



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

February 9, 2024

VIA ELECTRONIC MAIL TO: tom_martin@kindermorgan.com

Thomas Martin
President/CEO – Gas Pipelines
Tennessee Gas Pipeline Company, LLC
1001 Louisiana Street, Suite 1000
Houston, Texas 77002

Re: CPF No. 2-2024-009-CAO

Dear Mr. Martin,

Enclosed please find an Amended Corrective Action Order (Amended CAO or Amended Order) issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), in the above-referenced case. It requires Tennessee Gas Pipeline Company, LLC, to take certain corrective actions with respect to a pipeline failure that occurred on February 3, 2024, on your Line 100 natural gas pipeline system in Panola County, Mississippi.

Service of the Amended CAO by electronic mail is effective upon the date of transmission and acknowledgment of receipt as provided under 49 C.F.R. § 190.5. The terms and conditions of this Order are effective upon completion of service.

Sincerely,

ALAN KRAMER MAYBERRY
Digitally signed by ALAN
KRAMER MAYBERRY
Date: 2024.02.09
15:20:26 -05'00'

Alan K. Mayberry
Associate Administrator
for Pipeline Safety

Enclosure: Amended CAO

cc: Mr. James Urisko, Director, Southern Region, Office of Pipeline Safety, PHMSA
Mr. Zach Ragain, Director – Engineering, Compliance/Codes & Standards,
Tennessee Gas Pipeline Company, LLC, zach_ragain@kindermorgan.com

CONFIRMATION OF RECEIPT REQUESTED

**U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
OFFICE OF PIPELINE SAFETY
WASHINGTON, D.C. 20590**

In the Matter of)	
)	
Tennessee Gas Pipeline Company, LLC)	CPF No. 2-2024-009-CAO
)	
Respondent.)	
)	
)	

AMENDED CORRECTIVE ACTION ORDER

Purpose and Background

This Amended Corrective Action Order (Amended CAO or Order) is being issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), under the authority of 49 U.S.C. § 60112, to require Tennessee Gas Pipeline Company, LLC (Tennessee Gas or Respondent), to take necessary corrective actions to protect the public, property, and the environment from potential hazards associated with the February 3, 2024, natural gas pipeline failure that occurred on Line 100 natural gas transmission pipeline system in Panola County, Mississippi (Failure).

The Line 100 system is an approximately 1,400-mile natural gas pipeline system that runs in a northeasterly direction from Texas to West Virginia.¹ It is composed of four parallel, looped pipeline systems that are generally located in a common right-of-way (ROW): Line 100-1, Line 100-2, Line 100-3, and Line 100-4. The February 3, 2024, Failure occurred on Line 100-1.

At approximately 01:03 AM Eastern Time a caller reported to Tennessee Gas a release of natural gas near Sardis, a town in Panola County, Mississippi. Respondent subsequently isolated a section of Line 100-1 and blew it down to stop the leak. Line 100-1 has been removed from service. Lines 100-2, 100-3, and 100-4 continue in operation. Line 100-1 was operating at 727 pounds per square inch gauge (psig) in a Class 1 area at the time of the release.

¹ The Tennessee Gas Pipeline, in its totality, is an approximately 11,760-mile pipeline system that transports natural gas supplied from the Northeastern section of the United States to markets including the Northeast, Louisiana, the Texas Gulf Coast, and Mexico. *See* Interstate Operations, KINDER MORGAN, <https://www.kindermorgan.com/Operations/Natural-Gas/Index#tabs-interstate> (last accessed February 5, 2024).

A failed wrinkle bend is suspected to be the cause of the release. The Failure occurred on the same line and in the same general area as a November 21, 2011, failure that also stemmed from a wrinkle bend failure. The prior failure resulted in a Corrective Action Order issued on November 28, 2011, which required, among other corrective actions, the operator to develop and implement an integrity testing plan that emphasized identifying and evaluating: 1) anomalies associated with wrinkle bends repaired by sleeves, and 2) dents, gouges, and grooves repaired by sleeves.²

On February 7, 2024, PHMSA issued a Corrective Action Order requiring Tennessee Gas to take certain necessary corrective actions on Line 100-1. This Amended CAO amends certain of those corrective actions related to shutdown of the pipeline.

