

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



April 7, 2025

Austin Hastings  
Vice President, Gas Engineering  
Pacific Gas and Electric Company  
6121 Bollinger Canyon Road  
San Ramon, CA 94583

**SUBJECT:** Notice of Probable Violations – July 10, 2024 Gas Pipeline Incident in Avenal

Dear Mr. Hastings:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission investigated a gas incident that occurred on Pacific Gas & Electric Company's (PG&E) gas pipeline in Avenal, CA on July 10, 2024. This letter serves as notification to you that as a result of our investigation, SED found PG&E in probable violation of several gas safety regulations as listed in Attachment A. SED's investigation report is also attached for your reference.

Please provide a written response within 30 days of the date of this letter indicating the measures taken by PG&E to address the violations and its plans to prevent recurrence.

Please contact Wai Yin (Franky) Chan at (415) 471-4306 or by email at [wai-yin.chan@cpuc.ca.gov](mailto:wai-yin.chan@cpuc.ca.gov) if you have any questions.

Sincerely,

A blue ink signature of Terence Eng is written over a horizontal line.

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

CC: [REDACTED] / PG&E  
[REDACTED] / PG&E  
[REDACTED] / PG&E  
Dennis Lee / SED  
Wai Yin (Franky) Chan / SED

Attachments:

Attachment A – Summary of Incident and Probable Violations  
CPUC Incident Investigation Report

## **Attachment A – Summary of Incident and Probable Violations**

### **Summary of Incident**

On July 10, 2024, an ignition occurred at Kettleman Compressor station resulting in an injury necessitating in-patient hospitalization. The removal of a vertical vent valve caused gas to flow directly into the opposing blind flange during a purging operation. This resulted in deflection of gas in all directions creating an air-gas plume, which subsequently ignited and caused serious burns to one PG&E personnel necessitating in-patient hospitalization. Other PG&E personnel in the area immediately responded, attending to the seriously injured employee, and extinguishing various spot fires using pre-staged fire extinguishers.

### **Probable Violations**

#### **1. General Order (G.O.) 112-F Referenced Title 49 Code of Federal Regulations (CFR), Part 192, Section 192.13 What general requirements apply to pipelines regulated under this part.**

##### **§ 192.13 What general requirements apply to pipelines regulated under this part:**

*(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.*

##### **a. PG&E's Gas Design Standard (GDS), A-38-1h, "Purging Gas Facilities" (Publication Date: 04/12/2023, Effective Date: 07/01/2023)**

According to PG&E's Root Cause Evaluation (RCE) report, the following items in PG&E's GDS A-38 were not addressed:

- *The required purge drive pressure. If the purge will be done in multiple segments, include the purge drive pressure for each segment.*
- *The expected duration of each segment of the purge, as well as the overall purging operation*

The RCE report indicated that the purge drive pressure is critical to ensure an adequate and safe purge velocity and flowrate. If purge velocity is too low, stratification and excessive mixing could occur. If purge velocity is too high, other hazards (projectiles, increased range of flammability, etc.) could occur. The expected purge duration is critical as well, as it allows for the identification of potential abnormal operating conditions (AOCs) when purge end points do not meet the expectation. According to the RCE report, without the ability to monitor purge drive pressure and expected duration, the clearance team was severely limited in their capacity to identify hazards, apply essential controls, and fail safely.

According to the RCE report, PG&E Gas Design Standard A-38 requires the use of a drive pressure gauge, so the crew understands how much gas is being introduced into the system while "purging into service". However, the RCE report indicated that there was no gauge installed, so the only indicator of the amount of gas being introduced would be through sound or feel at a purge point. Because a gauge was not installed, SED found that the following requirements in PG&E's GDS A-38 were not followed:

- *On the section to be purged and near the upstream mainline valve, install a pressure gauge that is accurate and readable within 1 psi so that the inlet pressure can be observed. (The gauge should be connected through several feet of flexible tubing to minimize vibration.)*
- *Open throttle control valve steadily while monitoring the inlet pressure gauge. Continually monitor the pressure and gradually adjust the throttle control valve throughout the purge.*

**b. PG&E's Gas Design Standard (GDS), A-38.3-0a, "Temporary Vent Stacks" (Publication Date: 12/16/2020, Effective Date: 03/16/2021)**

According to the RCE report, PG&E's GDS A-38.3 covers the installation of vent stacks to allow gas and air/gas mixtures to escape into the atmosphere without hazard during purging and blowdown operations. The RCE report indicated that temporary vent stacks are a key safety control to protect coworkers and the public in the vicinity of the escaping gas or air/gas mixture from the associated noise, dust/debris, and odor as well as allowing the operation to "fail safely" if an unintended ignition should occur. SED found that the purge vent location at V-78 during the purge into service lacked the necessary vent stacks, because the 6-inch blind flange was removed and not reinstalled. PG&E did not meet the following requirements in PG&E's GDS A-38.3:

- *Vent stacks must be of adequate height to provide enough clearance out of the excavation, and pointed in a safe direction away from any potential hazards. If it is not feasible to extend stack above the excavation due to depth, ensure personnel are at a safe distance away from the location and height of the stack.*
- *Flanged connections must be fully bolted and tightened with appropriately rated gasket and welded per appropriate weld procedure. If there are any threaded connections in assembly, follow requirements for threaded components.*

**c. PG&E's Code of Safe Practices (CSP) Section 1304, "Vent Stacks" and 1305, "Sources of Ignition or Fire Near Escaping Gas"**

According to the RCE report, PG&E's CSP Section 1304 and 1305 also cover the installation of vent stacks to allow gas and air/gas mixtures to escape to the atmosphere without hazard during purging and blowdown operations. SED found that the purge vent location at V-78 during the purge into service, where the 6-inch blind flange was removed and not reinstalled, did not meet the following requirements in PG&E's CSP Section 1304 and 1305:

