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

August 18, 2022

Mr. Luke Litteken
Senior Vice President, Gas
Public Service Co of Colorado
1123 W. 3rd Avenue
Denver, Colorado 80223

CPF 1-2022-068-NOA

Dear Mr. Litteken:

From May 3, 2021 through May 7, 2021, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code inspected Public Service Co of Colorado's (PSCC) procedures for Roundup Underground Natural Gas Storage Facility (Roundup) in Morgan County, Colorado.

On the basis of the inspection, PHMSA has identified the apparent inadequacies found within PSCC's plans or procedures, as described below:

1. **§ 192.12 Underground natural gas storage facilities.**

(a) …
(b) *Depleted hydrocarbon and aquifer reservoir UNGSFs.*
(1) …
(2) Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed on or before July 18, 2017, must meet the provisions of API RP 1171 (incorporated by reference, *see* §192.7), sections 8, 9, 10, and 11, and paragraph (c) of this section, by January 18, 2018, and must meet all provisions of paragraph (d) of this section by March 13, 2021.

PSCC's written procedures were inadequate to assure safe operation of a pipeline facility. Specifically, PSCC's procedures required by API RP 1171, Section 11.2.1 failed to address API

RP 1171, Sections 6.3.5, 6.3.6, 6.3.7, 6.7.1, 6.9.1, 6.10.4 and 6.11.2.[1]

Section 11.2.1 states in part that "[t]he 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."

During the inspection, PSCC was not able to provide procedures addressing how it complies and maintain records relative to the aforementioned Section 6 requirements of API RP 1171. Thus, PSCC was unable to demonstrate that procedures were in place by January 18, 2018, or prior to the construction/workovers of wells #1, 10, and 20 or the plugging and abandoning of wells #2 and 33.

Therefore, PSCC's procedures were inadequate regarding portions of Section 6 of API RP 1171. PSCC must develop and follow procedures relative to these portions of Section 6 as required by Section 11.2.1.

2. § 192.12 Underground natural gas storage facilities.

(a) ...

(d) *Integrity management program--*

(1) ...

(4) *Integrity management procedures and recordkeeping.* Each UNGSF operator must establish and follow written procedures to carry out its integrity management program under API RP 1171 (incorporated by reference, see § 192.7), section 8 ("Risk Management for Gas Storage Operations"), and this paragraph (d). The operator must also maintain, for the useful life of the UNGSF, records that demonstrate compliance with the requirements of this paragraph (d). This includes records developed and used in support of any identification, calculation, amendment, modification, justification, deviation, and determination made, and any action taken to implement and evaluate any integrity management program element.

PSCC's procedures for carrying out its integrity management program were inadequate to ensure safe operation of a pipeline facility. Specifically, PSCC's *Underground Storage Risk and Integrity Management Plan* (IMP) did not provide specific information to be used to determine threat interaction susceptibility to threat and hazard-related events in accordance with API RP 1171, Section 8.3.2 (Section 8.3.2).

Section 8.3.2 states:

> The operator shall use available information such as performance data collected through the field history, operations and maintenance (O&M) activities, geotechnical data such as well logs, engineering data, and completion reports to determine susceptibility to threat and hazard-related events and to assess threat and hazard interaction.

During the inspection. PSCC's IMP was reviewed, and it did not list available data used to determine threat interaction susceptibility to threat and hazard-related events.

Therefore, PSCC's written procedures required by § 192.12(d)(4) were inadequate. PSCC must revise its procedures to include using all available data to determine threat interaction susceptibility to threat and hazard-related events in accordance with API 1171, Section 8.3.2.

3. § 192.12 Underground natural gas storage facilities.

(a) …

(d) *Integrity management program*--

(1) …

(4) *Integrity management procedures and recordkeeping.* Each UNGSF operator must establish and follow written procedures to carry out its integrity management program under API RP 1171 (incorporated by reference, see § 192.7), section 8 ("Risk Management for Gas Storage Operations"), and this paragraph (d). The operator must also maintain, for the useful life of the UNGSF, records that demonstrate compliance with the requirements of this paragraph (d). This includes records developed and used in support of any identification, calculation, amendment, modification, justification, deviation, and determination made, and any action taken to implement and evaluate any integrity management program element.

PSCC's procedures for carrying out its integrity management program were inadequate to ensure safe operation of a pipeline facility. Specifically, PSCC's IMP failed to include requirements for developing and documenting preventative and mitigative measures (P&M Measures) in accordance with API RP 1171, Section 8.6.2 (Section 8.6.2).

Section 8.6.2 states:

> The operator shall develop P&M measures to manage risks.
>
> The operator should review the P&M measures listed in Table 2 to determine those measures that manage risks based on site-specific conditions. Not all risks need a P&M measure if the level of risk is fully acceptable or if it is not necessary to reduce risk by further efforts.
>
> The operator should employ the effective P&M measures and train their personnel on the procedures related to the P&M measures (see Section 11). The operator can apply these P&M measures to individual wells, individual reservoirs or fields, and/or groups of wells or fields.

