JAN 07 2010

VIA CERTIFIED MAIL AND FACSIMILE TO: (205) 325-7528

Mr. William G. Cope
Vice President, Operations
Southern Natural Gas Company
P.O. Box 2563
Birmingham, AL 35202-2563

Re: CPF No. 2-2010-1001H

Dear Mr. Cope:

Enclosed is a Corrective Action Order issued by the Associate Administrator for Pipeline Safety in the above-referenced case. It requires Southern Natural Gas Company to take certain corrective actions with respect to the natural gas pipeline that failed on December 31, 2009. 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.

Sincerely,

Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

Enclosure

cc: Ms. Linda Daugherty, Director, Southern Region, PHMSA
Ken Peters, Manager, DOT Compliance

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

In the Matter of	)	
	)	
Southern Natural Gas Company,	)	**CPF No. 2-2010-1001H**
	)	
Respondent.	)	
	)	

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require Southern Natural Gas Company (SNG or Respondent) to take necessary corrective action to protect the public, property, and the environment from potential hazards associated with a failure involving the North Main Loop 24-inch natural gas pipeline.

On December 31, 2009, a failure occurred on Respondent's 24-inch North Main Loop in Cleburne County, Alabama, resulting in the release of natural gas and evacuation of six people. 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 (OPS), Southern Region initiated an investigation of the accident.

Preliminary Findings

- At approximately 11:07 p.m. C.S.T. on December 31, 2009, a failure occurred on Respondent's North Main Loop 24-inch natural gas pipeline (the Affected Pipeline), resulting in the release of an undetermined amount of natural gas. The failure occurred at Mile Post (MP) 398.7, in Cleburne County, Alabama, approximately 5 miles east of Heflin, Alabama near Cleburne County Road (CR 488). The incident was reported by SNG to the National Response Center (NRC Report # 927518) at approximately 1:55 a.m. EST on January 1, 2010.

- The natural gas pipeline failure resulted in a self-evacuation of six individuals. No injuries, fatalities or property damage were reported. The actual operating pressure of the Affected Segment at the time of failure was 462 p.s.i.

- SNG isolated the affected valve section by closing the upstream Heflin Gate valve (Mile Post 391.982) and the downstream Rome-Calhoun Gate valve (Mile Post 400.244).

- The North Main System has three parallel lines, at the failure location, one of which is the North Main Loop. The North Main System is currently operating normally except for the 8.26-mile isolated valve section from Heflin Gate valve (MP 391.982) to the Rome-Calhoun Gate valve (MP 400.244).

- The cause of the failure is unknown and the investigation is ongoing. The pipe has been cut out and transported to an El Paso Energy metallurgical laboratory in the Houston, Texas area for metallurgic analysis. Preliminary visual investigation indicates that the probable cause of the failure is a crack in a wrinkle bend initiating at the double submerged arc weld long seam at the top of the pipe. The pipe failed in a wrinkle bend at the top of the pipe in an underbend of the pipe. The failure is on one of four wrinkles in the wrinkle bend and stretches from the 3 o'clock position to the 9 o'clock position circumferentially across the top of the pipe.

- The pipe that failed was manufactured by Republic and constructed in 1948. It has a 24-inch nominal diameter, 0.250-inch wall thickness, Grade X-52, and double submerged arc weld with coal tar enamel coating. The pipeline is cathodically protected.

- The maximum allowable operating pressure (MAOP) of the pipeline that failed is 500 pounds per square inch gauge (psig), established pursuant to 49 C.F.R. §192.619(c). At the time of the incident, the actual operating pressure of the pipeline segment at time of failure was 462 psig.

- In May 2007, this pipeline segment from De Armanville Compressor Station (Mile Post 380.6) to Newnan Gate (Mile Post 435.9), which includes the isolated valve section from Heflin Gate to Rome-Calhoun Gate, was inspected by a PII caliper tool and a PII hi-resolution Magnetic Flux (MFL) tool. The Heflin Gate to Rome-Calhoun Gate valve section was hydrostatically tested on July 14, 1996, at 823 psig for eight (8) hours.

