



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628
609.771.7800

NOTICE OF AMENDMENT

OVERNIGHT EXPRESS DELIVERY

November 9, 2023

Mr. Joe Forline
Senior Vice President, Gas Operations
Pacific Gas & Electric Co
6121 Bollinger Canyon Rd 3450d
San Ramon, California 94583

CPF 1-2023-057-NOA

Dear Mr. Forline:

From June 27, 2022 to July 1, 2022, an inspector from the California Geologic Energy Management Division (CalGEM), acting as an agent for the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code (U.S.C.) inspected Pacific Gas & Electric Co's (PGE) procedures for Los Medanos, McDonald Island and Pleasant Creek depleted hydrocarbon Underground Natural Gas Storage Facilities (UNGSF) in Contra Costa, San Joaquin and Yolo counties, California, respectively.

As a result of the inspection, PHMSA has identified the apparent inadequacies found within PGE's plans or procedures. The items inspected and the inadequacies are described below:

1. **49 C.F.R. § 192.12 Underground natural gas storage facilities.**
 - (a) ...
 - (b) *Depleted hydrocarbon and aquifer reservoir UNGSFs*
 - (1) **Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed after July 18, 2017, must meet all provisions of API RP 1171 (incorporated by reference, see § 192.7), and paragraphs (c) and (d) of this section, prior to commencing operations.**

PGE's construction procedures required by § 192.12(b)(1) were inadequate. Specifically, PGE's *Tubular Equipment Design Standard*, Utility Standard: UGS-E1B-S, Rev 0 and its *Cementing*

Standard, Utility Standard: UGS-EC1-S, Rev 0 failed to satisfy API RP 1171 Sections 11.2.1 (Section 11.2.1) and 6.3.5 (Section 6.3.5).

Section 11.2.1 states in part “The operator shall develop and follow procedures for the construction, operation, and maintenance of natural gas storage wells and reservoirs to establish and maintain functional integrity.”

Correspondingly, as to those procedures governing the construction, operation, and maintenance of PGE’s UNGSF, Section 6.3.5 states in part, “The production casing shall be free of open perforations or holes other than the planned completion interval(s). Perforations created for investigative or remedial work shall be sealed to establish hydraulic isolation.”

During the inspection, CalGEM reviewed PGE’s construction standards relative to Section 6.3.5, which included its *Tubular Equipment Design Standard* (UGS – E1B – S) and its *Cementing Standard* (UGS – E1C – S). These standards failed to mandate that its production casing be free of open perforations or holes other than the planned completion intervals. The standards also failed to mandate that perforations created for investigative or remedial work shall be sealed to establish hydraulic isolation (e.g. Section 3.6 of the *Cementing Standard*). The *Cementing Standard* used discretionary “should” statements instead of including the mandatory “shall” requirements under Section 6.3.5.

Therefore, PGE’s written procedures required by § 192.12(b)(1) pursuant to meeting the provisions of Sections 11.2 1 and 6.3.5 were inadequate. PGE must revise its procedures to address the deficiency outlined above.

2. § 192.12 Underground natural gas storage facilities.

(a) ...

(b) *Depleted hydrocarbon and aquifer reservoir UNGSFs*

(1) Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed after July 18, 2017, must meet all provisions of API RP 1171 (incorporated by reference, see § 192.7), and paragraphs (c) and (d) of this section, prior to commencing operations.

PGE’s construction procedures required by § 192.12(b)(1) were inadequate. Specifically, PGE’s *Wellhead Equipment Design Standard*, Utility Standard: UGS-E1A-S, Section 2.3 (Wellhead Design Standard) failed to satisfy API RP 1171 Sections 11.2.1 (Section 11.2.1) and 6.2.3 (Section 6.2.3).

Section 11.2.1 states in part “The operator shall develop and follow procedures for the construction, operation, and maintenance of natural gas storage wells and reservoirs to establish and maintain functional integrity.”

Correspondingly, as to those procedures governing the construction, operation, and maintenance of PGE’s UNGSF, Section 6.2.3 states in part, “Wellhead equipment shall have operating pressure ratings sufficient to exceed the maximum anticipated operating pressure.”

During the inspection, PGE's Wellhead Design Standard Section 2.3 was reviewed. The procedure did not specify the maximum anticipated operating pressure of each field nor what the required rating for each wellhead component must be to meet the standard of Section 6.2.3.

Therefore, PGE's written procedures required by § 192.12(b)(1) pursuant to meeting the provisions of Sections 11.2 and 6.2.3 were inadequate. PGE must revise its procedures to address the deficiency outlined above.

3. § 192.12 Underground natural gas storage facilities.

(a) ...

(b) *Depleted hydrocarbon and aquifer reservoir UNGSFs*

(1) Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed after July 18, 2017, must meet all provisions of API RP 1171 (incorporated by reference, *see* § 192.7), and paragraphs (c) and (d) of this section, prior to commencing operations.

PGE's construction procedures required by § 192.12(b)(1) were inadequate. Specifically, PGE's Utility Standard UGS-E1D-S, *Well Abandonment Standard*, failed to satisfy API RP 1171 Sections 11.2.1 (Section 11.2.1) and 6.7.2 (Section 6.7.2).

Section 11.2.1 states in part "The operator shall develop and follow procedures for the construction, operation, and maintenance of natural gas storage wells and reservoirs to establish and maintain functional integrity."

Correspondingly, as to those procedures governing the construction, operation, and maintenance of PGE's UNGSF, Section 6.7.2 states in part "The operator shall determine the location of groundwater and hydrocarbon bearing zones (in addition to the storage zone) penetrated by the well to be abandoned, and the condition of the well's casing and cement across those zones, to prevent communication between any of those zones during and after plugging of the well."

During the inspection, CalGEM reviewed PGE's *Well Abandonment Standard* (UGS-E1D-S). This standard, at section 3.2 of UGS-E1D-S, generally parallels the quoted language from Section 6.7.2 above, and fails to establish or refer to any process or procedure or evaluation regarding how the condition of a well's casing and cement across a zone shall be determined (or addressing evaluation/determination of the location of groundwater and hydrocarbon bearing zones to prevent communication during abandonment operations).

Therefore, PGE's written procedures required by § 192.12(b)(1) pursuant to meeting the provisions of Sections 11.2 and 6.7.2 were inadequate. PGE must revise its procedures to address the deficiency outlined above.

Response to this Notice

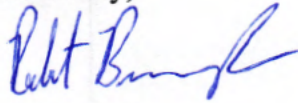
This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. Enclosed as part of this Notice is a document entitled Response Options for Pipeline Operators in Compliance Proceedings.

Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. § 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. § 552(b).

Following the receipt of this Notice, you have 30 days to submit written comments, revised procedures, or a request for a hearing under §190.211. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue an Order Directing Amendment. If your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.206). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 30 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

It is requested (not mandated) that PGE maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to Robert Burrough, Director, Eastern Region, Pipeline and Hazardous Materials Safety Administration. In correspondence concerning this matter, please refer to **CPF 1-2023-057-NOA** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

A handwritten signature in blue ink, appearing to read "Robert Burrough", is written over a horizontal line.

Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration

Enclosure: Response Options for Pipeline Operators in Enforcement Proceedings