PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

February 15, 2023

Christine Cowsert
VP, Gas Asset Management and System Operations
Pacific Gas and Electric Company
Gas Transmission and Distribution Operations
6121 Bollinger Canyon Road
San Ramon, CA 94583

GI-2022-09-PGE-03-02ABC-18-RFB

SUBJECT: SED Closure Letter for General Order 112-F Gas Inspection of PG&E's Mission Division

Dear Ms. Cowsert,

The Safety and Enforcement Division (SED) of the California Public Utilities Commission reviewed Pacific Gas & Electric Company's (PG&E) response letter dated February 2, 2023, for the findings identified during the General Order 112-F inspection of PG&E's Mission Division. This inspection included a review of the Area's operation and maintenance records for the years 2018 through 2021, PG&E's procedures addressing 2020 Protecting Our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act Section 114, and a field inspection of a representative sample of the Area's facilities. SED staff also reviewed the Area's operator qualification records, which included a field observation of randomly selected individuals performing covered tasks.

A summary of the inspection findings documented by SED, PG&E's response to SED's findings, and SED's evaluation of PG&E's response to each identified Violation and Area of Concern/ Recommendation is attached.

This letter serves as the official closure for this portion of the 2022 GO 112-F Inspection of PG&E's Mission Division and any matters that are being recommended for enforcement will be processed through the Commission's Citation Program or a formal proceeding.

Thank you for your cooperation in this inspection. If you have any questions, please contact Randy Fienberg (415) 416-4409 or by email at randy.fienberg@cpuc.ca.gov.

Sincerely,

Dennis Lee

Dennis Lee, P.E.
Program & Project Supervisor
Gas Safety and Reliability Branch
Safety and Enforcement Division

Enclosure: Post-Inspection Written Preliminary Findings
cc: Susie Richmond, PG&E Gas Regulatory Compliance
Glen Allen, PG&E Gas Regulatory Compliance
Terence Eng, SED
Claudia Almengor, SED

Post-Inspection Written Preliminary Findings

Dates of Inspection: 9/26/2022 - 9/30/2022

Operator: PACIFIC GAS & ELECTRIC CO

Operator ID: 15007 (primary)

Inspection Systems: Mission Division

Assets (Unit IDs) with results in this report: PG&E Mission Division (86275)

System Type: GD

Inspection Name: 2022 PG&E Mission Division/Section 114

Lead Inspector: Randy Fienberg

Operator Representative: Glen Allen

Unsatisfactory Results

1) Time-Dependent Threats : Atmospheric Corrosion (TD.ATM)

Question Title, ID Atmospheric Corrosion Monitoring, TD.ATM.ATMCORRODEINSP.O
Question 5. Do field observations indicate that pipe exposed to atmospheric corrosion is properly coated?
References 192.481(b) (192.481(c), 192.479(a), 192.479(b), 192.479(c), 192.481(d))
Assets Covered PG&E Mission Division (Mission Division)

Issue Summary:

SED observed one pipeline span (Equipment ID 44628926) to be in poor condition. SED reviewed this span's inspection history and found that the inspection in 2018 marked this span as needing remediation. The pipe was re-inspected in 2021 and noted the same issues. A request to repaint the pipe was found dated October 18, 2021, but had notes that documentation was missing. As of September 28, 2022, this span had not been remediated.

PG&E Procedure TD-4188S (revision 1, effective date 01/01/2017) "Atmospheric Corrosion Control of Gas Facilities" Section 4 "Mitigation" states: "The mitigation timeline of atmospheric corrosion-related abnormal operating conditions (AOCs) found during monitoring must not exceed thirty-nine months from the date of the AOC identification, except assets that meet requirements in Section 1.4."

Title 49 Code of Federal Regulations (49 CFR) §192.605(a) states: "General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response."

PG&E failed to remediate an atmospheric corrosion-related AOC within thirty-nine months from date of AOC identification for span 44628926. PG&E violated 49 CFR §192.605(a) for failing to follow their procedure TD-4188S to remediate within the given timeframe.