Pursuant to 49 U.S.C. § 60117, PHMSA has initiated an investigation of the Failure. The preliminary findings of the Agency's ongoing investigation are as follows:

Preliminary Findings

- On February 3, 2024, at approximately 01:03 AM Eastern Time, a caller reported to Tennessee Gas a release of natural gas near Sardis, Mississippi. No fire or injuries were reported. At the time of this report, Respondent had not yet detected the release.
- Kinder Morgan's supervisory control and data acquisition (SCADA) personnel received calls from the Panola County Sheriff Department and three calls from the public regarding the sound of a gas pipeline leak.
- Tennessee Gas is a subsidiary of Kinder Morgan.
- A Tennessee Gas employee notified the National Response Center (NRC) at 03:12 AM Eastern Time on February 3, 2024. The caller reported a release of natural gas from a transmission pipeline. At the time of the notification, the cause of the release was unknown. A second report to the NRC was made on February 4, 2024, at 08:57 PM Eastern Time.
- After receiving notification of the release, Tennessee Gas technicians located the leak. The site of the Failure was on Line 100-1, approximately three-and-a-half miles east of Sardis, Mississippi, between mainline valves (MLV) 64-1 and 65-1.
- After locating the leak, Tennessee Gas technicians isolated the leak by closing valves 64-1, 64A-101.1A, and 65-1. The isolated section of Line 100-1 was then blown down to stop the leak.
- At the time of the Failure, Line 100-1 was operating at 727 psig. The maximum allowable operating pressure of Line 100-1 is 750 psig.

² CPF 2-2011-1010H (November 28, 2011).

- Tennessee Gas reported that approximately 16,022 cubic feet (Mcf) of natural gas was lost as a result of the incident.
- Three homes near the site of the Failure were evacuated, but residents were allowed to return to their homes after the pipe was blown down.
- The Tennessee Gas Pipeline, in its totality, is an approximately 11,760-mile pipeline system that runs from the Gulf of Mexico in Texas and Louisiana up through Mississippi, Arkansas, Tennessee, Alabama, Kentucky, Ohio, Pennsylvania, to the New England states.
- The Line 100 system is a 1,400-mile natural gas pipeline system that runs in a northeasterly direction from Texas to West Virginia. It is composed of four parallel, looped pipeline systems that are generally located in a common right-of-way (ROW): Line 100-1, Line 100-2, Line 100-3, and Line 100-4. The pipelines are one 24-inch, one 26-inch, and two 30-inch diameter pipelines, respectively.
- The segment of Line 100-1 that failed was originally constructed in 1944. The pipe at the failure location is 0.281 inches thick, API 5L grade X45, seamless, and was manufactured by National Tube. The pipeline has a coal tar coating.
- Respondent cut out the section of the isolated segment that contained the wrinkle bends for metallurgical analysis. Lines 100-2, 100-3, and 100-4 continue in operation. No outages occurred because delivery to one city gate was shifted to another line.
- The cause of the failure is suspected to be a failed wrinkle bend. Visual inspection of the pipe indicated a leak at a wrinkle bend. There were three wrinkles in a row, located on top of the pipe. Of the three wrinkles, it appears the southwest most wrinkle leaked. In-line inspection (ILI) information described wrinkle bends with an approximate one-inch maximum displacement. The three wrinkle bends comprise a sag bend.
- In 1946, a wrinkle bend on Line 100-1 was repaired with a field-fabricated, pressure-containing sleeve after a leak was discovered. That sleeve is located at a low point in the line between two river weights.
- A wrinkle bend failure occurred on April 24, 1992, on the Line 100-2, 26-inch diameter pipeline. The leak occurred between MLV 64 and 65.
- Another wrinkle bend failure occurred on January 22, 2018, on Line 100-1 between MLV 63-1 and 64-1. This failure resulted in a leak causing an approximately 4-foot-deep hole/crater with a diameter of about 6 feet.
- The February 3, 2024, Failure also occurred on the same line (Line 100-1) and in the same general area as a November 21, 2011, failure that stemmed from a cracked wrinkle bend between MLV 63-1 and 64-1. The prior failure resulted in Corrective Action Order

(CAO) CPF 2-2011-1010H, issued on November 28, 2011. The CAO called on Respondent to take certain corrective actions, to include identification of all pipe in the affected section of Line 100-1 with characteristics similar to the contributing factors identified for the November 21, 2011, failure.

