



U.S. Department
of Transportation

Pipeline and Hazardous Materials
Safety Administration

1200 New Jersey Ave., SE
Washington, DC 20590

MAY 07 2009

VIA CERTIFIED MAIL [7005 1160 0001 0047 7094] AND FAX TO: (713) 989 -1186

Mr. Jeryl Mohn
Senior Vice President, Operations and Engineering
Florida Gas Transmission Company, LLC
5444 Westheimer Road
Houston, TX 77056

Re: CPF No. 2-2009-1002H

Dear Mr. Mohn:

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 the operation of your 18-inch Florida Gas Transmission 100 Line, which extends from Fort Pierce, Florida to Cutler, Florida. 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 Order are effective upon receipt.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Wiese".

Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

Enclosure

cc: Mr. David Shellhouse, Vice President Operations-Southeast Division, FGT

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

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In the Matter of)	
)	
Florida Gas Transmission Company, LLC,)	CPF No. 2-2009-1002H
)	
Respondent)	
_____)	

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require Florida Gas Transmission (“Respondent”), to take the necessary corrective action to protect the public, property, and the environment from potential hazards associated with a failure involving the 18-inch portion of Florida Gas Transmission, 100 Line that extends from Fort Pierce, Florida to Cutler, Florida (“18-inch Line”).

On May 4, 2009, a failure occurred on Respondent’s 18-inch Line approximately 7 miles southeast of Hobe City, Florida, resulting in the release of natural gas. 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), Office of Pipeline Safety, Southern Region initiated an investigation of the incident. The National Transportation Safety Board (NTSB) also initiated a separate investigation of the incident.

Preliminary Findings

- At approximately 5:11 a.m. ET, on May 4, 2009, a rupture occurred on Respondent’s 18-inch Line, resulting in a reported release of approximately 36 MMCF of natural gas. The failure occurred approximately 7 miles southeast of Hobe City, Florida, and 5 miles northeast of Port Salerno, Florida. Specifically, the leak site is between Exit 96 and Exit 101 of I-95, south of Okeechobee Waterway, in the Florida Turnpike right-of-way. There was no ignition. The incident was reported by Florida Highway Patrol to the National Response Center (NRC Report No. 904500).

- The failure resulted in the ejection of a 113-foot. section of Respondent's 18-inch Line, which landed downstream of the failure location in a multi-pipeline right-of-way (ROW) shared by the Florida Turnpike and Respondent.
- Emergency responders closed the Florida Turnpike/I-95 in both directions (north and south bound). Two people were hospitalized when their car reportedly hit debris, ran off the road and flipped. In addition, a deputy sheriff was hospitalized after walking through the gas cloud.
- An evacuation of the area was ordered due to the proximity of South Fork High School to the release site. The high school remained closed for the day.
- Following the May 4, 2009 failure, Respondent's personnel isolated a 20.6-mile segment of pipeline involved in the failure. The upstream mainline valve (MLV) 20-1 closed automatically with the initial drop in pressure. Respondent's personnel then closed MLV 20-2 downstream of the failure site at approximately 7:09 a.m. To secure the release, Respondent also blew down the pipeline section and installed a pressure gauge on the line to monitor pipeline pressure.
- The preliminary investigation indicates a 113-foot. section of Respondent's 18-inch Line failed in a straight longitudinal line. The cause of the failure is unknown. The investigation is ongoing.
- The 18-inch Line was manufactured by Youngstown Sheet and Tube in 1959 and is constructed of 18-inch x 0.250-inch w.t., x-52 electric resistance welded (ERW) pipe. The protective coating in the immediate area of the failure is Polyken tape.
- Based on the failure, the lack of other obvious cause indications such as visually observable corrosion, dent or third party excavation equipment, the pre-70 ERW seam may be a factor. It is not yet known if the pre-70 ERW seam was manufactured using a high or low frequency process. Low frequency ERW pipe is known by OPS to be problematical.
- OPS has consistently identified low-frequency ERW pipe as being subject to failures in the longitudinal seam because of manufacturing defects. OPS issued Alert Notices on January 28, 1988, and again on March 8, 1989, to inform pipeline operators of the problem. Failures of the longitudinal seam of the pipe have been caused by the growth over time of manufacturing defects in the ERW seams. Selective corrosion of the seam and cyclic fatigue contribute to the growth of these defects. Although OPS review has also shown that in many cases pipelines that had been hydrostatically tested had operated safely since they were tested, there are also cases in which selective corrosion or cyclic fatigue have led to operating failures many months or years after the test.

