

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



August 7, 2019

GI-2019-06-PGE-76

Mrs. Christine Cowsert, Vice President
Pacific Gas and Electric Company
Gas Transmission and Distribution Operations
6121 Bollinger Canyon Road
San Ramon, CA 94583

**SUBJECT: General Order 112-F Comprehensive Operation and Maintenance Inspection
of PG&E's Bay Area West Transmission**

Dear Mrs. Cowsert:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a General Order 112-F Comprehensive Operation and Maintenance Inspection of Pacific Gas & Electric Company's (PG&E) Bay Area West Transmission, between June 3 through 14, 2019 for calendar years 2016 thru 2018. SED used the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety's "Inspection Assistant Form" as a reference guide to conduct the inspection. SED staff conducted field inspections of pipeline facilities which included field observation of randomly selected individuals performing covered tasks.

SED's staff identified nine (9) violations and nine (9) concerns which are described in the attached "Post-Inspection Written Preliminary Findings".

Within 30 days of your receipt of this letter, please provide a written response indicating the measures taken by PG&E to address the violations and the concerns noted in the "Post-Inspection Written Preliminary Findings".

If you have any questions, please contact Gordon Kuo, at (213) 618-5263, or by email at GK2@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Dennis Lee".

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

Enclosure: Post-Inspection Written Preliminary Findings

cc: Alberta Ekukinam, PG&E Gas Regulatory Compliance
Dennis Lee, Kan-Wai Tong, Gordon Kuo, Claudia Almengor, SED

Post-Inspection Written Preliminary Findings

Date of Transmittal: 06/14/2019

Dates of Inspection: 06/03/2019 - 06/14/2019

Operator: PACIFIC GAS & ELECTRIC CO

Operator ID: 15007 (primary)

Inspection Systems: Bay Area West Transmission Sys Districts

Assets (Unit IDs): Bay Area West Transmission (86287)

System Type: GT

Inspection Name: PG&E Bay Area West Transmission

Lead Inspector: Gordon Kuo

Operator Representative: Alberta Ekukinam

Unsatisfactory Results

1. Design and Construction: Construction Welding Procedures (DC.WELDPROCEDURE)

Question Text Does the operator have detailed records showing proper qualification of the welding procedures in accordance with 192.225?

References 192.225

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary WPS 266-Sc-BR is currently qualified by PG&E using WPS 261-Sc-BR and WPS 262-Sc-BR. 192.225(a) cites qualification by API 1104 under Section 5, Section 12, API Appendix A, or API Appendix B or by Section IX of ASME BPVC.

API 1104 Section 5.4.1. General states in part:

"A welding procedure must be re-established as a new procedure specification and must be completely requalified when any of the essential variables listed in 5.4.2 are changed."

In this case, 266-Sc-BR differs from 261-Sc-BR and 262-Sc-BR with the scope of its base materials, wall thickness group. These constitute as essential variables. API 5.4.2.2 and API 5.4.2.5 addresses changes in these essential variables.

WPS

Base Material

Wall Thickness

266-Sc-BR	42000 psi < X < 65000 psi	<= .750"
261-Sc-BR	X52 (52000 psi)	< .188"
262-Sc-BR	42000 psi < X < 65000 psi	.188" <= X <= .750

As WPS 266-Sc-BR is a separate welding procedure from 261-Sc-BR and 262-Sc-BR, SED is of the opinion WPS 266-Sc-BR should have its own qualification test records to satisfy the language API 1104.

Additionally, the inclusion of multiple wall thickness groups in one welding procedure specification contravenes the language dictating the establishment of essential variables as stated in API 1104. Therefore, SED found PG&E in violation of G.O. 112-F, Reference Title 49 CFR, Part 192, Section 192.225.

2. Maintenance and Operations: Gas Pipeline Maintenance (MO.GM)

Question Text Do records indicate proper inspection and partial operation of transmission line valves that may be required during an emergency as required and prompt remedial actions taken if necessary?

