

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



October 8, 2021

Ms. Janisse Quinones  
Senior Vice President, Gas Engineering  
6121 Bollinger Canyon Road  
San Ramon, CA 94583

GI-2021-07-PGE-73-01ABC

SUBJECT: General Order (GO) 112-F Gas Inspection of PG&E's Northern Area

Dear Ms. Quinones:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission (CPUC), Shuai (James) Zhang, Randy Fienberg, Angel Garcia, Matthew Shaffer, Yi (Rocky) Yang, Hengyao (Henry) Chen, and Nicholas Peno conducted a General Order 112-F inspection of Pacific Gas & Electric Company's (PG&E) Northern Area (Burney District including Burney and Tionesta Compressor Station, North Valley Division, Willows District including Gerber and Delevan Compressor Station, Meridian District, Sierra Division and Sacramento Division) from July 26 through August 13, and August 23 through September 03, 2021. The inspection included a review of Northern Area's records for the period of 2018 through 2020, as well as a representative field sample of Northern Area's facilities. SED staff also reviewed Northern Area's operator qualification (OQ) records, which included field observation of randomly selected individuals performing covered tasks.

SED's findings are noted in the Post-Inspection Written Preliminary Findings (Summary) which is enclosed with this letter. The Summary reflects only those particular records and pipeline facilities that SED inspected during the inspection. SED discovered four violations and three concerns during the inspection.

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 concerns noted in the Summary.

If you have any questions, please contact James Zhang at (415) 603-1310 or by email at [james.zhang@cpuc.ca.gov](mailto:james.zhang@cpuc.ca.gov).

Sincerely,

A handwritten signature in blue ink that reads "Terence Eng".

Terence Eng, P.E.  
Program Manager  
Gas Safety and Reliability Branch  
Safety and Enforcement Division

Enclosure: Post-Inspection Written Preliminary Findings

cc: Susie Richmond, PG&E Gas Regulatory Compliance  
Paul Camarena, PG&E Gas Regulatory Compliance  
Claudia Almengor, SED

# Post-Inspection Written Preliminary Findings

**Dates of Inspection:** 7/26/21 – 8/13/21, 8/23/21 – 9/03/21

**Operator:** PACIFIC GAS & ELECTRIC CO

**Operator ID:** 15007 (primary)

**Inspection Systems:** PG&E Northern Transmission

**Assets (Unit IDs) with results in this report:** PG&E Northern Transmission (86284)

**System Type:** GT

**Inspection Name:** 2021 PG&E Northern Transmission

**Lead Inspector:** James Zhang

**Operator Representative:** Mike Lang

# Unsatisfactory Results

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

Question 10. Are construction records, maps, and operating history available to appropriate operating personnel?

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

Assets Covered PG&E Northern Transmission (86284 (73))

Issue Summary **Title 49 CFR §192.603 – General provisions**

Title 49 CFR §192.603 (b) states, *"Each operator shall keep records necessary to administer the procedures established under 49 CFR 192.605."* Also, Title 49 CFR §192.605 (b) (3) states, *"Making construction records, maps, and operating history available to appropriate operating personnel."*

During the record review in Sacramento Division, SED identified several instances, which are shown below, where PG&E's records, such as maps, equipment datasheet, maintenance records in regulator station binders are inaccurate. Therefore, PG&E is in violation of Title 49 CFR §192.603(b).

- a) GT TS-09 regulator station:  
Set pressure of working regulator and standby were all set at 350 psi in the datasheet, but from the maintenance record it should be 350 psi for the working regulator and 340 psi for standby. PG&E corrected the information on the datasheet after SED pointed the mistake out.
- b) GT A-66 regulator station:  
Gas flow arrow is not correct for 6-DREG-9205 where it showed 100 psi in but should be 100 psi out. PG&E submitted a Corrective Action Program (CAP) after SED pointed the mistake out.
- c) GT A-40 regulator station:  
The regulator and monitor ID numbers on the map did not match the ones on the datasheet. The regulator and monitor for one run were R-1 and R-3 (R-2 and R-4 for the other run) on the datasheet but were marked as 10 and 30 (20 and 40 for the other run) on the map. PG&E changed the regulator and monitor ID numbers on the datasheet so that they matched the map after SED pointed it out.
- d) GT WI-02 Mariani regulator station:  
The most current regulator station map did not show all valves that were identified in the datasheet. On the map, valves 5, 7, 8, 10, 11, 13, 14, and 15 were missing. The monitor for one of

the runs were marked as 16, but the datasheet showed it was R-1. PG&E informed SED that the station is going to be retired.

