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

October 7, 2021

Mr. Stan Chapman
Senior Vice President & General Manager, US NG Pipelines
Columbia Gas Transmission, LLC
700 Louisiana Street
Houston, Texas 77002

CPF 1-2021-050-NOA

Dear Mr. Chapman:

On August 31, 2020, September 1, 2020, and September 4, 2020, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code inspected Columbia Gas Transmission, LLC's (Columbia) procedures for Storage Integrity Management Framework and Gas Storage Well Casing Design Specification.

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

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

Underground natural gas storage facilities (UNGSFs), as defined in § 192.3, are not subject to any requirements of this part aside from this section.

(a) …

(c) *Procedural manuals.* Each operator of a UNGSF must prepare and follow for each facility one or more manuals of written procedures for conducting operations, maintenance, and emergency preparedness and response activities under paragraphs (a) and (b) of this section. Each operator must keep records necessary to administer such procedures and review and update these manuals at intervals not exceeding 15 months, but at least once each calendar year. Each operator must keep the appropriate parts of these manuals accessible

at locations where UNGSF work is being performed. Each operator must have written procedures in place before commencing operations or beginning an activity not yet implemented.

Columbia's written procedures for conducting activities under § 192.12(b)(1)[1] failed to include sufficient details as required by API RP 1171, subsection 6.6.1. Specifically, Columbia's *Storage Integrity Management Framework (CDN-USMEX)*, Rev.: 00 and Publish Date: 2018/10/12 (SIMF), subsection 5.3.1.1 lacked information on what constitutes a condition of compromised mechanical integrity in a well.

API RP 1171, subsection 6.6.1 states:

> A well identified as having compromised mechanical integrity shall be evaluated and responsive action implemented within a timeframe and by method(s) determined by the operator and corresponding to the severity of the integrity risk.
> NOTE Section 8 assists the operator in characterizing risk and building integrity plans to address integrity monitoring and treatment.

During the inspection, PHMSA reviewed SIMF, subsection 5.3.1.1. That subsection included a list of Well Issue and Reservoir Issue categories and a Reservoir Issues List, then proceeded to present actions necessary when a well identified as having compromised mechanical integrity was identified. However, details on what constitutes a well identified as having compromised mechanical integrity were not presented.

Thus, Columbia's manual of written procedures required by § 192.12(c) was inadequate. Columbia must revise its SIMF to indicate what constitutes a condition of compromised mechanical integrity in a well.

2. § 192.12 Underground natural gas storage facilities.

Underground natural gas storage facilities (UNGSFs), as defined in § 192.3, are not subject to any requirements of this part aside from this section.

(a) ...

(c) *Procedural manuals.* Each operator of a UNGSF must prepare and follow for each facility one or more manuals of written procedures for conducting operations, maintenance, and emergency preparedness and response activities under paragraphs (a) and (b) of this section. Each operator must keep records necessary to administer such procedures and review and update these manuals at intervals not exceeding 15 months, but at least once each calendar year. Each operator must keep the appropriate parts of these manuals accessible

[1] § 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.

at locations where UNGSF work is being performed. Each operator must have written procedures in place before commencing operations or beginning an activity not yet implemented.

Columbia's written procedures for conducting activities under § 192.12(b)(1) failed to contain sufficient details to comply with API RP 1171, subsection 6.9.1 Testing Methods. Specifically, Columbia's *TES-PR-WESTS-G Gas Storage Well Casing Design Specification (CAN-US-MEX)*, Rev.: 01 and Effective Date: 2018-Jun-01 (Casing Design Specification), subsection 2.3.7 failed to specify pressure testing duration and pressure requirements in detail.

API RP 1171, subsection 6.9.1 Testing Methods states:

> 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.
>
> NOTE A commonly used test parameter is an initial test pressure of 1.1 times the maximum allowable operating pressure, with test duration of at least 30 minutes and a pressure drop not exceeding 10% of the initial test pressure. Applicable regulations may stipulate other parameters.
>
> c) For a well completed with tubing and packer, the tubing-casing annulus shall be tested.
>
> The operator shall design a test so the maximum pressure on the packer seat and the pressure at any point in the wellbore during the test does not compromise the mechanical integrity of the well.

During the inspection, PHMSA reviewed Casing Design Specification, subsection 2.3.7. It cited an example for pressure and duration that was taken from API RP 1171, subsection 6.9.1. However, Casing Design Specification, subsection 2.3.7 did not formally specify detailed pressure testing duration and pressure requirements.

Therefore, Columbia's manual of written procedures required by § 192.12(c) was as inadequate. Columbia must revise its Casing Design Specification to specify pressure testing duration and pressure requirements in detail.

Response to this Notice

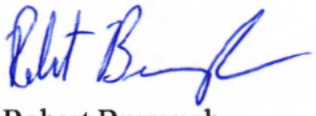
This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. Enclosed as part of this Notice is a document entitled Response Options for Pipeline Operators in Enforcement Proceedings.

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 Columbia Gas Transmission, LLC 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 1-2021-050-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