PG&E's Response:
A Corrective Notification should have been generated following the identification of an Abnormal Operating Condition (AOC) in the 2018 Atmospheric Corrosion Inspection Record. At that time, the Corrective Notification had to be manually created in SAP, typically by the Corrosion Supervisor or Maintenance Assistant. Due to a human performance error, the Corrective Notification was not generated, as required. To prevent reoccurrence the creation of Corrective Notifications has been automated since 2019. The Atmospheric Corrosion Inspection is performed in the field by the Corrosion Mechanic on a handheld device which utilizes Pronto software. Following completion of the inspection, the checklist will automatically be populated in SAP. If an AOC has been indicated, a Corrective Notification will automatically be generated to address the issue. Following the span inspection in 2021, corrective notification 122210236 was automatically generated when the AOC was identified. Order 45012811 was generated and repairs were completed on November 29, 2022. Attached, please find Attachment 1, "Order 45012811" which includes the order completion documentation along with before and after photographs.

SED's Conclusion:
SED has reviewed PG&E's response and attached remediation evidence and accepts the corrective actions that has been implemented. No further action is necessary.

Concerns

1) Design and Construction : Meters, Service Regulators, and Service Lines (DC.METERREGSVC)

Question Title, ID	Customer Meters and Regulator Protection, DC.METERREGSVC.CUSTMETERREGPROT.O
Question	2. Are meters and service regulators being protected from damage consistent with the requirements of 192.355?
References	192.351 (192.355(a), 192.355(b), 192.355(c))
Assets Covered	PG&E Mission Division (Mission Division)
Issue Summary	SED observed 2 meter-sets at [redacted] & [redacted] that lacked meter protection.

Issue Summary:

SED observed 2 meter-sets at [redacted] & [redacted] that lacked meter protection.

PG&E's Response:

AOC ID 4870742 was created to install meter protection at [redacted]. Work will be performed under SAP Notification 125390531 and Order 45650629. Installation of the meter guard is currently scheduled for the first quarter of 2023.

AOC ID 4870744 was created to install meter protection at [redacted] with work to be performed under SAP Notification 124957987 and Order 45577615. Installation of the meter guard was completed on January 19, 2023. Attached, please find a photograph of the installed meter guard, Attachment 2, "Meter Protection Gilbert Place".

SED's Conclusion:

SED has reviewed PG&E's response and accepts the corrective actions that has been implemented. PG&E should keep SED updated when Work Order 45650629 is completed.

2) Facilities and Storage : Facilities General (FS.FG)

Question Title, ID Vault Inspection, FS.FG.VAULTINSPECT.O

Question 4. Are inspections of selected vaults with internal volume =200 cubic feet (5.66 cubic meters) housing pressure regulating/limiting equipment adequate?

References 192.749(a) (192.749(b), 192.749(c), 192.749(d))

Assets Covered PG&E Mission Division (Mission Division)

Issue Summary:

In early August 2022, a construction crew was dispatched to install a new SCADA system for the upstream Regulator Station RL-38. Upon opening the vault, the construction crew found an excessive amount of water & proceeded to dewater the vault & install a new SCADA system. SED was told that the Construction team communicated this to the local water agency as they suspected an underground leak but did not notify the GPOM team of this condition.

During the field observations of the Mission Division Audit on September 28, 2022, SED observed the upstream Regulator Station RL-38 vault was completely submerged in water upon opening the vault doors. The GPOM team proceeded to dewater the vault to safely perform maintenance on the regulator station which was completed as required. During post audit communications, it was learned that the abnormally high level of water intrusion was caused by nearby irrigation leaks which have since been repaired. PG&E has indicated that to prevent reoccurrence, Gas Construction Engineering will notify GPOM of any abnormalities encountered while working around the Regulation Stations. SED recommends that PG&E formalize this process by updating the Construction Dewatering Procedure (ENV-2301P-01) & Vault Dewatering Procedure (ENV-2202P-01) to include formal notification to the GPOM team of any Abnormal Operating Conditions (AOC's)

including, but not limited to, abnormally high volumes of water.