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

Question 4. Do records document that the CP monitoring criteria used was acceptable?

References 192.491(c) (192.463(a))

Assets Covered PG&E Northern Transmission (86284 (73))

Issue Summary **Title 49 CFR §192.491 – Corrosion Control Records**

Section 192.491(c) states in part, *"Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures...."*

Appendix D to Part 192 – Criteria for Cathodic Protection and Determination of Measurements, Section I. Criteria for cathodic protection, part (3) states, *"A minimum negative (cathodic) polarization voltage shift of 100 millivolts. This polarization voltage shift must be determined in accordance with sections III and IV of this appendix."*

Section III. Determination of polarization voltage shift states in part, *"The polarization voltage of shift must be determined by interrupting the protective current and measuring the polarization decay. When the current is initially interrupted, an immediate voltage shift occurs. The voltage reading after the immediate must be used as the base reading from which to measure polarization decay..."*

PG&E provided records regards to the casing reads of L-400 at MP 25.65 in year of 2013, 2017 through 2020. However, those records failed to demonstrate the application of 100 mV polarization voltage shift criteria for cathodic protection, as there was no recording of interrupting the protective current (rectifier) or measuring the polarization decay (instant on, instant off voltage reads and polarization decay). On 8/3/2021, SED talked with PG&E corrosion team who recognized that there was no recording during application of 100 mV polarization, thus can't prove 100 mV polarization voltage shift criteria was utilized to demonstrate the adequacy of PG&E's corrosion control measures. Therefore, PG&E is in violation of Title 49 CFR §192.491(c).

Question 13. Do records adequately document actions taken to correct any identified deficiencies in corrosion control?

References 192.491(c) (192.465(d))

Assets Covered PG&E Northern Transmission (86284 (73))

Issue Summary **Title 49 CFR §192.465(a) & (d) – External Corrosion Control: Monitoring**

Section 192.465(a) states in part, *"Each pipeline that is under cathodic protection must be tested at least once each calendar year, but with intervals not exceeding 15 months, to determine whether the cathodic protection meets the requirements of §192.463...."*

Section 192.465(d) states, *"Each operator shall take prompt remedial action to correct any deficiencies indicated by the [external corrosion control] monitoring."*

The May 19, 1989, Federal Pipeline and Hazardous Materials Safety Administration's (PHMSA) Inspection Guideline and Interpretation #PI-89-006 for 192.465(d) states that, as a rule of thumb, PHMSA interprets "prompt" as having the "correction completed by the time of the next scheduled monitoring".

SED found Cathodic Protection Area (CPA) L-400 at MP 25.65, with Equipment # 41481745 to be deficient for intervals exceeding PG&E's routine monitoring frequency defined in TD-4181S, and as required in 49 CFR §192.465(d). SED identified the CPA has been deficient for more than 3 years (see PG&E records below). PG&E's delays in restoring CP deficiencies are violations of Title 49 CFR §192.465(d).