- The investigation of the February 3, 2024, Failure is on-going, and information could change. This order may be amended based on further findings during the investigation.
- On February 7, 2024, PHMSA issued a Corrective Action Order requiring Tennessee Gas to take certain necessary corrective actions on Line 100-1 to protect the public, property, and the environment from potential hazards associated with the February 3, 2024, Failure.

Determination of Necessity for Amended Corrective Action Order and Right to Hearing

Section 60112 of title 49, United States Code, authorizes PHMSA to determine that a pipeline facility is or would be hazardous to life, property, or the environment and if there is a likelihood of serious harm, to expeditiously order the operator of the facility to take necessary corrective action, including suspended or restricted use of the facility, physical inspection, testing, repair, replacement, or other appropriate action. An order issued expeditiously must provide an opportunity for a hearing as soon as practicable after the order is issued.

In deciding whether to issue an order, PHMSA must consider the following, if relevant: (1) the characteristics of the pipe and other equipment used in the pipeline facility, including the age, manufacture, physical properties, and method of manufacturing, constructing, or assembling the equipment; (2) the nature of the material the pipeline facility transports, the corrosive and deteriorative qualities of the material, the sequence in which the material is transported, and the pressure required for transporting the material; (3) the aspects of the area in which the pipeline facility is located, including climatic and geologic conditions and soil characteristics; (4) the proximity of the area in which the hazardous liquid pipeline facility is located to environmentally sensitive areas; (5) the population density and population and growth patterns of the area in which the pipeline facility is located; (6) any recommendation of the National Transportation Safety Board made under another law; and (7) any other factors PHMSA may consider as appropriate.

After evaluating the foregoing preliminary findings of fact, and having considered the characteristics of the pipeline, including the prior failures of the pipeline; the hazardous nature of the material (natural gas) transported; the uncertainty as to the root cause(s) of the Failure; the leak was not detected; the existing and potential additional impacts to property, the environment, and wildlife; and the possibility that the same condition(s) that may have caused the Failure remain present in the pipeline and could lead to additional failures; I find that continued operation of the *Affected Segment*, as defined below, without corrective measures is or would be hazardous to life, property, or the environment, and that failure to issue this Amended Order expeditiously would result in the likelihood of serious harm.

Accordingly, this Amended Order mandating immediate corrective action is issued expeditiously without prior notice and opportunity for a hearing. The terms and conditions of this Amended Order are effective upon receipt.

Within 10 days of receipt of this Amended Order, Respondent may request a hearing, to be held as soon as practicable, by notifying the Associate Administrator for Pipeline Safety in writing, with a copy to the Director, PHMSA, OPS Southern Region. If a hearing is requested, it will be held in accordance with 49 C.F.R. § 190.211.

After receiving and analyzing additional data in the course of this investigation, PHMSA may identify other corrective measures that need to be taken. Respondent will be notified of any additional measures required and, if appropriate, PHMSA will consider amending this Amended Order. To the extent consistent with safety, Respondent will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

Required Corrective Actions

Definitions:

Affected Segment – The “*Affected Segment*” means the approximately 175 miles of Tennessee Gas’ Line 100-1, 24-inch pipeline at MLV 53-1B at Refuge Road in Washington County, Mississippi through Greenville Compressor Station No. 54 in Washington County, Mississippi; Batesville Compressor Station No. 63 in Panola County, MS, and terminating at the Middleton Compressor Station No. 71 at MLV 70-1 in Hardeman County, Tennessee. The *Affected Segment* generally runs northerly and passes through portions of Washington, Bolivar, Sunflower, Tallahatchie, Quitman, Panola, Lafayette, Tate, Marshall, and Benton counties in Mississippi and Hardeman County in Tennessee. The *Affected Segment* corresponds to the segment of pipeline that experienced wrinkle bend failures in 2011, 2018, and the February 3, 2024, Failure.

Isolated Segment – The “*Isolated Segment*” means the approximately 10-mile segment of Line 100-1 from MLV 64-1 to MLV 65.1. The *Isolated Segment* is the portion of the Affected Segment that was removed from service immediately after the February 3, 2024, leak by closing MLV 64-1 (upstream of the failure) and MLV-65-1 (downstream of the failure) which must remain out of service until a *Restart Plan* (as described in Item 12 below) is submitted and approved by the *Director*.

