

**APR 7 2011**

Mr. Bill Cope  
Vice President, Operations (TGP & SNG)  
Tennessee Gas Pipeline Company  
569 Brookwood Village, Suite 501  
Birmingham, AL 35209

**Re: CPF No. 4-2010-1007H**

Dear Mr. Cope:

Please find enclosed the Post-Hearing Decision Confirming the Corrective Action Order issued in the above-referenced case. The Decision confirms the findings and the need for the corrective measures required by the Corrective Action Order (CAO) issued to Tennessee Gas Pipeline Company on December 3, 2010, but makes certain modifications in the CAO. An amended CAO is being issued simultaneously herewith and is attached. This Decision is being served by facsimile and certified mail under 49 C.F.R. § 190.5, and its terms and conditions are effective upon receipt.

Thank you for your cooperation in this matter.

Sincerely,

Jeffrey D. Wiese  
Associate Administrator  
for Pipeline Safety

Enclosure

cc: Mr. R.M. Seeley, Director, Southwest Region, PHMSA

Mr. Jesus Soto, Vice President, Operations Services, El Paso Corporation/Tennessee Gas  
Ms. Elizabeth Herdes, Senior Counsel, El Paso Corporation/Tennessee Gas  
Mr. Patrick Carey, Director, DOT Compliance Services, El Paso/Tennessee Gas  
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**VIA CERTIFIED MAIL AND FACSIMILE TO:205 325-7528 [7005 1160 0001 0073 9826]**

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

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<b>Tennessee Gas Pipeline Company,</b>	)	<b>CPF No. 4-2010-1007H</b>
	)	
<b>Respondent.</b>	)	
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**POST-HEARING DECISION CONTINUING  
CORRECTIVE ACTION ORDER**

On December 3, 2010, the Associate Administrator for Pipeline Safety, Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), issued a Corrective Action Order (CAO) under authority of 49 U.S.C. § 60112, finding that continued operation by Tennessee Gas Pipeline Company (TGP or Respondent )<sup>1</sup> of certain segments of its TGP 100 Pipeline System from Texas to West Virginia would be hazardous to life, property, and the environment. The CAO made preliminary findings that these potential hazards arose from a November 30, 2010 failure of TGP’s pipeline system and would continue unless certain corrective measures were taken. The CAO further found that failure to issue the CAO expeditiously would likely result in serious harm to life, property, or the environment.

**Background**

The November 30, 2010 failure on TGP’s 100-2 Line (Failure) resulted in the release of natural gas from a crack located on a wrinkle bend<sup>2</sup> near MP 40-2+1.39 near Natchitoches, Louisiana. There were no fires, injuries, or explosions as a result of the Failure. Approximately 150 homes were evacuated as a precautionary measure. The release occurred on one of nine segments of the TGP 100 Pipeline System with wrinkle bends.

Following issuance of the CAO, by letter dated December 13, 2010, Respondent contested the CAO and requested a hearing, as provided under 49 C.F.R. § 190.233(c). On February 1, 2011, TGP submitted a “Statement of the Issues” (Response), objecting to the finding in the CAO that approximately 1,400 miles of its system, running from Texas to West Virginia, were deemed “hazardous” and included as part of the “Affected System” under the CAO.

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<sup>1</sup> The CAO was issued to Tennessee Gas Pipeline Company, a subsidiary of El Paso Corporation, which operates approximately 42,000 miles of natural gas pipelines running from the Mexican border to Canada. *See* <http://www.elpaso.com/pipelines> (last accessed March 30, 2011).

<sup>2</sup> A “wrinkle bend” is a construction technology or process of conforming pipe to topography by bending. The process was used predominately in construction into the early 1950’s.

A hearing was subsequently held on February 10, 2011, in Houston, Texas, with an attorney from the Office of Chief Counsel, PHMSA, presiding. At the hearing, Respondent and the Southwest Region, OPS, were represented by counsel and presented evidence in support of their respective positions regarding the validity of the issuance of the CAO.

