



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

1200 New Jersey Ave S E
Washington DC 20590

DEC 19 2007

VIA CERTIFIED MAIL AND FACSIMILE TO: (304) 357-2644

Mr. Victor Gaglio
Sr. Vice President, Operations and Engineering
Columbia Gulf Transmission Company
1700 McCorkle Avenue
Charleston, WV 25314

Re: CPF No. 4-2007-1017H

Dear Mr. Gaglio:

Enclosed is a Corrective Action Order issued by the Associate Administrator for Pipeline Safety in the above-referenced case. It requires you to take certain corrective actions with respect to your pipeline that failed on December 14, 2007. Service is being made by certified mail and facsimile. Your receipt of this Corrective Action Order constitutes service of that document under 49 C.F.R. § 190.5. The terms and conditions of this Corrective Action Order are effective upon receipt.

We look forward to a successful resolution of concerns arising out of the recent pipeline failure to ensure pipeline safety. Please direct any questions on this matter to me at (713) 272-2859.

Sincerely,

for R. M. Seeley
Director, Southwest Region

Enclosures

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

_____)
In the Matter of)
)
Columbia Gulf Transmission Company,)
)
Respondent)
_____)

CPF No. 4-2007-1017H

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require Columbia Gulf Transmission Company (Respondent) to take necessary corrective action to protect the public, property, and the environment from potential hazards associated with a failure involving Respondent's natural gas pipeline.

On December 14, 2007, a failure occurred on Respondent's Line 100 pipeline near Delhi, Louisiana, resulting in the release of natural gas, explosion and fire. The cause of the failure has not yet been determined. Pursuant to 49 U.S.C. § 60117, the Pipeline and Hazardous Materials Safety Administration (PHMSA) initiated an investigation of the accident.

Preliminary Findings

- At approximately 1:15 pm CST on December 14, 2007, Respondent's Line 100 failed in a rural area near the town of Delhi, Louisiana (Madison Parish). The incident was reported to the National Response Center (NRC Report No. 857240).
- The failure resulted in the release of an undetermined amount of natural gas, an explosion and fire. The explosion occurred at or near a location where the pipeline crosses beneath Interstate 20. Two individuals were traveling in a vehicle on the highway when the explosion occurred. One individual was killed and the other was injured. Small structures on a nearby farm and some farm equipment were consumed by fire. Emergency personnel responded to the scene and Interstate 20 was temporarily closed.
- Line break detection systems activated automatically to shut down the pipeline. Automatic shutoff valves upstream and downstream of the failure site isolated the

segment containing the failure. The isolation of the segment extinguished the main fire within 15 minutes. Small residual fires continued for several hours.

- Line 100 remains out of service from the Delhi compressor station to the next downstream block valve (approximately 8.8 miles). Respondent has excavated and removed the remaining section of pipe containing the failure site and collected the remaining pieces of pipe and casing from the surrounding area. The specimens will be transported to a metallurgist in Baton Rouge, Louisiana for failure analysis. The Southwest Region, PHMSA, provided Respondent with custody transfer and metallurgical protocol documents.
- The cause of the failure has not yet been determined. A preliminary visual examination indicates that external corrosion may have contributed to the failure. The pipeline is cased at the crossing of Interstate 20, but it is not known if the failure initiated inside or outside of the casing.
- According to Respondent, at the site of the failure, Line 100 is 30-inch nominal diameter, 0.375-inch wall thickness, Grade X-52, submerged arc welded, pipe coated with felt wrap and 220 degree softening point enamel, manufactured by Consolidated Western and installed in 1954. The pipeline is cathodically protected. To accommodate construction of Interstate 20, approximately 371 feet of 34-inch nominal diameter, 0.375-inch split casing was installed at the site in 1968.
- Respondent operates three parallel pipelines in the area of the failure: Lines 100, 200 and 300. According to Respondent, Line 200 is located approximately 50 feet from Line 100. It is 30-inch nominal diameter, 0.375-inch wall thickness, Grade X-56, double submerged arc welded, pipe coated with felt wrap and 260 degree softening point enamel, manufactured by National Tube and installed in 1958. According to Respondent, the third pipeline, Line 300, is located approximately 150 feet from Line 100. It is 36-inch nominal diameter, 0.388-inch wall thickness, Grade X-65, pipe coated with primer, tar enamel, and tar saturated felt, manufactured by U.S. Steel and installed in 1968. All three pipelines share a common cathodic protection system. The three pipelines have cased crossings elsewhere on the system that are similar to the casing at the failure site.
- According to Respondent, the maximum allowable operating pressure (MAOP) of the pipeline that failed (Line 100) is 935 pounds per square inch gauge (psig), established by hydrotest in the late 1960s to mid-1970s. The actual operating pressure at the time of the incident was approximately 930 psig, as measured by the discharge pressure at Delhi compressor station, approximately 2.5 miles upstream. The MAOP for Lines 200 and 300 is 1008 psig. The three pipelines are normally operated as a looped system. All three pipelines were operating at a common pressure at the time of the incident and all were shutdown following the incident. Respondent returned Lines 200 and 300 to service after determining they were not damaged by the incident.
- Respondent operates approximately 4,200 miles of natural gas pipelines that run from the Gulf Coast to the northeastern United States. The pipeline system that consists of Lines

100, 200, and 300 runs from Rayne, Louisiana to Catlettsburg, Kentucky, passing through Mississippi and Tennessee. The pipeline system crosses numerous high consequence areas, as defined in 49 C.F.R. § 192.903, roadways, and bodies of water. Respondent is a subsidiary of NiSource Inc.