- On January 26, 2008, SNG experienced a wrinkle bend failure on this same line, North Main Loop pipeline. The January 26, 2008 failure occurred at Mile Post 401.21, approximately 2.5 miles downstream of the current failure site. The metallurgical examination performed by El Paso Energy following the incident concluded that the failure consisted of a 3 feet 1-inch long circumferential, cleavage facture along the apex of the most downstream convolution of the three wrinkle, sag bends that resulted from the cumulative effects of stresses on the line. The magnetic particle inspection of the sag bend found no Stress Corrosion Cracking and no measurable external or internal corrosion was observed on the pipe segment.

- Respondent's North Main Loop originates in Ouachita Parish, Louisiana and runs through the following parishes and counties: Louisiana (Ouachita, Morehouse, West Carroll, and East Carroll), Mississippi (Issaquena, Sharkey, Yazoo, Madison, Attala, Winston, Noxubee, and Lowndes), Alabama (Pickens, Tuscaloosa, Jefferson, St Clair, Talladega, Calhoun, and Cleburne), and Georgia (Carroll and Douglas), with a delivery point at the end of the pipeline at Newman Gate in Douglas County, Georgia.

- The pipeline primarily crosses rural parts of the country (farmland and forested areas) and small towns from Pickens, Mississippi to the west side of Birmingham, Alabama where the pipeline crosses through Classes 1, 2, and 3 populated areas (open land, and suburban and other residential areas) to the end of the pipeline in Douglas County, Georgia. The pipeline crosses I-20 approximately 4 miles upstream of the failure site. The pipeline also crosses other U.S., state, and local highways. The pipeline crosses several navigable rivers and other major rivers: the Mississippi River at Mile Post 55.858, the Tombigbee River at Mile Post 244.489, the Black Warrior River at Mile Post 281.377, and the Coosa River at Mile Post 356.039.

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 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 continued operation of the affected pipeline without corrective measures would be hazardous to life, property, and the environment. Additionally, having considered the age of the pipe, the circumstances surrounding this failure, the possibility that the incident was caused by a wrinkle bend failure similar to the wrinkle bend configuration that caused a previous failure in the same area, the proximity of the pipeline to publicly accessed areas and roadways, including I-20, the hazardous nature of the product transported by the pipeline, 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 the likelihood of 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, Southern Region, PHMSA. If a hearing is requested, it will be held in-person in Atlanta, GA, 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 Southern Natural Gas Company to immediately take the following corrective actions with respect to the North Main Loop (the Affected Pipeline):

1. Southern Natural Gas Company shall not operate the 8.26 mile isolated segment, of the Affected Pipeline, from the Heflin Gate valve (MP 391.982) to the Rome-Calhoun Gate valve (MP 400.244), until authorized to do so by the Director, Southern Region (Director).

2. Southern Natural Gas Company will maintain at 20% pressure reduction in the operating pressure along the Affected Segment between Heflin Gate (Mile Post 391.982) to Rome Calhoun Gate (Mile Post 400.244). The operating pressure shall not exceed eighty percent (80%) of the actual operating pressure in effect immediately prior to the December 31, 2009 failure. Specifically, the pressure in the Affected Pipeline segment between Heflin Gate (Mile Post 391.982) to Rome Calhoun Gate (Mile Post 400.244) is not to exceed 369 psig when returned to service.

