asset registry as part of this four-year project. The remaining approximately 2% of wildfire areas not yet completed are planned for completion in 2023.

As referenced above, PG&E also leverages inspection activities to identify and correct any critical missing or inaccurate asset data attributes.

b.   In its response to the 2023 WMP Utility survey, PG&E made a commitment (AI-11: Data Fill Rates) to increase the fill rate for missing age data from 88% to 90% (weighted average) across 12 asset component types by end of 2025. These component types are: *Transmission Poles, Transmission Towers, Transmission Conductors, Transmission Insulators, Distribution Poles, Distribution Primary Overhead Conductor, Distribution Dynamic Protective Device, Distribution Fuse, Distribution Surge Arrester, Distribution Capacitor Bank, Distribution Voltage Regulator*, and *Distribution OH Transformer*.

Also, in the 2023 WMP filing, PG&E outlined an objective to increase the completeness for six additional attributes on the same asset components (as applicable) to each asset component: *Installation Date, Material, Manufacturer, Manufacture Date, Nominal Voltage,* and *Operating Voltage*. See Table PG&E-22-33-1: CURRENT FILL RATES on page 1408 of the 2023 WMP.

PG&E is intending to initiate three proofs of concept to evaluate the efficiency and effectiveness of the following remediation approaches:

Field Proof of Concept: use field personnel and various equipment to capture install date information in the form of date nails on poles, or manufacture dates on poles and equipment using cameras and possibly other devices. We will also evaluate the feasibility of collecting additional attributes such as manufacturer and material type where appropriate.

Records Review Proof of Concept: Identify PG&E records and retrieve them from long-term storage to determine installation dates and other critical attributes from red-lined construction drawings that were signed-off at the time of construction.

Automated approaches: PG&E will explore the feasibility of using other data sources (e.g., order data) that provide indications as to when a certain job was finished in construction, as well as options to derive manufactured year data. Voltage rating could also be derived from associated records. These options could result in a rules-based approach that could be used to update specific data gaps.

Task	Anticipated Completion Date
Field Proof of Concept	September 29, 2023
Records Review Proof of Concept	August 25, 2023
Automated Population Proofs of Concept	August 25, 2023

Once the proofs of concept are completed, PG&E will develop a project plan required to meet the December 2025 commitment. It is likely that PG&E will take a combination of these three approaches to build a cost-effective program to collect

missing data. Sequencing of remediation efforts will be risk-informed with a near-term focus on missing data in wildfire areas.

c. Yes, please see the response to Subpart (b) above for a detailed explanation.

d. Yes, this includes 57 CDEs for Distribution Poles and 46 CDEs for Distribution Primary Overhead Conductors in HFRA and non-wildfire areas. See reference "*WMPDiscovery2023_DR_OEIS_004-Q013Atch01.xlsx*" for a list of CDEs.

e. When missing critical assets are identified in the field during inspections or other field work, a Map Correction is submitted. The field worker collects a minimum set of information required for an asset registry correction to take place. This can often include supporting images. The submitted map corrections are received by the GIS Asset Data Management & Improvement team for review. Upon validation of the recommended change to the asset registry, an update is made to the asset registry system of record.

The processing of map corrections are prioritized on a risk-ranked basis, that includes whether the asset is in a wildfire area, and the type of asset. Distribution structures in wildfire areas are given highest priority.

For distribution, newly discovered assets in HFTD/HFRA are inspected within 90 days of being added to the asset registry or by its WMP-indicated frequency, whichever is later. However, if these poles have a field installation date in 2022 or later, they will not be added to the inspection plan in 2023. In addition, for 2023, System Inspections has incorporated an "Ad-Hoc" process. This process allows the inspector to complete an inspection while at the location, filling out the appropriate checklist and taking the appropriate photos. Once the Mapping/GIS team creates the asset in the registry, it allows the recorded inspection to be associated.

The ARDQ program itself is focused on measuring the data quality, including completeness, of existing asset records and their attributes. Through a standardized approach to identifying critical datasets and attributes and measuring specific data quality rules, PG&E can begin systematically targeted, risk-prioritized remediation efforts that can be tracked for effectiveness. Once records for missing assets are added to the asset inventory, their associated attributes can be measured.

f. Yes, table 22-33-1 includes assets in all service areas. Below is table restricted to assets in HFRA.

ID	Asset Family	Asset Type	Asset Component	Asset Count - HFRA	HFRA Install Date Fill Rate	HFRA Material Type Fill Rate	HFRA Manufacturer Fill Rate	HFRA Manufacture Date Fill Rate	HFRA Nominal Voltage Fill Rate	HFRA Operating Voltage Fill Rate
1	Transmission Overhead	Support Structure	Tower	11,865	88.2%	N/A	N/A	0.0%	N/A	N/A
2	Transmission Overhead	Support Structure	Pole	38,808	53.8%	99.9%	N/A	54.9%	N/A	N/A
3	Transmission Overhead	Conductor	Conductor	2,065	58.2%	100.0%	1.0%	0.0%	100%	N/A
4	Transmission Overhead	Insulator	Insulator	47,812	68.6%	99.8%	N/A	N/A	N/A	N/A
5	Distribution Overhead	Support Structure	Support Structures (Poles)	627,009	97.3%	100.0%	73.1%	72.7%	N/A	N/A
6	Distribution Overhead	Primary Overhead Conductor	Primary Overhead Conductor	429,295	69.8%	99.8%	N/A	N/A	100%	100%
7	Distribution Overhead	Protection Device	Dynamic Protective Device	2,421	94.3%	N/A	97.1%	62.1%	N/A	100%
8	Distribution Overhead	Protection Device	Fuse	31,993	97.5%	N/A	96.8%	98.9%	N/A	100%
9	Distribution Overhead	Protection Device	Surge Arrestor	17,311	95.8%	N/A	N/A	N/A	N/A	N/A
10	Distribution Overhead	Voltage Regulating Equipment	Capacitor Bank	1,019	98.4%	N/A	65.2%	80.1%	N/A	100%
11	Distribution Overhead	Voltage Regulating Equipment	Voltage Regulator	1,991	95.7%	N/A	99.8%	64.2%	N/A	100%
12	Distribution Overhead	Transformer	Service Transformer	231,974	98.8%	N/A	99.6%	79.4%	N/A	100%

g. From the Data Quality Programs listed in Table 22-33-2, the Map Correction Program is the mechanism for adding missing assets to the Asset Registry. In addition to finding missing distribution assets through the inspection process, there are projects identified in Table 22-3-3 that are aligned with identifying missing distribution assets, including "Distribution Primary Structure Manual Conflation" and "Customer-Owned Poles with Mis-Attributed Ownership". Further, PG&E plans to extend the Distribution Primary Structure LiDAR capture and conflation program to non-wildfire areas.

h. As stated in the response to subpart (a) above, PG&E is not aware of any Distribution Primary poles and conductors in HFRA that are missing from the Asset Registry. PG&E has made a concerted effort over the last four years to identify all primary conductor and pole assets in HFRA and validate against the Asset Registry, adding and updating records accordingly.