References 192.709(c) (192.745(a), 192.745(b))

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary Milpitas

2.1 DR B-36 E. Evelyn Ave & Ferry Morse Wy

Maintenance on 2/7/19 listed that corrective actions have been created but did not list the number. Per the inspection form (TD-4540P-01-F02), "For outstanding or planned corrective actions needed, indicate the SAP Corrective Work Notification Number." Similar language in TD-4540P-01, section 6.1.7. Upon following up with PG&E, no correctives actions could be found related to these issues, which suggests no corrective actions were created (117392891 & 117392935). Per TD4540P-01, section 7.1.1, "Supervisors.....must....Ensure SAP corrective work notifications are created."

2.2 S-340 Lawrence & Stevens Creek

All three critical valves have no service history after 6/22/17. Station as a whole has been inspected more recently, however. PG&E was unable to locate inspection records for these valves. PG&E missed at least 1 cycle for these valves.

2.3 Bayshore Station

Actuator valves 1, 2, and 39.85 were maintained on 12/21/2016 with subsequent maintenance conducted on 1/10/2018. PG&E did not conduct maintenance for these valves in 2017.

Therefore, SED found PG&E in violation of G.O. 112-F, Reference Title 49 CFR, Part 192, Section 192.745 (a).

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

Question Text Do records document inspection of aboveground pipe for atmospheric corrosion?

References 192.491(c) (192.481(a), 192.481(b), 192.481(c))

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary [San Francisco](#)

Span: 44419767 - L132, Cesar Chavez & Evans

In the most recent inspection of this span (5/24/19), the inspection form was marked with "no coating damage." However, during field observations on 6/12/19, SED observed a holiday that exposed the pipe metal to atmosphere. SED followed up with PG&E and received the following explanation:

The Corrosion Mechanic (C5C5) performed the inspection in 2015, 2016 and 2019. Per the Corrosion Supervisor, the mechanic documented the minor damage to the wrap (coating) in the 2015 and 2016 inspections by checking the "Minor Issue (Small Holidays)" box on the Inspection Record. In the 2015 Inspection Record in which the photographs were taken, the Mechanic also noted "see photo 2" under Description and "No action needed" under Action Taken. No photographs were taken in 2016 and 2019 because the condition had not changed. In addition, the Mechanic did not check the same "Minor Issue" box in the 2019 Inspection Record due to the fact that the condition had not changed and did not meet the criteria for an Abnormal Operating Condition (AOC).

While SED recognizes that coating damage that exposes the pipe along the main span (not at the air-to-soil transition) is not considered an "abnormal operating condition" per PG&E's procedures, it should still be considered "Major Issue (Disbonding or No Coating)" per Per TD-4188P-02 rev 1 section 2.2.3.c ("IF sections of the pipeline are uncoated, the coating is disbonded from the metal, or the coating is damaged, THEN check "Major Issue (Disbonding or No Coating)."). Furthermore, PG&E's procedure does not allow the mechanic to check "No Coating Damage" if the coating damage condition has not changed since the previous inspection. The coating damage remained, leading SED to believe that a thorough inspection was not done on 5/24/19.

SED believed that coating damage required proper documentation on PG&E's inspection form and follow-up by PG&E. The mechanic did not record the coating damage conditions leading PG&E to miss the chance of addressing the atmospheric corrosion on the pipe. Therefore, SED found PG&E in violation of G.O. 112-F, Reference Title 49 CFR, Part 192, Section 192.481(a).

Furthermore, SED recommends that PG&E incorporate "no coating, disbonded coating, and damaged coating" as an Abnormal Operating Condition, as any of these conditions may lead to significant damage to the pipe. By categorizing the damage as an AOC, PG&E would have to do a more in-depth inspection of the damage rather than just a visual inspection. A more in-depth inspection would have revealed that the holiday went entirely through the coating, exposing pipeline metal to the atmosphere, indicating the presence of atmospheric corrosion.