- NTSB has initiated an investigation. NTSB is expected to take custody of the failed pipe segments and to have it examined by its metallurgical laboratory for nondestructive and destructive testing, for a detailed analysis.
- At the time of the incident, the estimated failure site operating pressure of the 18-inch Line was 853 psig. The reported maximum allowable operating pressure (MAOP) of this line segment is 866 psig.
- The 20.6-mile long affected segment of the 18-inch Line is currently depressurized and out of service.
- The affected 18-inch Line shares the right-of-way (ROW) with two other Florida Gas Transmission Company, LLC (FGT) pipelines. The affected 18-inch Line runs parallel to Respondent's 24-inch and 30-inch lines. The concussion of the blast did not result in any apparent collateral damage to Respondent's 24-inch and 30-inch lines.
- FGT operates Florida Gas Transmission 100 Line pipeline from Texas to Florida. Florida Gas Transmission 100 Line 18" section begins at FGT Compressor Station 20 in Fort Pierce, St Lucie County, Florida and proceeds south along the east coast of Florida to terminate on the south side of Miami near Cutler, Florida. The affected pipeline is in the Florida Turnpike ROW from Fort Pierce, Florida to Miami Gardens, Florida on the north side of Miami. The pipeline passes through St Lucie, Martin, Palm Beach, Broward, and Dade Counties and FGT Compressor Station 21 in West Palm Beach, Florida and Compressor Station 22 in Miami, Florida.
- The 18-inch Line passes through populated areas designated as High Consequence Areas, under 49 C.F.R. § 192.903. The affected segment of the line runs parallel to and inside of the Florida Turnpike ROW and passes within 2 miles of residential subdivisions in and around Palm City, Florida, as well as numerous small communities, crossing state and interstate highways, rivers, and streams.
- In 2004, Respondent internally inspected the failed line section using a Magnetic Flux Leakage (MFL) in-line inspection (ILI) tool. At that time, PHMSA investigators noted a change in coating on pipe exposed by the failure. It is not yet known if the suspected pipe change was a result of a prior anomaly repair.
- The 18-inch Line at the failure site was hydrostatic tested on July 23, 1971 at a minimum pressure of 1320 psig.

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, 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 result in likely 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 affected 18-inch Line from Mile Post 781.7 to 924.9 ("Affected Pipeline") without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the age of the pipe, circumstances surrounding this failure, the proximity of the pipeline to populated areas, public roadways and high consequence areas, the hazardous nature of the product the pipeline transports, the pressure required for transporting the material, the uncertainties as to the cause of the failure, and the ongoing investigation to determine the cause of the failure, I find that a failure to issue this Order expeditiously to require immediate corrective action would result in likely serious harm to life, property, and 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, delivered personally, by mail or by telecopy at (202) 366-4566. The hearing will be held in Atlanta, Georgia 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. Florida Gas Transmission Company, LLC 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 Florida Gas Transmission Company, LLC to immediately take the following corrective actions with respect to the affected segment of its 18-inch Line system pipeline from isolation valve(s) 20-1 (MP 801.7) near Fort Pierce, Florida to isolation valve(s) 20-2 (MP 821.3) near Jupiter, Florida:

