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 PROBABLE VIOLATION
PROPOSED CIVIL PENALTY
and
PROPOSED COMPLIANCE ORDER

OVERNIGHT EXPRESS DELIVERY

July 01, 2021

Mr. Stanley G. Chapman, III
SVP & General Manager, US NG Pipelines
Columbia Gas Transmission, LLC
700 Louisiana Street
Houston, TX 77002

CPF 1-2021-005-NOPV

Dear Mr. Chapman:

From October 23, 2017 to May 27, 2020, representatives of the Pipeline and Hazardous materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), and Public Utilities Commission of Ohio (PUCO), acting as Agent for PHMSA, pursuant to Chapter 601 of 49 United States Code (U.S.C) responded to and conducted an investigation into an incident at Timken Metering Station in Stark County, Ohio. Timken Metering Station was operated by Columbia Gas Transmission, LLC (Columbia).

On October 23, 2017, an incident occurred during a scheduled meter module replacement and inspection (maintenance activity), at Timken Metering Station. Two Columbia technicians, identified here as "Technician A" and "Technician B," performed the maintenance activity. The maintenance activity consisted of: isolating the meter run, blowing down the meter run, changing the turbine meter module, conducting a spin test, and inspecting internal meter run piping and components. The internal inspection required opening the Aitken Type T-A 8-inch Single Bolt Tube Turns Hinged Closure (closure) to examine the straightening vanes within the piping. The closure was of carbon steel, Size 8, 600S Class manufactured by Sypris® Technologies.

After the maintenance activity was completed, the closure was shut, and the line was re-pressurized. A leak was identified at the head of the closure by Technician A. Technician A was

standing at the end of the meter run in front of the closure while preparing to tighten the swing bolt in an effort to stop the leak. Loading imparted during tightening led to failure of the swing bolt pin and ejection of the closure (Incident).

The failure resulted in the fatality of Technician A and the evacuation of three members of the public. Unintended release of gas continued for approximately forty nine minutes (10:03AM to 10:52AM), until the facility was isolated with assistance from the fire department. The pipeline was operating at 356 psig when the failure occurred, resulting in a release of approximately 12.97 million standard cubic feet of natural gas. Following the Incident, the closure components were provided to a metallurgical laboratory, DNV GL, for analysis.

As a result of the investigation, it is alleged that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items inspected and the probable violations are:

1. § 192.605 Procedure manual for operations, maintenance, and emergencies.

(a) *General.* Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations and maintenance activities are conducted.

Columbia violated 49 C.F.R. § 192.605(a) by failing to prepare and follow a manual of written procedures for conducting operations and maintenance activities and for emergency response. Specifically, Columbia failed to prepare and follow its own written procedures for maintenance activities involving closures that included manufacturer specifications for closure, torque, and O-ring replacement.

As noted above, on October 23, 2017, the maintenance activity involving the operation of a closure was performed by two Columbia technicians. After the maintenance activity was completed, the closure was shut with a swing bolt and the line was re-pressurized. A leak was identified at the head of the closure and the swing bolt was tightened in an effort to stop the leak. Loading imparted during the tightening led to failure of the swing bolt pin, causing the Incident.

The Closure Specifications of the manufacturer, Sypris® Technologies' *Yoke Type Hinged Closures Installation, Operation & Maintenance* Bulletin No. TT720 revised December 2012 (Closure Specification), reviewed by the PUCO during the investigation, stated in part:

> "**For S closures**: To close the unit, first inspect the O-ring, O-ring groove and seating surfaces and remove all foreign material. Swing the head to the closed position, and draw the yoke halves over the head flange. Place the bolt in its locking position and draw the nut to approximately 20 ft-lbs. Tighten the pressure warnings device holding nut to approximately 15 ft-lbs after the positioning plate has engaged the yoke lugs.

Maintenance

Gasket: The O-ring should be inspected prior to every closing. Variations in service conditions will determine its useful life.

….

During reassembly, care must be exercised to insure that all components are properly aligned before operating the closure. Misalignment can cause excessive wear and leakage."

During the investigation, Columbia provided a copy of its written procedures, *Measurement Facilities Service Manual, LRD* 4/96, *Turbine Meter Proof Inspection and Certification,* effective 2014/08/13, and *Measurement and Regulation Field Handbook*. The procedures, effective at the time of the incident, did not address the closure operation being performed, or manufacturer specifications for closure, torque, and O-ring replacement.

The leak identified during re-pressurization likely resulted from reusing the embrittled O-ring or improper alignment of the O-ring. The cause of the closure swing bolt pin failure, confirmed by laboratory analysis, was double shear force while tightening the swing bolt nut.[1] Failure to prepare and follow a manual of written procedures that addressed the closure operation being performed, or manufacturer specifications for closure, torque, and O-ring replacement was a proximate cause in the incident.

Therefore, Columbia failed to prepare and follow a manual of written procedures for conducting operations and maintenance activities and for emergency response with regard to closure operation, torque, and O-ring replacement.

2. § 192.605 Procedure manual for operations, maintenance, and emergencies.

(a) *General.* Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations and maintenance activities are conducted.

Columbia failed to follow a manual of written procedures for conducting operations and maintenance activities and for emergency response. Specifically, Columbia failed to follow its procedures for Lockout and Tagout (LOTO).