During the inspection, PHMSA reviewed PSCC's IMP and found that it did not contain a process for developing and documenting P&M Measures.

PSCC's written procedures required by § 192.12(d)(4) were inadequate. PSCC must revise its procedures to include detailed information about P&M Measures in accordance with API 1171, Section 8.6.2.

4. § 192.12 Underground natural gas storage facilities.

(a) ...
(d) *Integrity management program--*
(1) ...
(4) *Integrity management procedures and recordkeeping.* Each UNGSF operator must establish and follow written procedures to carry out its integrity management program under API RP 1171 (incorporated by reference, see § 192.7), section 8 ("Risk Management for Gas Storage Operations"), and this paragraph (d). The operator must also maintain, for the useful life of the UNGSF, records that demonstrate compliance with the requirements of this paragraph (d). This includes records developed and used in support of any identification, calculation, amendment, modification, justification, deviation, and determination made, and any action taken to implement and evaluate any integrity management program element.

PSCC's written procedures for carrying out its integrity management program were inadequate to ensure safe operation of a pipeline facility. Specifically, PSCC's IMP failed to include a specified interval for a continual review and improvement cycle for its risk management activities in accordance with API RP 1171, Section 8.7.1.

Section 8.7.1 states:

> The operator shall assess the effectiveness of risk monitoring and risk management programs and maintain a continual review and improvement cycle in risk management activities to provide functional integrity of the storage operation. The interval of review and reassessment should be short enough to identify operational and monitoring trends and measure the effectiveness of P&M measures, but long enough that the data and information that can be brought into the analysis are meaningful.

During the inspection, PSCC's IMP was reviewed, and it did not include a required interval for review and reassessment of its risk management activities.

Therefore, PSCC's written procedures required by § 192.12(d)(4) were inadequate. PSCC must revise its procedures to include a frequency requirement pursuant to the assessment required by API 1171, Section 8.7.1.

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 Enforcement Proceedings.

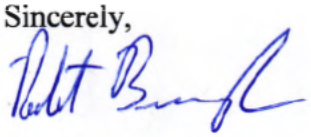
Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), 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 Public Service Co of Colorado 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, 840 Bear Tavern Road, Suite 300, West Trenton, NJ 08628. In correspondence concerning this matter, please refer to **CPF 1-2022-068-NOA** and, for each document you submit, please provide a copy in electronic format whenever possible. Smaller files may be emailed to robert.burrough@dot.gov. Larger files should be sent on USB flash drive accompanied by the original paper copy to the Eastern Region Office.

Sincerely,



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

Enclosure: Response Options for Pipeline Operators in Enforcement Proceedings

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[1] Section 6.3.5 states in part:
The production casing, which provides access to the storage interval, shall be of adequate size and strength to maintain the well integrity and be compatible with fluid chemical composition.

Section 6.3.6 states in part:
Casing shall be stored, transported, lifted and installed as specified by the manufacturer and in accordance with API 5C1.

Section 6.3.7 states in part:
Casing connections shall be designed to accommodate loads associated with placement. The operator should calculate the expected mechanical load conditions for casing in the vertical and/or directionally oriented conditions during running, cementing, drilling, and operations and design the casing to have mechanical properties in excess of the mechanical load conditions. The casing shall maintain a gas seal

under anticipated wellbore flow conditions and subsequent work in the wellbore (drilling, stimulation, and remediation).
Casing connections shall be made up according to manufacturer specifications or in accordance with API 5CT.
Thread compound or lubricant shall be compatible with the expected wellbore environment and shall be consistent with the manufacturer's recommended lubricant or API 5A3.

Section 6.7.1 states in part:
The operator shall design a well abandonment for long-term isolation of the storage zone in order to prevent fluid flow between the storage zone and any other penetrated zone and the surface.

Section 6.9.1 states in part:
A new well, or a well that has had its existing production casing modified from its previous condition during workover activities, shall be tested to demonstrate mechanical integrity and suitability for the designed operating conditions prior to commissioning by one of the following tests.

a) For new well construction, the production casing shall be tested prior to drilling out the shoe, taking into account the cement design factors so that this test does not compromise the cement integrity.

b) For existing production casing, the production casing shall be tested after setting a retrievable plug as close as practical to the top of the storage formation.

Section 6.10.4 states in part:
The operator shall resolve issues or problems in a manner that maintains functional integrity of the well and storage reservoir prior to commissioning the well for service.

Section 6.11.2 states in part:
Records relating to permitting, procedures, personnel, and equipment shall be retained for a period that meets regulatory requirements, or where no regulatory requirements exist, intervals as determined by the operator. These records shall include, as applicable and available, the items listed below as referenced in each subsection.

— *6.8 Environmental, Health, and Safety*

— On-site safety meeting records.

— *6.10 Monitoring of Construction Activities*

— Supervisor qualifications.
— Contractor personnel qualifications.
— Equipment suitability records.
— Contractor safety orientation.