At the hearing, TGP introduced a PowerPoint presentation and reiterated the arguments presented in its Response. After the hearing, Respondent provided additional written material for the record, by letter dated February 18, 2011 (Closing).

### **I. Determination of Necessity for a Corrective Action Order**

The purpose of a hearing following the issuance of a CAO without prior notice is for the Associate Administrator, OPS, to “determine whether a compliance order should remain in effect or be rescinded or suspended...”<sup>3</sup> In its Response and during the hearing, TGP argued a standard of review, asserting that PHMSA’s position should not be given deference under *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). That argument, however, is not pertinent during an administrative proceeding. I have reviewed the CAO to determine the necessity for a CAO, in compliance with Section 60112 of Title 49, United States Code and 49 C.F.R. § 190.233.

The bases for determining whether a pipeline facility requires corrective action are specified in 49 U.S.C. § 60112 and 49 C.F.R. § 190.233. Under those provisions, the Associate Administrator may issue a CAO if, after reasonable notice and the opportunity for a hearing, he finds that a particular pipeline facility is or would be hazardous to life, property, or the environment. The terms of that Order may include the suspended or restricted use of that pipeline facility, physical inspection, testing, repair, replacement, or any other action as appropriate.

### **II. Scope of CAO**

In its Response and during the hearing, TGP argued that the CAO was overly broad because it found that the entire TGP 100 Pipeline System, referred to as the “Affected System,” was “hazardous.” To support its argument, Respondent relied on its review of CAOs issued in recent years, and proffered that they did not find any CAOs that covered an entire natural gas pipeline system. The company further asserted that the CAOs it had reviewed were generally limited in geographical area. To the extent that Respondent is arguing that PHMSA’s previous CAOs create a limit that is not in the statute or regulations, this argument is rejected. 49 C.F.R. § 190.233(e) makes clear that I may consider four explicit factors, as well as other factors that I deem appropriate. The characteristics of the affected geographic area are but one consideration in finding a particular pipeline facility hazardous.

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<sup>3</sup> 49 C.F.R. § 190.233(b).

### **III. PHMSA's Hazard Finding**

Respondent contended that based on the factors outlined above, the CAO should be modified to define the "Affected System" as being that portion of "TGP's Line 100-2 between mainline valve (MLV) 40 to MLV 47," instead of the "TGP 100 Pipeline System from Texas to West Virginia."<sup>4</sup>

In issuing the CAO, OPS found that the "continued operation of the Affected Pipeline Facility without corrective measures would be hazardous to life, property and the environment." More specifically, OPS "considered the age of the pipelines in the Affected System, the common method of construction, the circumstances surrounding the failure, the proximity of the Affected System to populated areas and public roadways, the hazardous nature of the product being transported, the pressure required for transporting the material, and the ongoing investigation to determine the cause of the failure."<sup>5</sup> At the hearing, agency staff testified that PHMSA had considered multiple factors in issuing the order, including the age of the pipelines in the Affected System, their method of construction, the hazardous nature of the product transported, the pressure required for transporting the material, the uncertainties as to the cause of the Failure, and the proximity of the pipe to populated areas.

When the CAO was issued, the entire TGP System was believed to be sufficiently similar to Line 100-2 at the Failure site to warrant the determination of the scope of the hazard finding. The other pipelines of the Affected System were thought to be constructed during roughly the same period. Also, based on the evidence available at the time that the CAO was issued, it was believed that the other pipelines were likely to also contain wrinkle bends with integrity issues, as these types of bends were typically used during pipeline construction until about 1955.

Since the time the CAO was issued, , however, additional evidence has been presented regarding the characteristics of the TGP 100 Pipeline System and the Failure investigation. Respondent presented evidence of the approximate length of the entire pipeline system, the age of certain segments, and characteristics related to each segment. The Failure occurred in a pipeline that was 30 inches in diameter and originally installed in 1948. TGP's metallurgical analysis determined that the Failure occurred when tensile overload caused a 50-inch fracture in a wrinkle bend. The metallurgical analysis did not find any corrosion, stress corrosion cracking, or chemical or mechanical properties typical of wrinkle bend failures.