Director – The “*Director*” means the Director, PHMSA, Office of Pipeline Safety, Southern Region.

Pursuant to 49 U.S.C. 60112, I hereby order Tennessee Gas to take the following corrective actions:

1. ***Shutdown of the Isolated Segment.*** The *Isolated Segment* must be shut-in and may not be operated until authorized to be restarted by the Director in accordance with the terms of this Amended Order.

2. ***Operating Pressure Restriction.*** Respondent must reduce and maintain a twenty percent (20%) pressure reduction in the actual operating pressure along the entire length of the *Affected Segment* such that operating pressure along the *Affected Pipeline* will not exceed eighty percent (80%) of the actual operating pressure in effect at the Failure location, immediately prior to the Failure on February 3, 2024.
 - a. This pressure restriction is to remain in effect until written approval to increase the pressure or return the pipeline to its pre-Failure operating pressure is obtained from the Director.
 - b. Within 15 days of receipt of the Amended CAO, Tennessee Gas must provide the Director the actual operating pressures of each compressor station on the *Affected Segment* at the time of Failure and the reduced pressure restriction set-points at these same locations.
 - c. This pressure restriction requires any relevant remote or local alarm limits, software programming set-points or control points, and mechanical over-pressure devices to be adjusted accordingly.
 - d. When determining the pressure restriction set-points, Respondent must take into account any ILI features or anomalies present in the *Affected Segment* to provide for continued safe operation while further corrective actions are completed.
 - e. Tennessee Gas must review the pressure restriction monthly by analyzing the operating pressure data, taking into account any ILI features or anomalies present in the *Affected Segment*. Respondent must immediately reduce the operating pressure further to maintain the safe operations of the *Affected Segment*, if warranted by the monthly review. Further, Tennessee Gas must submit the results of the monthly review to the Director including, at a minimum, the current discharge set-points (including any additional pressure reductions), and any pressure exceedance at discharge set-points. Submittals may be made quarterly, in accordance with Item 17 below.
3. ***Review of Prior In-line Inspection (ILI) Results.***
 - a. Within 30 days of receipt of the Amended CAO, Respondent must conduct a review of any previous ILI results of the *Affected Segment*. In its review, Tennessee Gas must re-evaluate all ILI results from the past 10 calendar years, including a review of the ILI vendor's raw data and analysis. Tennessee Gas must determine whether any features were present in the failed wrinkle bend from the February 3, 2024, Failure. Also, Respondent must determine if any features with similar characteristics are present elsewhere on the *Affected Segment*. Tennessee Gas must submit documentation of this ILI review to the Director within 45 days of receipt of the Amended CAO, as follows:
 - i. List all ILI tool runs, tool types, and the calendar years of the tool runs.
 - ii. List, describe (type, size, wall loss, etc.), and identify the specific location of all ILI features present in the failed wrinkle bend and other pipe removed.
 - iii. List, describe (type, size, wall loss, etc.), and identify the specific location of all

ILI features with similar characteristics present elsewhere on the *Affected Segment*.