3. Maintain at 20% pressure reduction in the operating pressure along the Affected Pipeline segment between DeArmanville Compressor Station (Mile Post 380.6) and Heflin Gate (Mile Post 391.982). The operating pressure shall not exceed eighty percent (80%) of the actual operating pressure in effect immediately prior to the December 31, 2009 failure. Specifically, the pressure along the Affected Pipeline segment between DeArmanville Compressor Station and Heflin Gate is not to exceed 369 psig. The pressure restriction is to go into effect as soon as practicable, no later than 72 hours after receipt of this Order. The pressure restriction will remain in effect until written approval to increase the pressure is obtained from the Director as set forth in Item 12. If the results of any action undertaken pursuant to this Order

necessitate a further 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 originating from the failure site, document the chain of custody;

   (B) Obtain the Director's prior approval of the mechanical and metallurgical testing protocols, including the approval of the independent testing laboratory;

   (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 in their entirety, whether draft or final, to the Director at the same time they are made available to Respondent.

5. Within 60 days of receipt of this Order, develop a return-to-service plan and submit to the Director for prior 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.

6. Within 30 days of receipt of this Order, Respondent shall perform an aerial instrument or ground instrumented leak survey of the Affected Pipeline segment between Tarrant Compressor Station MP 321.9 and Carrollton Gate MP 421.3. Respondent shall investigate all leak indications and remedy all leaks discovered. Respondent shall submit documentation of this survey to the Director within 45 days of receipt of this Order.

7. Within 60 days of receipt of this Order, Respondent shall perform a root cause analysis to determine the cause of the failure, including a study and analysis of environmental and other factors that may have caused stresses on the pipeline contributing to the failure. Respondent shall provide a report to the Director on the root cause analysis within 90 days of receipt of this Order.

8. Within 90 days of receipt of this Order, submit to the Director for approval an Integrity Verification and Remediation Plan of action to investigate, evaluate, and remediate the North Main Loop pipeline. The plan will include, at a minimum, the following actions:

(A) Identify pipe with characteristics similar to the contributing factors identified for the January 26, 2008 and December 31, 2009 failures;

(B) Perform an evaluation of the North Main Loop Pipeline based on the findings of the study performed as required of Item 7 (root cause analysis);

(C) Develop and implement an integrity testing plan. The integrity testing plan must address all factors known or suspected in the failure, which may include, but not be limited to internal inspection tool surveys, pressure testing, and remedial action. The type of internal inspection tools or other testing used shall be technologically appropriate for assessing the system based on the types of failures that occurred on January 26, 2008 and December 31, 2009, with emphasis on identifying and evaluating the following: 1) anomalies associated with wrinkle bends, dents, gouges, and grooves; 2) metal loss due to corrosion; 3) the orientation of the longitudinal seam of the pipe; 4) pipe deformation; and 5) longitudinal cracks.

(D) 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

(E) Evaluate the pipe on the North Main Loop Pipeline identified as having the potential to fail and remediate as necessary;

(F) Of the pipe identified as having a potential to fail, focus on areas where there is a potential threat to life, property or the environment. Consider and incorporate the findings of Items 4 and 7 above;

(G) Incorporate the findings to determine if conditions similar to those contributing to the failures are likely to exist elsewhere on the Affected Pipeline; and provide a proposed schedule for completion of the actions required by paragraphs (A) through (F) of this Item.

9. The Integrity Verification and Remediation Plan becomes incorporated into this Order and shall be revised as necessary to incorporate the results of actions undertaken pursuant to this Order and whenever necessary to incorporate new information obtained during the failure investigation and remedial activities. Submit any such plan revisions to the Director for prior approval. The Director may approve plan elements incrementally.

10. 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, 2010.

11. Maintain documentation of the costs associated with implementation of this Corrective Action Order. Include in each quarterly report submitted pursuant to Item 10, 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.

12. The Director may allow the removal or modification of the pressure restrictions set forth in Items 2 and 3 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 allow temporary modification of the pressure restriction to allow for public safety and critical gas supply: In the event of a temporary modification of the pressure restriction, the Director may require alternate safety precautions to provide for public safety.

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. 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.

Failure to comply with this Order may result in the assessment of administrative civil penalties and 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

Date Issued