- Respondent has indicated that it performed an inline inspection (ILI) on Line 100 in 1996 using a low resolution magnetic flux leakage (MFL) tool, and the data from the ILI report showed corrosion anomalies of up to 30% pipe wall loss. Respondent also indicated that it performed an ILI on Line 200 in 2001 using a high resolution MFL tool, and that the data showed corrosion anomalies of up to 60% pipe wall loss. Respondent indicated that an ILI was performed on Line 300 in 1996 using a low resolution MFL tool, which also identified corrosion anomalies of up to 60% pipe wall loss. Indications are that most, if not all, anomalies between 51% and 60% wall loss have been repaired.
- Respondent's natural gas pipeline system has experienced previous failures that Respondent determined were caused by external corrosion. As recently as September 13, 2006, Line 100 suffered another leak near Delhi, Louisiana, which was caused by external corrosion (generalized corrosion) of the pipeline inside a casing. In August 2001, Line 100 experienced a leak caused by external corrosion (localized pitting) at a location where the pipeline had a casing. In September 2000, Line 200 experienced a rupture that was caused by external corrosion (localized pitting) near a girth weld.

Determination of Necessity for Corrective Action Order and Right to Hearing

Section 60112 of Title 49, United States Code, provides for the issuance of a Corrective Action Order, after reasonable notice and the opportunity for a hearing, requiring corrective action, which may include the suspended or restricted use of a pipeline facility, physical inspection, testing, repair, replacement, or other action, as appropriate. The basis for making the determination that a pipeline facility is hazardous, requiring corrective action, is set forth both in the above-referenced statute and 49 C.F.R. § 190.233, a copy of which is enclosed.

Section 60112 of Title 49, and the regulations promulgated thereunder, provide for the issuance of a Corrective Action Order without prior opportunity for notice and hearing upon a finding that failure to issue the Order expeditiously will likely result in serious harm to life, property, or the environment. In such cases, an opportunity for a hearing will be provided as soon as practicable after the issuance of the Order.

After evaluating the foregoing preliminary findings of fact, I find that the continued operation of Respondent's natural gas pipeline Line 100 without corrective measures would be hazardous to life, property, and the environment. Additionally, after considering the previous failures caused by external corrosion, particularly at casing locations, the shared cathodic protection system, the internal inspection data, the age of the pipe involved, the proximity of the pipeline to public roadways and high consequence areas, the hazardous nature of the product transported, the pressure required for transporting such product, and the ongoing investigation to determine the cause of the failure, I find that a failure to expeditiously issue this Order requiring immediate corrective action would likely result in serious harm to life, property, or the environment.

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

Within 10 days of receipt of this 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, Southwest Region, PHMSA. If a hearing is requested, it will be held telephonically or in-person in Houston, Texas, or Washington, D.C., on a date that is mutually convenient to PHMSA and Respondent.

After receiving and analyzing additional data in the course of this investigation, PHMSA may identify other corrective measures that need to be taken. In that event, Respondent will be notified of any additional measures required and amendment of this Order will be considered. 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 Action

Pursuant to 49 U.S.C. § 60112, I hereby order Columbia Gulf Transmission Company to immediately take the following corrective actions with respect to its natural gas pipeline Line 100 from Rayne, Louisiana to Catlettsburg, Kentucky:

1. Do not resume operation of Line 100 from the Delhi compressor station to the next downstream mainline block valve (approximately 8.8 miles) until you have developed and submitted a written restart plan that has been approved by the Director, Southwest Region, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, 8701 South Gessner, Suite 1110, Houston, TX 77074. The start-up procedures must provide for sufficient pressure monitoring, leak patrolling, and surveillance to ensure that no leaks are present when operation of the line is resumed. Once the Director provides written approval for restart, operation of the line may be resumed in accordance with the terms of this Order.
2. The operating pressure on Line 100 from Rayne, Louisiana to Corinth, Mississippi, shall not exceed 80 percent of the actual operating pressure in effect at each station immediately prior to the December 14, 2007 failure. This pressure restriction will 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 as set forth in Item 10.
3. If the results of any action undertaken pursuant to this Order necessitate a reduction in the allowable operating pressure permitted by this Order, Respondent must further reduce the allowable operating pressure accordingly.
4. Within 30 days of receipt of this Order, complete mechanical and metallurgical testing and failure analysis of the failed pipe. The testing and analysis shall be completed as follows:

