Pacific Gas and Electric Company®

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September 22, 2023

Mr. Terence Eng
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: General Order (GO) 112-F Gas Inspection of PG&E's Distribution Integrity Management Program (DIMP) – Follow up and review of 2022 changes

Dear Mr. Eng:

Pacific Gas and Electric Company (PG&E) submits this response to the Safety and Enforcement Division's (SED) Summary of Inspection Findings (Summary), dated August 24, 2023, stemming from the 2023 SED inspection of PG&E's Distribution Integrity Management Program (DIMP) conducted June 26, 2023, to June 27, 2023.

For clarity, each item identified in the Summary will be repeated followed by PG&E's response.

Unsatisfactory Result 1: Gas Distribution Integrity Management: Knowledge of the System (GDIM.KN)

Question Title, ID	System Knowledge - Gaps, GDIM.RA.GAPS.P
Question Text	**2.** Does the plan contain procedures to identify additional information that is needed to fill gaps due to missing, inaccurate, or incomplete records?
References	192.1007(a)(3)
Assets Covered	Main Office (Specialized Inspections) (86283 (29))
Issue Summary (A)	PG&E's Utility Procedure TD-4850P-01 rev 4 section 4.3.2 states in part: "DIMP personnel review each data source by assessing the following information: … "Completeness of data."" However, PG&E does not have a process describing how it determines that the "Completeness of data" is achieved and if not, the procedure used to identify missing, inaccurate, or incomplete records.

PG&E's Utility Procedure TD-4850P-01 rev 4 section 4.5.1 defines "Missing Information" as:

"DIMP defines missing information as GD GIS main & service asset attributes that are needed for the risk assessment process (see Attachment H, Appendix B) but are recorded as unknown or missing in GD GIS (e.g., null values or a 01/01/1800 installation date)."

Attachment H "Threat Identification and Risk Evaluation", Appendix B Revision 10 consists of a table of the database structure of the "2022 RiskFinder Data Sources" & assigned Subject Matter Expert (SME) (effective date 7/29/2022), but does not include a methodology to confirm or cross-reference the integrity of the data & therefore cannot determine if the data sets are complete. Per follow-up data request by SED, PG&E stated that the "2022 RiskFinder Data Sources" includes all the threat categories (i.e., natural forces, excavation, etc.).

PG&E's Utility Procedure TD-4850P-01 rev 4 section 4.5.1(a) states:

(B) "Data from Leak repair, Inspection & Gas Quarterly Incident Report (A-Form) (Form TD-5100P-01-F01), which must be completed for leak repairs, or the Pipe Inspection Form (Form TD-5100P-01-F03), which must be completed when a section of buried pipeline is exposed for non-leak reasons, may be used in the risk model in place of missing main or service attributes."

PG&E's Utility Procedure TD-4850P-01 rev 4 section 4.5.1(a) identifies which forms must be completed & a method for substituting incomplete records for leak repairs in the risk model, but omits the other threat categories (i.e., Natural Forces, Excavation damage, Incorrect operations, etc.).

(C) Title 49 Code of Federal Regulations (CFR) §192.1007(a)(3) states, "Identify ***additional information*** needed and provide a plan for gaining that information over time through normal activities conducted on the pipeline (for example, design, construction, operations or maintenance activities)." Furthermore, this ***additional information*** is needed to fill gaps due to missing, inaccurate, or incomplete records.

Therefore, PG&E is in violation of Title 49 CFR §192.1007(a)(3) for not having procedures to identify additional information that is needed to fill gaps due to missing, inaccurate, or incomplete records.

Response to Unsatisfactory Result 1:

For clarity, distinction of the three (3) separate items nested within the original "Issue Summary" were formatted with a letter representing the order listed. A response to each of the three items is provided below:

(A) PG&E respectfully disagrees that a method to identify missing or incomplete records is not in the plan. Per TD-4850P-01(Att-01), section 4.5.1, "DIMP defines missing information as GD GIS main and service asset attributes that are needed for the risk assessment process (see Attachment H, Appendix B) but are recorded as unknown or missing in GD GIS (e.g., null values or a 01/01/1800 installation date)."

Under Attachment H of the DIMP Manual (Att-02), PG&E's process for checking for missing, null, or invalid values in the attributes used in the DIMP risk model is performed using a QC script, which is an automated tool written using Python code. The specification for the checks performed are listed in Attachment H, Appendix B of the DIMP Manual (Att-03), tab "spec of input QC script RF2022" (Att-03 pp. 7-19). The script generates a report that shows the quantities of records that are missing, null, or invalid. Attachment H, section 3.8.4 specifies the documentation of the input data sources and fields used in the DIMP models and the data quality statistics of these fields.

PG&E plans to strengthen and further clarify its methodology for determining the completeness and quality of the fields used by its DIMP risk model in the next revision of Attachment H and TD-4850P-01.

(B) Section 4.5.1(a) of TD-4850P-01 provides a method to fill in incomplete records, not for, but with data gathered on a given main or service during a leak repair. For example, field observed locations of bare steel pipeline are used to update the coating type of the steel main at that location, which was previously missing or unknown for certain steel segments in GD GIS.

PG&E respectfully disagrees threat categories are omitted and reiterates its response to SED's follow-up question regarding Data Request 38 on August 8, 2023, where PG&E affirmed that all eight (8) threats are addressed during the completion of the Leak Repair A-form [i.e., TD-5100P-01-F01 (Att-04)].