CPA L-400 at MP 25.65, with equipment # 41481745	Date	Pipe to soil (mV)	Casing to soil (mV)	Instant off (mV)
2017	12/21/2017	-429		
2018	04/11/2018	-628	-628	
2019	04/11/2019	-687	-687	-635
2020	04/14/2020	-753	-743	
2021	07/28/2021	-743	-743	

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

Question 13. 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 PG&E Northern Transmission (86284 (73))

Issue Summary **Title 49 CFR §192.467 – External Corrosion Control: Electrical Isolation**

Section 192.467(c) states, *"Except for unprotected copper inserted in ferrous pipe, each pipeline must be electrically isolated from metallic casings that are a part of the underground system. However, if isolation is not achieved because it is impractical, other measures must be taken to minimize corrosion of the pipeline inside the casing."*

Section 192.467(d) states, *"Inspection and electrical tests must be made to assure that electrical isolation is adequate."*

The §192.467 requirements apply to pipelines that must be electrically isolated from other underground metallic structures (in this case, casing) and, therefore, each pipeline must be electrically isolated from metallic casings that are a part of the underground system. SED found several casings, which are listed below, are potentially in contact with carrier pipe since 2018. Therefore, PG&E is in violation of Title 49 CFR §192.467(d).

- a) SAP 44320649 ETS casing, L-401, MP 213.05 pipe to soil (P/S) - 1069 mV, casing to soil (C/S) -1063 mV, interrupting rectifier casing reads still -1060 mV on 8/11/2021. Casing contact can be traced back since 6/18/2018, with (P/S) -1176 mV and (C/S) -1176 mV.
- b) SAP 41428643 ETS casing, L172A, MP 59.49, (P/S) -1235 mV, (C/S) -1172 mV on 9/2/2021. Casing contact can be traced back since 2/8/2018, with (P/S) -1188 mV and (C/S) -1147 mV.

# Concerns

## Design and Construction: Design of Pipe Components (DC.DPC)

Question 8. Do flanges and flange accessories meet the requirements of 192.147?

References 192.147 (192.147(a), 192.147(b), 192.147(c), 192.607)

Assets Covered PG&E Northern Transmission (86284 (73))

Issue Summary SED team conducted field inspection at Lincoln Junction Primary Regulator Station and found three stud bolts are too short at two blind flanges, and the nuts are not completely on the bolts. According to the §192.147 Flanges and flange accessories-2.1 Bolting (g), it states: "For all flange joints, the bolts or stud bolts used should extend completely through the nuts." Also, ASME B31.8 Transmission and Distribution Piping System - 831.22 Bolting (a) also has the same statement as §192.147. Please provide an update on any corrective action(s) taken by PG&E.

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

Question 5. Is pipe that is exposed to atmospheric corrosion protected?

References 192.481(b) (192.481(c), 192.479(a), 192.479(b), 192.479(c))

Assets Covered PG&E Northern Transmission (86284 (73))

Issue Summary During field inspection in Sierra Division, SED found the span with equipment# 43188057 missing wraps, and heavy vegetation on pipe-to-soil interface of the pipeline. Please provide an update on any corrective action(s) taken by PG&E.

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

Question 14. 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 Northern Transmission (86284 (73))

Issue Summary During field inspection, SED observed several potentially contacted casings due to pipe to soil (P/S) and casing to soil (C/S) potential reads shown below:

- a) SAP 43186516 ETS casing, L-128 MP 0.4104 -1027 mV (P/S), with (C/S)-1002 mV at East side; -1115 mV (P/S), with (C/S)-1104 mV at West side, instant off -1016 mV,
- b) SAP 44273507 ETS casing, L-401, MP 213.09 -1229 mV (P/S), -1209 mV (C/S), -864 coupon instant off read, -219 mV native read. Read was -1347 mV (P/S) with -1289 mV (C/S) on 1/29/2020,
- c) SAP 44320649 ETS casing, L-401, MP 213.05 -1069 mV (P/S), -1063 mV (C/S), -687 coupon instant off read, -179 mV native read. interrupting rectifier casing reads still -1060 mV,
- d) SAP 41399495 ETS casing, L1523-01, MP 1.75, 1247 mV (P/S), -1236 mV (C/S),
- e) SAP 41428643 ETS casing, L172A, MP 59.49, 1235 mV (P/S), -1172 mV (C/S),
- f) SAP 41419960 DREG-4093. MP 0.12 (C/S) -1142 mV on, -1095 mV off.

Please provide an update on any corrective action(s) taken by PG&E.