- (A) When handling and transporting the failed pipe section and other evidence from the failure site, document the chain-of-custody using the chain-of-custody forms provided by the Southwest Region, PHMSA;
 - (B) Testing shall be completed in accordance with the mechanical and metallurgical testing protocols provided by the Southwest Region, PHMSA;
 - (C) Prior to commencing the mechanical and metallurgical testing, provide the Director with the scheduled date, time, and location of the testing to allow a PHMSA representative to witness the testing; and
 - (D) Ensure that the testing laboratory distributes all resulting reports, whether draft or final, to the Director at the same time as they are made available to Respondent.
5. Within 60 days of receipt of this Order, develop and submit to the Director for prior approval a written remedial work plan that includes corrective measures. The work plan must fully address all known or suspected factors that caused or contributed to the December 14, 2007 failure and must include, as applicable:
- (A) The integration of the information developed from the actions required by Item 4 with relevant pipeline system information, including, but not limited to evaluation of Respondent's: corrosion control systems and methods of applying and testing corrosion control and for monitoring metal loss at all locations on the pipeline, including within casings; previous failure investigations; leak history; repair records; internal inspections; hydrostatic testing; and other relevant operating data for the purpose of performing a comprehensive analysis of the available information associated with the factors that caused or contributed to the failure;
 - (B) The performance of additional field testing, inspections, and evaluations to determine whether and to what extent the conditions associated with the failure, or any other integrity-threatening conditions, are present elsewhere on the pipeline. Include a detailed description of the criteria to be used for the evaluation and prioritization of any integrity threats/anomalies that are identified. Make the results of all inspections, field excavations, and evaluations available to the Director.
 - (i) Include in the evaluation an assessment of the common corrosion control system for Lines 100, 200 and 300. The assessment must evaluate the methods of applying and testing corrosion control and methods of monitoring metal loss at all locations on Lines 100, 200, and 300, including locations where the pipe is cased.
 - (ii) If corrosion is a causal factor in the pipeline failure, field testing must include an internal inspection of Line 100 using a high-resolution MFL or comparable ILI tool capable of evaluating metal loss due to corrosion.

- Provide to the Director a detailed description of the criteria used to evaluate the ILI data, criteria used to excavate and evaluate anomalies, and the results of the ILI. The Director may approve the use of an alternative assessment method or corrective action, such as pipe replacement, if the Director finds that the alternative provides an equal or greater assurance of pipeline integrity. Such an alternative must be submitted in writing for prior approval by the Director;
- (C) The performance of repairs or other corrective measures that fully remediate the condition(s) associated with the pipeline failure everywhere along the pipeline where such conditions, or any other integrity-threatening conditions, are identified through the evaluation process. Include a detailed description of the repair criteria and method(s) to be used in undertaking any repairs or other remedial actions;
 - (D) Provisions for continuing long-term periodic testing and integrity verification measures to ensure the ongoing safe operation of the natural gas pipeline system considering the results of the analyses, inspections, and corrective measures undertaken pursuant to this Order; and
 - (E) A proposed schedule for completion of the actions required by paragraphs (A) through (D) of this Item.
6. The remedial work plan becomes incorporated into this Order and shall be revised as necessary to incorporate new information obtained during the failure investigation and remedial activities undertaken pursuant to this Order. Submit any such plan revisions to the Director for prior approval. The Director may approve plan elements incrementally.
 7. Implement the work plan as it is approved by the Director, including any revisions to the plan.
 8. Submit quarterly reports to the Director that: (1) include available data and results of the testing and evaluations required by this Order; and (2) describe the progress of the repairs and other remedial actions being undertaken. The first quarterly report shall be due March 31, 2008.
 9. Maintain documentation of the costs associated with implementation of this Corrective Action Order. Include in each quarterly report submitted pursuant to Item 8, 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.
 10. The Director may allow the removal or modification of the pressure restriction set forth in Item 2 upon a written request from Respondent demonstrating that the hazard has been abated and that restoring the affected pipeline, or portion thereof, 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.

The Director may grant an extension of time for compliance with any of the terms of this Order upon a written request timely submitted demonstrating good cause for an extension.


With respect to each submission that under this Order 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 the 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. In the event that the Director disapproves all or any portion of the submission, Respondent shall correct all deficiencies within the time specified by the Director, and resubmit it for approval. In the event that a resubmitted item is disapproved in whole or in part, the Director may again require Respondent to correct the deficiencies in accordance with the foregoing procedure, and/or the Director may otherwise proceed to enforce the terms of this Order.

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

The actions required by this Corrective Action Order are in addition to and do not waive any requirements that apply to Respondent's pipeline system under 49 C.F.R. Part 192, under any other order issued to Respondent under authority of 49 U.S.C. § 60101 *et seq.*, or under any other provision of Federal or state law.

Failure to comply with this 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 Corrective Action Order are effective upon receipt.



Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

DEC 19

Date Issued