- iv. Explain the process used to review the ILI results and the results of the reevaluation.
4. ***Mechanical and Metallurgical Testing.*** Within 45 days of receipt of the Amended CAO, Tennessee Gas must complete mechanical and metallurgical testing and failure analysis of the failed pipe, including an analysis of soil samples and any foreign materials. Mechanical and metallurgical testing must be conducted by an independent third-party acceptable to the Director, and must document the decision-making process and all factors contributing to the Failure. Respondent must complete the testing and analysis as follows:
 - a. Document the chain-of-custody when handling and transporting the failed pipe section and other evidence from the failure site.
 - b. Within 10 days of receipt of the Amended CAO, develop and submit the testing protocol and the proposed testing laboratory to the Director for prior approval.
 - c. Prior to beginning the mechanical and metallurgical testing, provide the Director with the scheduled date, time, and location of the testing to allow for an OPS representative to witness the testing.
 - d. Ensure the testing laboratory distributes all reports whether draft or final in their entirety to the Director at the same time they are made available to Respondent.
5. ***Root Cause Failure Analysis.*** Within 90 days following receipt of the Amended CAO, complete a root cause failure analysis (RCFA) and submit a final report of this RCFA to the Director. The RCFA must be supplemented or facilitated by an independent third-party acceptable to the Director and must document the decision-making process and all factors contributing to the Failure. The final report must include findings and any lessons learned and whether the findings and lessons learned are applicable to other locations within Tennessee Gas' pipeline system.
6. ***Analysis of Prior Integrity Testing Plan.*** Within 90 days following receipt of the Amended CAO, complete an analysis of why the integrity testing plan required by the November 28, 2011, Corrective Action Order, which emphasized identifying and evaluating anomalies associated with wrinkle bends, did not address the wrinkle bend failure that resulted in the February 3, 2024, release.
7. ***Records Verification.*** As recommended in PHMSA Advisory Bulletin 2012-06, Respondent must verify the records for the *Affected Segment* to confirm the maximum allowable operating pressure (MAOP). Tennessee Gas must submit documentation of this record verification to the director within 45 days of receipt of this Amended Order.
8. ***Instrumented Leakage Survey.*** Within 90 days of receipt of this Amended Order, Tennessee Gas must perform an instrumented leak survey over the *Affected Segment*

and report those findings to the Director.

9. **Leak Detection Plan.** Within 90 days of receipt of this Amended Order, Tennessee Gas must perform a review and submit to the Director a written plan to improve the leak detection capability on the *Affected Segment*. This review must include a comprehensive analysis of any SCADA, leak detection, surveillance, and other monitoring systems on the *Affected Segment*. The written plan must include a schedule for improving the leak detection capability of the *Affected Segment* through additional instrumentation, updated hardware or software, installation of a computational pipeline monitoring system and associated software programming, additional surveillance, pipeline control staffing, ongoing leak surveys, and any other appropriate measures.

10. **Remedial Work Plan.**

- a. Within 90 days following receipt of the Amended CAO, Tennessee Gas must submit a remedial work plan (RWP) to the Director for approval.
- b. The Director may approve the RWP incrementally without approving the entire RWP.
- c. Once approved by the Director, the RWP will be incorporated by reference into this Amended Order.
- d. The RWP must specify the tests, inspections, assessments, evaluations, and remedial measures Respondent will use to verify the integrity of the *Affected Segment*. It must address all known or suspected factors and causes of the February 3, 2024, Failure. Respondent must consider the risks and consequences of another failure to develop a prioritized schedule for RWP-related work along the *Affected Segment*.
- e. The RWP must include a procedure or process to:
 - i. Identify pipe in the *Affected Segment* with characteristics similar to the contributing factors identified for the February 3, 2024, Failure, including the age and manufacture of the entire length of the *Affected Segment*.
 - ii. Gather all data necessary to review the failure history (in service and pressure test failures) of the *Affected Segment* and to prepare a written report containing all the available information such as the locations, dates, and causes of leaks and failures.
 - iii. Integrate the results of the metallurgical testing, root cause failure analysis, and other corrective actions required by this Amended Order with all relevant pre-existing operational and assessment data for the *Affected Segment*. Pre-existing operational data includes, but is not limited to, design, construction, operations, maintenance, testing, repairs, prior metallurgical analyses, and any third-party consultation information. Pre-existing assessment data includes, but is not limited to, ILI tool runs, hydrostatic pressure testing, direct assessments, close interval surveys, and direct current voltage gradient and alternating current voltage gradient surveys.
 - iv. Determine if conditions similar to those contributing to the Failure on

February 3, 2024, are likely to exist elsewhere on the *Affected Segment*.

- v. Conduct additional field tests, inspections, assessments, and evaluations to determine whether, and to what extent, the conditions associated with the Failure on February 3, 2024, and other failures from the failure history (see (e)(ii) above) or any other integrity threats are present elsewhere on the *Affected Segment*. At a minimum, this process must consider all failure causes and specify the use of one or more of the following:

- 1) ILI tools that are technically appropriate for assessing the pipeline system based on the cause of failure on February 3, 2024,
- 2) Hydrostatic pressure testing,
- 3) Close-interval surveys,
- 4) Cathodic protection surveys, to include interference surveys in coordination with other utilities (e.g., underground utilities, overhead power lines, etc.) in the area,
- 5) Coating surveys,
- 6) Stress corrosion cracking surveys,
- 7) Selective seam corrosion surveys; and
- 8) Other tests, inspections, assessments, and evaluations appropriate for the failure causes.