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

Question Text Do records adequately document 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 192.491(c) (192.467(a), 192.467(b), 192.467(c), 192.467(d), 192.467(e))

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary [San Francisco Division](#)

SED found that four casings had no readings in 2017, and three of them were missing from the 2018 list (see below). Per PG&E, these four equipment numbers were erroneously removed from SAP in Aug-2017. Inspection records have not been found for periods when

casings were inactive in SAP.

41395175: No reading in 2016 or 2017, missing from 2018 list. Added back to SAP 2/19/19, reading taken 2/28/2019 (no contact found).

41395184: No reading in 2017, missing from 2018 list. Added back to SAP 6/11/19, reading taken 6/12/2019 (no contact found).

41420586: No reading in 2017. Added back to SAP 11/7/19, reading taken 11/28/2019 (no contact found).

41420596: No reading in 2017, missing from 2018 list. This is in the process of being added back to SAP as of 6/14/19. Reading taken 6/14/19 (no contact found).

The first three casings have since been added back into SAP and were inspected on the dates shown. Therefore, SED found PG&E in violation of G.O. 112-F, Reference Title 49, CFR, Part 192, Section 192.467(d) for failing to inspect these casings for electrical isolation.

Additional concern: Since it is currently unknown why these casings were removed from SAP, SED requests that PG&E perform an investigation to determine if any other casings were erroneously removed from SAP within the last 3 years. Please extend this investigation to all regions covered in this inspection, not just San Francisco.

Concerns

1. Assessment and Repair: Repair Methods and Practices (AR.RMP)

Question Text Perform observations of selected locations to verify that adequate steps have been taken by the operator to minimize the potential for accidental ignition.

References 192.751(a) (192.751(b), 192.751(c))

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary Milpitas

Concern: During regulator station inspection, SED observed that temporary 1/4" blowdown tubing ended above the vault, but below the head level of the individuals standing outside the vault. While this is not a violation, SED recommends the use of longer temporary blowdown stacks to purge gas to a point above the heads of personnel standing nearby the vault, to mitigate any temporary health risks from inhalation of gas, and any ignition risks from possible ignition sources present on those personnel.

2. Design and Construction: Construction Weld Inspection (DC.WELDINSP)

Question Text Do records indicate that NDT and interpretation are in accordance with 192.243?

References 192.243

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary Magnetic particle inspection dates met or exceeded the calibration date on 3 occasions while project number 31198357 was active. A Parker Research Model B-300 magnetic particle contour probe with serial number 23663 was recorded to have a calibration due date sticker stating "8/9/2017". For weld numbers TI-166, TI-167, TI-169, and TI-170 this information

was recorded as part of their Magnetic Particle Examination Report (GO-TS-001-F1-MT). For the first two welds, the examinations were conducted on "8/9/2017", the calibration due date. For the latter two welds, their examinations were conducted on "8/10/2017", a day after the calibration due date. SED recommends PG&E adhere to the tools calibration procedure and ensure its employees return the tools for calibration on or before the due date.

3. Maintenance and Operations: Gas Pipeline Maintenance (MO.GM)

Question Text Do records indicate proper inspection of each vault to determine whether it is in good physical condition and adequately ventilated as required and any necessary action taken to remediate deficiencies?

References 192.605(b)(1) (192.749(a), 192.749(b), 192.749(c), 192.749(d))

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary Milpitas

3.1 Concern/Recommendation: Vaults in Milpitas District are inspected using form F4446-2. On multiple inspection forms, the inspector wrote "leaks" under the "Leakage Check" column on this form, often omitting the checkmark that denotes satisfactory condition. Per conversation with the supervisor, this indicates a check for water intrusion. However, the vault inspection procedure (S4446) does not include any wording related to water intrusion checks but does require "If gas is found in the vault, the equipment in the vault must be inspected for leaks, and any leaks found must be repaired." SED recognizes that PG&E is going above and beyond requirements by inspecting for water leakage, however the form as filled out currently does not indicate whether gas was found in vault, which is a required check per S4446. SED recommends that a checkmark be used to indicate the lack of gas leakage, as appears to be the intent of the form. SED further recommends PG&E to add a "comments" section to the Inspection Form, where inspectors could optionally note water intrusion, or other observations that are not required by S4446.