- *Vent stacks shall be of sufficient size and height to minimize the hazard of releasing gas in the work area...*
- *Gas shall not be blown against the side of an excavation; it must be vented upward.*

**d. PG&E's Work Clearance Document (WCD) # 80252165**

According to the RCE report, employees failed to adhere to the steps in the Work Clearance Document and failed to maintain worker safety and system configuration control. They removed the Valve-78 (V-78) downstream flange that also removed a vertical vent valve downstream of V-78 (VENT D/S of V-78) as it was mounted to the face of the blind flange. They did not fully open Valve-56 (V-56) per the WCD after maintenance was performed. They did not fine throttle Valve-90 (V-90) or monitor purge drive pressure. The blind flange was dropped at the direction of a supporting Clearance Supervisor and was not reinstalled prior to Purging into Service. SED found that the following sequence of operations in PG&E's WCD # 80252165 were not followed:

- Operation No. 18 Operation: CHECK OPEN Technical Object: V-56
- Operation No. 38 Operation: OPEN Technical Object: VENT D/S V-78
- Operation No. 52 Operation: POSITION Technical Object: V-90 Remarks: R/MOL, SLOWLY PURGE PER A-38

PG&E is in probable violation of G.O. 112-F, Reference Title 49 CFR, Part 192, Section 192.13(c) for failure to ensure the procedures above were properly followed.

## 2. G.O. 112-F Referenced Title 49 CFR, Part 192, Sections 192.805 Qualification program and 192.803 Definition.

### § 192.805 Qualification Program States in part:

*Each operator shall have and follow a written qualification program. The program shall include provisions to:*

- (a) Identify covered tasks.*
- (b) Ensure through evaluation that individuals performing covered tasks are qualified...*

Furthermore,

### § 192.803 Definitions states:

*Abnormal operating condition means a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:*

- (a) Indicate a condition exceeding design limits; or*
- (b) Result in a hazard(s) to persons, property, or the environment.*

*Evaluation means a process, established and documented by the operator, to determine an individual's ability to perform a covered task by any of the following:*

- (a) Written examination;*
- (b) Oral examination;*
- (c) Work performance history review;*
- (d) Observation during:*
  - (1) Performance on the job,*
  - (2) On the job training, or*
  - (3) Simulations; or*
- (e) Other forms of assessment.*

*Qualified means that an individual has been evaluated and can:*

- (a) Perform assigned covered tasks; and*
- (b) Recognize and react to abnormal operating conditions.*

The PG&E RCE team reviewed the training requirements and Operator Qualifications (OQs) for the work being performed during the execution of Work Clearance Document (WCD) #80252165 and identified that these requirements did not provide an adequate level of detail or require significant On the Job Training (OJT) necessary to ensure knowledge, skills, and proficiency for safe execution of the tasks. The PG&E RCE team identified the following gaps:

- **OQ Task: 07-01 Purging with Gas and/or Air**

This OQ task requires a score of 80% or higher on an open book, written test, administered on a computer. PG&E personnel have full access to all relevant documents that the questions on the test were built from along with a “key word” search function. Most written tests are followed by a performance evaluation that PG&E personnel must pass to become qualified. 07-01 has no performance evaluation. 07-01 also has no formal training program. Purging and venting is briefly discussed during Clearance Class (Gas-9658) but there is not a dedicated training for purging and venting. The RCE team indicated that purging and venting is high-risk and performed frequently.

- **OQ Task: 17-01 Valve Operations and Maintenance**

This OQ task requires a score of 80% or higher on an open book, written test, administered on a computer. PG&E personnel have full access to all relevant documents that the questions on the test were built from along with a “key word” search function. PG&E personnel must also pass a performance evaluation. The performance being evaluated is the closing and opening of a pin off tee. Once completed this qualifies PG&E personnel to maintain and operate every type of non-actuated valve PG&E has in its system. There is no dedicated training on Valve operations and maintenance, however it is covered in several training courses offered in the Gas Control Tech. Apprenticeship (GPOM-2000, GPOM-3000 and GPOM-4000).

- **OQ Task: 14-01 Control Valve Systems (Actuated Valves)**

This OQ task requires a score of 80% or higher on an open book, written test, administered on a computer. PG&E personnel have full access to all relevant documents that the questions on the test were built from along with a “key word” search function. PG&E personnel must also pass a performance evaluation. The performance evaluation has PG&E personnel demonstrate the person can bump test a Becker control valve with one specific type of controller. There is a wide variety of power Actuated Valves in the PG&E system with many different operator and controller configurations. Lack of understanding of the functionality of the pneumatic and hydraulic operation of V-90 in an abnormal operating configuration were contributors to this ignition event. Lack of specific training for this equipment combined with inadequate experience could have led to incorrect actions taken during execution of the purge drive steps taken prior to ignition.

Based on the gaps identified by the PG&E RCE team, SED believes that PG&E’s OQ program and evaluation for the three OQ tasks above (07-01, 17-01, and 14-01) were inadequate to ensure individuals performing these cover tasks are qualified. According to Title 49 CFR §192.803, “qualified” means that an individual has been evaluated and can perform assigned covered tasks; and recognize and react to abnormal operating conditions. As demonstrated by this incident, PG&E personnel were not able to recognize and react to some of the abnormal operating conditions found during this purging operation such as removal of the vertical vent valve, gas venting horizontally, and failed hydraulic operation of V-90.

Therefore, PG&E is in probable violation of G.O. 112-F, Reference Title 49 CFR, Part 192, Section 192.805(b) for failure to have an adequate OQ program and sufficient evaluations to ensure individual performing OQ tasks 07-01, 17-01, and 14-01 are qualified.