Note: Respondent may use the results of previous tests, inspections, assessments, and evaluations if approved by the Director, provided the results of the tests, inspections, assessments, and evaluations are analyzed with regard to the factors known or suspected to have caused the February 3, 2024, Failure.

- vi. Describe the inspection and repair criteria Tennessee Gas will use to prioritize, excavate, evaluate, and repair anomalies, imperfections, and other identified integrity threats. Include a description of how any defects will be graded and a schedule for repairs or replacement.
 - vii. Based on the known history and condition of the *Affected Segment*, describe the methods Respondent will use to repair, replace, or take other corrective measures to remediate the conditions associated with the pipeline failure on February 3, 2024, and to address other known integrity threats along the *Affected Segment*. The repair, replacement, or other corrective measures must meet the criteria specified in (e)(vi) above.
 - viii. Implement continuing long-term periodic testing and integrity verification measures to ensure the ongoing safe operation of the *Affected Segment* considering the results of the analyses, inspections, evaluations, and corrective measures undertaken pursuant to the Amended Order.
- f. Include a proposed schedule for completion of the RWP.
 - g. Tennessee Gas must revise the RWP as necessary to incorporate new information obtained during the failure investigation and remedial activities, to incorporate the

results of actions undertaken pursuant to this Amended Order, and to incorporate modifications required by the Director.

- i. Submit any plan revisions to the Director for prior approval.
- ii. The Director may approve plan revisions incrementally.
- iii. All revisions to the RWP after it has been approved and incorporated by reference into this Order will be fully described and documented in the *CAO Documentation Report*.
- h. Implement the RWP as it is approved by the Director, including any revisions to the plan.

11. ***CAO Documentation Report***. Tennessee Gas must create and revise, as necessary, a CAO Documentation Report (CDR). When Respondent has concluded all the items in this Order it will submit the final CDR in its entirety to the Director. This will allow the Director to complete a thorough review of all actions taken by Tennessee Gas with regards to this Amended Order prior to approving the closure of this Amended Order. The intent is for the CDR to summarize all activities and documentation associated with this Amended Order in one document.

- a. The Director may approve the CDR incrementally without approving the entire CDR.
- b. Once approved by the Director, the CDR will be incorporated by reference into this Order.
- c. The CDR must include, but is not necessarily limited to, the following:
 - i. Table of Contents;
 - ii. Summary of the pipeline failure of February 3, 2024, and the response activities;
 - iii. Summary of pipe data, material properties, and all prior assessments of the *Affected Pipeline*;
 - iv. Summary of all tests, inspections, assessments, evaluations, and analysis required by the Amended Order;
 - v. Summary of the mechanical and metallurgical testing as required by the Amended Order;
 - vi. Summary of the RCFA with all root causes as required by the Amended Order;
 - vii. Documentation of all actions taken by Respondent to implement the RWP, the results of those actions, and the inspection and repair criteria used;
 - viii. Documentation of any revisions to the RWP including those necessary to incorporate the results of actions undertaken pursuant to this Amended Order and whenever necessary to incorporate new information obtained during the failure investigation and remedial activities;
 - ix. Lessons learned while completing this Amended Order;
 - x. A path forward describing specific actions Tennessee Gas will take on its entire pipeline system as a result of the lessons learned from work on this

Amended Order; and

xi. Appendices (if required).