Milpitas Terminal

3.2 Concern: SED observed that the latch for the vault lid for valve M-30 was broken. SED recommends that PG&E take the necessary steps to repair the vault's lid.

4. Maintenance and Operations: Gas Pipeline Operations (MO.GO)

4.1 Question Text Are construction records, maps and operating history available to appropriate operating personnel?

References 192.605(a) (192.605(b)(3))

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary While conducting records review of valves for L303 as part of the first week's record's review, valve D05 was found to be left "Open" on PG&E valve maintenance logs while the operational maps and valve information sheet both indicated the normal valve position was in the "Closed" position. SED highlighted this anomaly in PG&E's records leading PG&E to investigate as a field inspection of the asset could not be accomplished within the field inspection timeframe. PG&E's investigation found the valve information was incorrect and did not properly reflect its current operational status. While their records indicated D05 was a redundant key valve upstream of a stub or pipe segment end on L303, PG&E's field investigation found several customers were downstream of D05.

As per correspondence with PG&E on BA-W#65, PG&E has stated they will address the discrepancies involving Milpitas District's L303 Valve D-05's operating record. The details of which include its normal operating state, designation, and downstream structure. SED

requests a follow-up reflecting the remedial actions PG&E had stated in BA-W#65 after they have been successfully implemented in their records.

4.2 Question Text Are construction records, maps and operating history available to appropriate operating personnel?

References 192.605(b)(3)

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary Milpitas

Alum Rock

SED observed that the MLV is marked as V-495.50A in field but is marked as V-496.50A on the station diagram (off by 1-mile point). SED recommends PG&E to update the valve labeling on the station diagram.

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

5.1 Question Text Are impressed current sources properly maintained and are they functioning properly?

References 192.465(b)

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary SED and PG&E conducted a field inspection on a rectifier named "41392671" at Venus Way, San Jose. PG&E was using a variable rheostat to split the current between two transmission lines. The rheostat failed. To allow for safety of PG&E corrosion control staff during adjustment of the rheostat, GSRB staff recommends PG&E install a series fuse to ensure the variable rheostat does not exceed its power rating.

5.2 Question Text Are areas of potential stray current identified, and if found, the detrimental effects of stray currents minimized?

References 192.473(a)

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary On 6/11/19, SED observed PG&E employees take a read on casing 41395286 at L101 MP 44.49. The P/S read fluctuated due to DC interference from nearby Muni lightrail tracks, and the final read was +.226 mV. SED recommends that PG&E to investigate and apply adequate measures to reduce the interference from the rail tracks.

On 6/13/19, SED observed that the AC mitigation device in a cabinet for casing 42832373 had been disconnected. The pipe-to-soil reading (-1580 mV) and casing-to-soil reading (-482 mV) were within requirements. SED recommends PG&E ensure the AC mitigation is properly reconnected to the system.

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

Question Text Are bare or coated pipes in compressor, regulator or meter stations installed before August 1, 1971 (except for cast and ductile iron lines) cathodically protected in areas where active corrosion was found in accordance with Subpart I or Part 192?

References 192.457(b)

Assets Covered Bay Area West Transmission (86287 (76))

Issue Summary On 6/11/19, SED observed PG&E employees take a read on ETS 44428069, in which the read (-0.553 mV) was below the required criteria (-0.850 mV). SED recommends PG&E take remedial actions to address the Cathodic Protection deficiencies.