PG&E's Response:
As stated above in SED's concern, in early August 2022, during the installation of a new SCADA system at Regulator Station RL-38, PG&E notified the East Bay Municipal Utility District (EBMUD) of a potential irrigation leak near the station. Following completion of the inspection, on October 5, 2022, the Mission Division GPOM crew and EBMUD met onsite to determine the cause of the water accumulation in Regulator Station RL-38 upstream vault. The two crews discovered several irrigation leaks that were determined to be the cause of the water accumulation. The leaks were repaired by the EBMUD crew and the GPOM crew confirmed that the water was no longer accumulating in the vault.

PG&E disagrees with SED's description of "abnormally high volumes of water" in a regulator station vault as an Abnormal Operating Condition (AOC). Water accumulation in vaults is a common and expected occurrence and its removal is detailed in ENV-2202P-01, Vault Dewatering Procedure. Per page 1 of the procedure, "Throughout the year, storm water inflow, subterranean seepage, and other type of runoff or infiltration may collect in utility vaults and underground structures. To perform work safely within these structures, the accumulated water must be removed." Also, per step 1.1 on page 5, "During the 2015 monitoring year (June 1, 2015 – May 30, 2016), PG&E documented 2,105 utility vault discharges across the service territory." In addition, one of the first steps in TD-4540P-01, Maintenance of Regulator Stations (Non-HPR, HPR) and Farm Tap Sets procedure, step 1.3.5 (b) is to "Remove water from vaults per liquid disposal instructions in Utility Procedure ENV-2202P-01, Vault Dewatering Procedure." PG&E crews performing work in vaults expect that water may be present and therefore crews are equipped with proper dewatering tools in order to perform their work safely and effectively.
Attached, please find Attachment 3, "ENV-2202P-01 - Vault Dewatering Procedure" and Attachment 4, "TD-4540P-01 - Maintenance of Regulator Stations (Non-HPR, HPR) and Farm Tap Sets". PG&E does not plan to update Construction Dewatering Procedure (ENV-2301P-01) & Vault Dewatering Procedure (ENV-2202P-01) as they adequately identify the need for removal of accumulated water before entering a vault, and detailed guidance is provided to accomplish the removal.

SED's Conclusion:

SED has reviewed PG&E's response and accepts the corrective actions that has been implemented. SED recommends PG&E update its procedures to require Gas Construction Engineering to notify GPOM of any abnormalities encountered while working around the Regulation Stations.

3) Time-Dependent Threats : External Corrosion - CP Monitoring (TD.CPMONITOR)

Question Title, ID Cathodic Protection Monitoring Criteria, TD.CPMONITOR.MONITORCRITERIA.O

Question 3. Are methods used for taking CP monitoring readings that allow for the application of appropriate CP monitoring criteria?

References 192.465(a) (192.463(b), 192.463(c), 192.463(a))

Assets Covered PG&E Mission Division (Mission Division)

Issue Summary:

Per PG&E TD-4181S "External Corrosion Control of Gas Facilities" (rev. 2a) Section 7.4.3:

"7. Cathodic Protection Monitoring

(...)

7.4. Isolated Steel Monitoring

(...)

3. To ensure facilities are protected until the next monitoring cycle, a drivable anode must be

installed if the P/S potentials are less negative than -900 mV with reference to a copper-copper

sulfate electrode, with cathodic protection current applied."

Per PG&E TD-4181S "External Corrosion Control of Gas Facilities" (rev. 2a) Section 5.1.1:

"5. Cathodic Protection Criteria

5.1 Cathodic Protection Criteria Levels

(...)

1. Pipe-to-soil (P/S) potential - rectifier on: Cathodic protection areas are considered adequately

protected when the P/S potentials are -850 millivolts (mV) or more negative, with reference to a

copper-copper sulfate electrode, with cathodic protection current applied."

Per PG&E TD-4181P-601 "Test Procedure for Pipe Casings" (rev. 0c) Section 4:

"4. Evaluating Potential Measurement Test Results

a. Isolated Casing

IF both conditions below are found,

(1) Casing-to-soil (C/S) potential(s) are less negative than -800mV.

(2) The difference between the P/S potential(s) and the C/S potential(s) is 100mV or greater

THEN the casing is considered electrically isolated from the pipeline and no further action is required at this time."

SED observed the following CP monitoring equipment that did not meet cathodic protection monitoring criteria.