Table 1 below lists the mapping of the reported leak causes on the TD-5100P-01-F01 to the eight (8) threat categories. Additional information on mapping of leak causes to sub threats and threats can be found in Attachments J (Att-05) and H (Att-03) of the DIMP Manual.

Table 1: Mapping of Reported Leak Cause to Threat Categories

Threat Category	Leak Cause
Corrosion	• Atmospheric Corrosion • External Corrosion • Internal Corrosion • Stress Corrosion Cracking
Excavation damage	• Dig-in / Excavation • Previously Damaged (if below ground)
Material, Weld, or Joint Failure	• Cast Iron Fracture • Compression Coupling • Material Failure • Plastic crack failure • Plastic embrittlement • Weld failure
Incorrect Operation	• Incorrect Operation • Construction defect
Natural Forces	• Damage by Earth Movement • Damage by Heavy Rains/Flood • Earthquake • Lightning • Root damage • Other natural forces
Other Outside Forces	• Damage by Electrical Facility • Damage by Third Party • Vehicle • Deliberate Acts/vandalism • Rodent • Fire or Explosion in Company Facility • Fire or Explosion in Customer Facility • Previously damaged (if above ground)
Equipment Failure	• Equipment malfunction • No/Deteriorated Pipe Dope
Other	• Unknown (Replacing Facility) • Other

(C) PG&E has various means for collecting additional information to fill gaps due to missing, inaccurate, or incomplete records. This includes Operations and Maintenance (O&M) activities such as the use of leak repair and inspection data to supplement missing main and service attributes, as specified in TD-4850P-01, Section 4.5.1(a).

Other means for collecting additional information includes performing record reviews and performing field verification on aboveground assets or on belowground assets through targeted digs to identify or validate asset characteristics.

In the next revision of Utility Procedure TD-4850P-01, PG&E will strengthen guidance specifying the creation of reasonably feasible plans, based on the means described above, to gain information over time to address missing, inaccurate, or invalid attributes identified as necessary for the DIMP risk model.

Unsatisfactory Result 2: Gas Distribution Integrity Management: Knowledge of the System (GDIM.KN)

Question Title, ID	System Knowledge - Information Needed, GDIM.RA.INFONEEDS.P
Question Text	**3.** Do the procedures specify the means to collect the additional information needed to fill gaps due to missing, inaccurate, or incomplete records (e.g., O&M activities, field surveys, One-Call System, etc.)?
References	192.1007(a)(3)
Assets Covered	Main Office (Specialized Inspections) (86283 (29))
Issue Summary	PG&E's Utility Procedure TD-4850P-01 rev 4 section 4.3.2 states in part: "DIMP personnel review each data source by assessing the following information: … "Completeness of data."" However, PG&E does not have a process describing how it determines that the "Completeness of data" is achieved and if not, the procedure used to identify missing, inaccurate, or incomplete records. PG&E's Utility Procedure TD-4850P-01 rev 4 section 4.5.1 defines "Missing Information" as: "DIMP defines missing information as GD GIS main & service asset attributes that are needed for the risk assessment process (see Attachment H, Appendix B) but are recorded as unknown or missing in GD GIS (e.g., null values or a 01/01/1800 installation date)." Attachment H "Threat Identification and Risk Evaluation", Appendix B Revision 10 consists of a table of the database structure of the "2022 RiskFinder Data Sources" & assigned Subject Matter Expert (SME) (effective

date 07/29/2022) but does not include a methodology to confirm or cross-reference the integrity of the data & therefore cannot determine if the data sets are complete. Per follow-up data request by SED, PG&E stated that the "2022 RiskFinder Data Sources" includes all the threat categories (i.e., natural forces, excavation, etc.).

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"Data from Leak repair, Inspection & Gas Quarterly Incident Report (A-Form) (Form TD-5100P-01-F01), which must be completed for leak repairs, or the Pipe Inspection Form (Form TD-5100P-01-F03), which must be completed when a section of buried pipeline is exposed for non-leak reasons, may be used in the risk model in place of missing main or service attributes."

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Title 49 Code of Federal Regulations (CFR) §192.1007(a)(3) states, "Identify ***additional information*** needed and provide a plan for gaining that information over time through normal activities conducted on the pipeline (for example, design, construction, operations or maintenance activities)." Furthermore, this ***additional information*** is needed to fill gaps due to missing, inaccurate, or incomplete records.

Therefore, PG&E is in violation of Title 49 CFR §192.1007(a)(3) for not having procedures to identify additional information that is needed to fill gaps due to missing, inaccurate, or incomplete records.

Response to Unsatisfactory Result 2:

Please see response to Unsatisfactory Result 1 above.

Please contact [redacted] for any questions you may have regarding this response.

Sincerely,

Kristina Castrence
Director, Gas Regulatory and Risk

CC: Dennis Lee, CPUC
Claudia Almengor, CPUC
Sikandar Khatri, CPUC
[redacted] PG&E
[redacted] PG&E

Attachments:

Att-01_TD-4850P-01 (Rev-4) Gas Dist. Integrity Management Program_CONF.pdf
Att-02_DIMP Manual - Attachment H (Rev-10)_CONF.pdf
Att-03_DIMP Manual - Attachment H - App B (Rev-10)_CONF.pdf
Att-04_TD-5100P-01-F01 (Rev-1) Leak Repair (A-Form).pdf
Att-05_DIMP Manual - Attachment J (Rev-9)_CONF.pdf