1. Do not operate the Affected Pipeline segment until authorized to do so by the Director, Southern Region.
2. Develop a return-to-service plan for PHMSA approval. The return-to-service plan must address incremental pressure increases and patrolling of the pipeline segment following each pressure increment. The return-to-service plan should specify a day-light restart and detail advance communications with local emergency response officials. Each element of the return-to-service plan must be approved by the Director, Southern Region, who may provide approvals incrementally. Implement the plan as approved.
3. After receiving approval from the Director to restart the pipeline, maintain a twenty percent (20%) pressure reduction in the operating pressure along the 18-inch Line segment between Fort Pierce, Florida and Cutler, Florida. This requirement applies to all segments of the 18-inch Line, including those already in operation. The operating pressure is not to exceed eighty percent (80%) of the operating pressure in effect immediately prior to the failure. Specifically, the pressure in the 18-inch Line segment between Fort Pierce, Florida to Cutler, Florida is not to exceed 682 psig.
4. Perform an aerial instrument or ground instrumented leak survey. Within 2 days after approval to return the affected pipeline to service, initiate an aerial instrument or ground instrumented leak survey of the Affected Pipeline for completion within 30 days. Investigate all leak indications and remedy all leaks found.
5. Root cause analysis. Within 60 days after receipt of the metallurgic analysis:
 - A. Perform a root cause analysis to:
 - (1) determine the cause of the failure, including a study and analysis of environmental, material, operational, personal performance and other factors that may have contributed to the failure; and
 - (2) review the Control Center response to the accident to determine the adequacy of pipeline information provided to the Supervisory Control and Data Acquisition system and Control Center procedures, alarms, and controller training for recognizing pipeline failures; and
 - B. Provide a report on the root cause analysis to the Director, Southern Region, OPS.

6. Submit a written plan, with a schedule, to verify the integrity of the pipeline segment. The plan must provide integrity testing that addresses all factors known or suspected in the failure, which may include, but not be limited to:
 - A. Hydrostatic pressure testing. The pressure testing plan should include short duration spike testing of all low frequency ERW pipe. The plan should include metallurgical testing for any testing failures. If time dependent anomalies are identified, remaining strength calculations should be completed for remaining anomalies.
 - B. Internal inspection tool surveys and remedial action. The type of internal inspection tools used shall be technologically appropriate for assessing the system based on the type of failure that occurred on May 4, 2009.
 - C. A detailed description of the inspection and repair criteria to be used in the field evaluation of the anomalies that are excavated. This is to include a description of how any defects are to be graded and the schedule for repairs or replacement.
 - D. An evaluation of the line for areas of damaged or disbanded coating, including but not limited to, direct current or alternating current voltage gradient survey, close-interval survey, current interrupted, and pipe-to-soil potential survey.
 - E. Each element of the written integrity verification plan must be approved by the Director, Southern Region, who may provide approvals incrementally. Implement the plan as approved.
7. Monthly progress submissions. Submit monthly report 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 execution of the plans, repair, and other remedial actions being undertaken. Submit documents to: Director, Southern Region, OPS, 233 Peachtree Street, Suite 600, Atlanta, GA 30303.
8. The Director may allow the removal or modification of the pressure restriction set forth in Item 3 upon a written request from Respondent demonstrating that the hazard has been abated and 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. The Region Director's determination will be based on all known factors and provision of evidence that mitigative actions taken by the operator provide for the safe operation of the pipeline segment.
9. The Integrity Verification Plan, as identified in Item 6 above, shall be submitted to the Director, Southern Region, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, 233 Peachtree Street, Ste. 600, Atlanta, Georgia 30303, within 60

days of receipt of this Order. The plan shall be revised as necessary to incorporate new information obtained during the failure investigation, actions required by Items 4 and 5, 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.

10. Maintain documentation of the costs associated with implementation of this Corrective Action Order. 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.
11. 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 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 shall correct all deficiencies within the time specified by the Director, and resubmit it for approval.

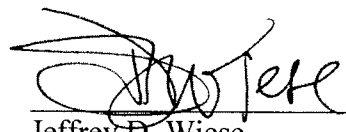
The Director, Southern Region, may grant an extension of time for compliance with any of the terms of this Order upon a written request timely submitted demonstrating good cause for an extension.

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.

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 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

MAY 07 2009

 Date Issued