- 10%er (Equipment ID: 44795397) had a pipe-to-soil reading of -352mV, which did not meet the -900mV P/S potential requirement of PG&E TD-4181S Section 7.4.3.
- ETS (Equipment ID: 42080211) had a pipe-to-soil reading of -700mV, which did not meet the -850mV P/S potential requirement of PG&E TD-4181S Section 5.1.1.
- Casing with leads (Equipment ID: 45149030) had a casing-to-soil reading of -983mV and a nearby pipe-to-soil reading of -1060mV, which did not meet the isolated casing potential difference requirement of TD-4181P-601 Section 4.

PG&E's Response:
Troubleshoot Notification 124592031 was created for the 10%er, EQ 44795397. On 1/6/2023, PG&E installed an anode at this location and recorded a pipe to soil read of -1098 mv. Attached, please find Attachment 5, "Troubleshoot Notification 124592031".

Troubleshoot Notification 124797049 was created for the ETS, EQ 42080211. PG&E cleared contacts for the CPA and recorded a pipe to soil read of -941 mv at this ETS on 01/21/2023. Attached, please find Attachment 6, "Troubleshoot Notification 124797049".

The casing with leads, EQ 45149030, will continue to be monitored annually. Per Corrosion Engineering, the casing was tested on 6/14/2021 and determined that the casing is electrolytically coupled and is not metallically shorted. Cathodic protection can still be maintained within the casing due to the electrolytic couple. Furthermore, the most recent potential measurements taken 05/27/2022 met electrical isolation conditions per TD-4181PP-601. No remediation is required for this Distribution casing. Attached, please find Attachment 7, "Casing 45149030 Annual Reads".

SED's Conclusion:
SED has reviewed PG&E's response and attached remediated corrosion control records. No further action is necessary.

4) Time-Dependent Threats : External Corrosion - Cathodic Protection (TD.CP)

Question Title, ID Isolation from Other Metallic Structures, TD.CP.ELECISOLATE.O

Question 12. Are measures performed to ensure electrical isolation of each buried or submerged pipeline from other metallic structures unless they electrically interconnect and cathodically protect the pipeline and the other structures as a single unit?

References 192.467(a) (192.467(b), 192.467(c), 192.467(d), 192.467(e))

Assets Covered PG&E Mission Division (Mission Division)

Issue Summary:

Per PG&E TD-4181P-601 "Test Procedure for Pipe Casings" (rev. 0c) Section 4:

"4. Evaluating Potential Measurement Test Results

a. Isolated Casing

IF both conditions below are found,

(1) C/S potential(s) are less negative than -800mV.

(2) The difference between the P/S potential(s) and the C/S potential(s) is 100mV or greater

THEN the casing is considered electrically isolated from the pipeline and no further action is required at this time."

SED observed casing with leads with Equipment ID: 45149030 to be a contacted casing (-983mV casing-to-soil, -1060mV pipe-to-soil) as the potential difference (between the casing-to-soil reading and pipe-to-soil reading) of -77mV does not satisfy the - 100mV minimum negative potential difference requirement of PG&E's TD-4181P-601 procedure. The corrosion technician noted that this was a known contacted casing.

PG&E's Response:
Per Corrosion Engineering, the casing was tested on 6/14/2021 and determined that the casing is electrolytically coupled and is not metallically shorted. Attached, please find Attachment 8, "Casing 45149030 Test Record". Cathodic protection can still be maintained within the casing due to the electrolytic couple. PG&E is not required to mitigate electrolytic couples on distribution casings but they will continue to be monitored annually.

SED's Conclusion:
SED has reviewed PG&E's response and attached remediated corrosion control records. No further action is necessary.

5a) Section 114 : Section 114 - Gas Distribution (114.GD)

Question Title, ID Leaks & Releases - Venting, 114.114.LKRLSVENT.P (also presented in: 114.MM)

Question 6. Do procedures identify measures for minimizing natural gas release volumes associated with non-emergency venting and blowdowns from operations and maintenance?