On October 23, 2017, the performed maintenance activity required isolating energy sources and de-energizing stored energy. Columbia's procedure, *Plan Number:110.01.10 Lockout Tagout,*

[1] See, PHMSA Failure Investigation Report No. 20170115-32529 (May 27,2020), on file with PHMSA.

effective 3/7/2016 (LOTO procedure) required all employees performing activities where injury could occur during the release of stored energy during repair, maintenance, testing, and all other activities associated with the use of stored energy sources. The failure to comply with the procedure may result in disciplinary action, including potential dismissal.

The LOTO procedure directed employees to perform LOTO and to record on a "Lockout/Tagout Procedures and Checklist" each time a LOTO occurred. Part of the steps of the LOTO procedure included isolating equipment from energy sources, ensuring there is no residual energy, applying personal locks to LOTO devices for all authorized employees, and for the Team Leader to ensure employees follow the LOTO procedure.

Although the performed maintenance activity required isolating energy sources and de-energizing stored energy, the LOTO procedure was not followed at various steps leading up to the Incident. These included:

- Technician A arrived at the Timken Meter Station and placed the meter run on bypass without utilizing the LOTO procedure.
- Technician B arrived at the location and helped Technician A purge gas from the meter run without utilizing the LOTO procedure.
- After the maintenance activity was completed, the line was re-pressurized. Subsequently, Technician A identified a leak at the head of the closure. However, neither Technician A or B utilized the LOTO procedure prior to the attempt to stop the leak.
- LOTO was not recorded on the "Lockout/Tagout Procedures and Checklist"
- A Team Leader was not present on site, nor was a lead authorized person appointed, therefore did not ensure employees followed LOTO procedures.

Therefore, Columbia failed in at least five instances to follow its manual of written procedures for conducting operations and maintenance activities and for emergency response by failing to follow its LOTO procedure.

3. § 192.605 Procedure manual for operations, maintenance, and emergencies.

(a) *General.* Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations and maintenance activities are conducted.

Columbia failed to follow its manual of written procedures for conducting operations and maintenance activities and for emergency response. Specifically, Columbia failed to follow its procedure, *Plan Number:110.02.01 Personal Protective Equipment, effective 4/13/2016* (PPE Procedure) that established minimum required use of personal protective equipment (PPE) for Columbia personnel. The PPE Procedure directed that a hard hat must be worn when work is

being performed, except for inside an office, and that flame-resistant clothing (FRC) be worn when entering a metering station.

On October 23, 2017, Technician A and Technician B performed a maintenance activity at Columbia's Timken Metering Station, a fenced outdoor metering station. Technician B failed to wear full FRC during the work activity. Technician B was wearing FRC jeans, but no FRC shirt. After the maintenance activity was completed, Technician A and Technician B removed their hard hats. When they discovered the leak, they attempted to stop the leak but failed to put their hard hats back on during this work.

Therefore, Columbia failed to follow its manual of written procedures for conducting operations and maintenance activities and for emergency response by failing to follow its PPE procedure.

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed $225,134 per violation per day the violation persists, up to a maximum of $2,251,334 for a related series of violations. For violation occurring on or after January 11, 2021 and before May 3, 2021, the maximum penalty may not exceed $222,504 per violation per day the violation persists, up to a maximum of $2,225,034 for a related series of violations. For violation occurring on or after July 31, 2019 and before January 11, 2021, the maximum penalty may not exceed $218,647 per violation per day the violation persists, up to a maximum of $2,186,465 for a related series of violations. For violation occurring on or after November 27, 2018 and before July 31, 2019, the maximum penalty may not exceed $213,268 per violation per day, with a maximum penalty not to exceed $2,132,679. For violation occurring on or after November 2, 2015 and before November 27, 2018, the maximum penalty may not exceed $209,002 per violation per day, with a maximum penalty not to exceed $2,090,022.

We have reviewed the circumstances and supporting documentation involved for the above probable violations and recommend that you be preliminarily assessed a civil penalty of $418,004 as follows:

Item number	PENALTY
1	$209,002
2	$209,002

Warning Item(s)

With respect to Item Number 3, we have reviewed the circumstances and supporting documents involved in this case and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to promptly correct this item. Failure to do so may result in additional enforcement action.

Proposed Compliance Order

With respect to Item Number 1, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Columbia Gas Transmission, LLC. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

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. All material you submit in response to this enforcement action may be 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, or request a hearing under 49 CFR § 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 a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. This period may be extended by written request for good cause.

In your correspondence on this matter, please refer to **CPF 1-2021-005-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

ROBERT THOMAS BURROUGH

Digitally signed by ROBERT THOMAS BURROUGH
Date: 2021.07.01 09:03:20 -04'00'

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

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Enforcement Proceedings

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Columbia Gas Transmission, LLC (Columbia) a Compliance Order incorporating the following remedial requirements to ensure the compliance of Columbia with the pipeline safety regulations:

A. In regard to Item Number 1 of the Notice pertaining to § 192.605, Columbia shall revise its procedures to reflect maintenance activities involving closures, accounting for manufacturer specifications regarding closure, torque, and O-ring replacement Columbia shall provide PHMSA the revised procedure for review within 30 days of receipt of the Final Order.

B. It is requested (not mandated) that Columbia Gas Transmission, LLC maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Robert Burrough, Director, Eastern Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.