12. ***Restart Plan.*** Prior to resuming operation of the *Isolated Segment*, develop and submit a written *Restart Plan* to the Director for prior approval.
- a. The Director may approve the *Restart Plan* incrementally without approving the entire plan, but the *Isolated Segment* cannot resume operation until the *Restart Plan* is approved in its entirety.
 - b. Once approved by the Director, the *Restart Plan* will be incorporated by reference into this Amended Order.
 - c. The *Restart Plan* must provide for adequate patrolling of the *Isolated Segment* during the restart process and must include incremental pressure increases during start up, with each increment to be held for at least 2 hours.
 - d. The *Restart Plan* must include sufficient surveillance of the pipeline during each pressure increment to ensure that no leaks are present when operation of the line resumes.
 - e. The *Restart Plan* must specify a daylight restart and include advance communications with local emergency response officials and adjacent landowners.
 - f. The *Restart Plan* must provide for a review of the *Isolated Segment* for conditions similar to those of the failure including a review of construction, operating and maintenance (O&M) and integrity management records such as ILI results, hydrostatic tests, root cause failure analysis of prior failures, aerial and ground patrols, corrosion, cathodic protection, excavations, and pipe replacements. Tennessee Gas must address any findings that require remedial measures to be implemented prior to restart.
 - g. The *Restart Plan* must also include documentation of the completion of all mandated actions, and a management of change plan to ensure that all procedural modifications are incorporated into Respondent's O&M procedures manual.
13. ***Return to Service.*** After the Director approves the *Restart Plan*, Tennessee Gas may resume operation of the *Isolated Segment* according to the terms of the *Restart Plan*, but the operating pressure must not exceed the limit in accordance with Item 2 above.
14. ***Removal of Pressure Restriction.***
- a. The Director may allow the removal or modification of the pressure restriction upon a written request from Tennessee Gas demonstrating that restoring the pipeline to its pre-failure operating pressure is justified based on a reliable engineering analysis showing that the pressure increase is safe considering all known defects, anomalies, and operating parameters of the pipeline.
 - b. The Director may allow the temporary removal or modification of the pressure

restrictions upon a written request from Respondent demonstrating that temporary mitigative and preventive measures are implemented prior to and during the temporary removal or modification of the pressure restriction. The Director's determination will be based on available information, including the failure cause and provision of evidence that preventative and mitigative actions taken by the operator to provide for the safe operation of the *Affected Segment* during the temporary removal or modification of the pressure restriction. Appeals to determinations of the Director in this regard will be decided by the Associate Administrator for Pipeline Safety.

Other Requirements:

15. ***Approvals.*** With respect to each submission under this Amended Order that requires the approval of the Director, the Director may: (a) approve, in whole or part, the submission; (b) approve the submission on specified conditions; (c) modify the submission to cure any deficiencies; (d) disapprove in whole or in part, the submission, directing that Respondent modify the submission, or (e) any combination of the above. In the event of approval, approval upon conditions, or modification by the Director, Respondent shall proceed to take all action required by the submission as approved or modified by the Director. If the Director disapproves all or any portion of the submission, Respondent must correct all deficiencies within the time specified by the Director and resubmit it for approval.
16. ***Extensions of Time.*** The Director may grant an extension of time for compliance with any of the terms of this Amended Order upon a written request timely submitted demonstrating good cause for an extension.
17. ***Reporting.*** Submit quarterly reports to the Director that: (1) include all available data and results of the testing and evaluations required by this Amended Order; and (2) describe the progress of the repairs or other remedial actions being undertaken. The first quarterly report is due on July 15, 2024. The Director may change the interval for the submission of these reports.
18. ***Documentation of the Costs.*** It is requested that Respondent maintain documentation of the costs associated with implementation of this Amended CAO. Include in each monthly report submitted, the to-date total costs associated with: (1) preparation and revision of procedures, studies, and analyses; (2) physical changes to pipeline infrastructure, including repairs, replacements, and other modifications; and (3) environmental remediation, if applicable.

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).

In your correspondence on this matter, please refer to “CPF No. 2-2024-009-CAO” and for each document you submit, please provide a copy in electronic format whenever possible. The actions required by this Amended Order are in addition to and do not waive any requirements that apply to Respondent’s pipeline system under 49 C.F.R. Parts 190 through 199, under any other order issued to Respondent under authority of 49 U.S.C. Chapter 601, or under any other provision of federal or state law.

Respondent may appeal any decision of the Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.

Failure to comply with this Amended Order may result in the assessment of civil penalties and in referral to the Attorney General for appropriate relief in United States District Court pursuant to 49 U.S.C. § 60120.

The terms and conditions of this Amended Order are effective upon service in accordance with 49 C.F.R. § 190.5.

ALAN KRAMER
MAYBERRY

Digitally signed by ALAN
KRAMER MAYBERRY
Date: 2024.02.09
15:20:05 -05'00'

February 9, 2024

Alan K. Mayberry
Associate Administrator
for Pipeline Safety

Date Issued