References 49 U.S.C. 60108(a)

Assets Covered PG&E Mission Division (Mission Division)

Issue Summary:

PG&E provided procedures TD-5601S and TD-5601P-01; these deal with transmission and distribution line > 60 psig. In response to a data request, documents "NGLA Approval letter to PGE 2022" and "2022 Leak Abatement Compliance plan" were provided. However, PG&E was not able to provide

document(s) that outline measures/steps to minimize natural gas release volumes associated with non-emergency venting and blowdowns from operations and maintenance for distribution system (other than > 60 psig).

SED requests PG&E provide documents and indicate the sections that address measures to minimize natural gas volumes associated with non-emergency venting and blowdowns for distribution system other than > 60 psig (examples among others may include transfer of gas to a lower pressure pipeline system and routing of gas to other equipment for use as fuel gas to *prevent* non-emergency venting and blowdown; and isolating a smaller section of the pipeline by use of valves or the installation of control fittings, reduction of pressure by use of in-line compression to *minimize* venting and blowdown volumes). If no documents exist, please create the required documents or incorporate appropriate measures in the relevant existing documents.

PG&E's Response:
Currently, no documents that address measures to minimize natural gas volumes associated with non-emergency venting and blowdowns for distribution exist. PG&E will continue to monitor updates and clarifications for any proposed regulations related to venting and blowdowns of distribution assets and will address them at that time.

For scheduled distribution projects, as a best practice, PG&E uses pressure control fittings and/or squeeze points in close proximity of the pipeline segments to be replaced to minimize the amount of emissions being released to atmosphere. Attached, please find an example of a recent pipeline replacement project where the squeeze points were applied as close to the replacement as practical, thereby reducing the amount of gas emissions. Please see Attachment 9, "35180107 Gas Ops Change Form". PG&E evaluated the cost effectiveness of deploying abatement strategies such as cross-compression or flaring and has made the determination that it is far more cost effective to deploy these strategies on scheduled gas transmission projects.

SED's Conclusion:
SED has reviewed the response. PG&E should keep SED updated on the progress in this regard.

5b) Section 114 : Section 114 - Gas Distribution (114.GD)

Question Title, ID	Leaks & Releases - Leak Data Collection and Analysis, 114.114.LKRLSLKDATA.P (also presented in: 114.MM)
Question	8. Do procedures include a methodology to collect, retain and analyze detailed information from detected natural gas leaks, including those eliminated by lubrication, adjustment, tightening or otherwise below thresholds for regulatory reporting?
References	49 U.S.C. 60108(a)
Assets Covered	PG&E Mission Division (Mission Division)

Issue Summary:

PG&E document TD-5100P-04, Table 2 identifies actions to be taken for various TLA Leaks (Tightening, Lubrication or Adjusting Leaks). This table shows that there are three types of TLA leaks which are entered into A-form (collected and retained in PG&E's SAP database for analysis and trending), however the non-hazardous leaks repaired with TLA during maintenance and collected on maintenance sheets (item 3 of Table 2) are not analyzed and trended. SED recommends that it is the apparent intent of the Pipeline and Hazardous Materials Safety Administration (PHMSA) that these TLA leaks be also analyzed and trended to identify systemic issues (if any) and prioritizing actions to reduce the emissions.

PG&E's Response:

A non-hazardous TLA leak repair found during maintenance is part of the maintenance process and does not need to be documented. Per PHMSA 7100.1-1 Part C Distribution Instructions, page 6 of 10, PHMSA specifically states: "Do NOT report a leak determined to be non-hazardous and eliminated by lubrication, adjustment, or tightening." Attached, please find Attachment 10, "Current GD Annual Instructions PHMSA F 7100.1-1 CY 2021 and beyond".

Per TD-5100P-04, Table 2, all of the TLA leaks are collected and documented. Please see Table 2 of Attachment 11, "TD-5100P-04 - Leak Repair". For emission purposes, these non-hazardous leaks found during maintenance and immediately repaired by TLA make up a negligible amount of emissions. For any systemic issues, PG&E leverages several processes and programs to escalate any leak issues, such as the Corrective Action Program, Leak Survey Tech Team Meetings, discussion with supervisors, etc.

PG&E will continue to monitor updates and clarifications for any proposed regulations related to natural gas leaks, including those eliminated by TLA.

SED's Conclusion:

SED has reviewed the response.