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<sup>4</sup> Respondent contends that the facts in this case suggest that the failure of this particular wrinkle bend was unique. TGP hired P.E. LaMoreaux & Associates, Inc. (PELA), a third-party contractor, to conduct a study of the local hydrogeologic conditions near the leak site. In conducting its study, PELA relied on the fact that several factors are present in a majority of all wrinkle bend failures: (1) the long seam of the pipe ran through the wrinkle bend and the wrinkle was in a sag bend; (2) corrosion at the wrinkle; (3) movement of the wrinkle bend due to soil disturbance; or (4) the presence of Hydrogen Induced Cracking on the inner diameter of the wrinkles. TGP presented evidence that PELA had not determined that any of these factors led to the failure of the wrinkle bend in this case. TGP further asserted that, even though the company did not know the root cause of the Failure, this incident was not sufficiently similar to other wrinkle bend incidents to justify a finding that its pipeline system was hazardous. *Closing*, p. 4. Respondent's argument is not persuasive. Using Respondent's logic, PHMSA would not be able to make a hazard finding in any situation where a failure had occurred but no root cause had yet been determined.

<sup>5</sup> Respondent asserts that PHMSA made a determination that "any pipe segment that is constructed with a wrinkle bend must be 'hazardous'." Upon review of the CAO and the evidence presented, that argument is without merit.

Respondent explained that the TGP 100 System contained many variations, as it was built between 1944 and 1966, and that the various loops in the 100 System did not always run in the same right-of-way space, were built using different pipe materials and sizes, were manufactured by different vendors, and had been installed by various contractors using various work practices.

At the hearing, OPS indicated that based on its own investigation and information that is now available, the hazard appears to be limited to Line 100-2. Upon consideration of the evidence presented, I find that the first bullet of the Preliminary Findings and the definition of the term “Affected System” in the CAO should be modified as follows:<sup>6</sup>

The TGP 100 Pipeline System is approximately 4,600 miles in length running from Texas to West Virginia, and consists of a looped system. Line 100-2 is the Affected System.

#### **IV. Pressure Restriction in Item 2**

The CAO placed a pressure restriction on MLV 32 to MLV47, in Item 2. Respondent states that, to the extent that a pressure reduction is necessary, it should be limited to that portion of the line running from MLV 40 to MLV 41. The company argued that the pressure restriction in Item 2 of the CAO was too broad and went far beyond what was necessary to protect the public. Respondent contended that the abnormal pressure restriction could have adverse effects on TGP’s ability to meet commercial and human needs during the winter heating, and summer cooling seasons.

OPS has considered this argument and believes that while it has merit, the limitation requested by Respondent does not. OPS has proposed that the pressure restrictions should apply to TGP’s Line 100-2 from MLV 40 to MLV 47, focusing on this portion of the line as the primary portion of the system that suffered the Failure. This proposal is based on TGP’s argument to focus the entire compliance order on this portion of the pipeline. It is also logically defined as the portion of the pipeline from the compressor station that is upstream of the incident to the compressor station that is downstream of the incident.

Accordingly, with respect to Item 2 of the CAO, I order that the pressure restriction set forth in the CAO is hereby modified to apply only to that same portion of TGP’s Line 100-2 running from MLV 40 to MLV 47.

#### **V. Integrity Analysis in Item 4**

The CAO required an integrity analysis on TGP’s Line 100-1, 100-2, 100-3 and 100-4. Respondent indicated that it is committed to working on and developing a solid relative risk matrix to determine what factors would give rise to a reason to appropriate mitigation measures. The company proffers that it can use the data from Line 100-2 MLV 40 to MLV 47, instead of gathering data from the previously defined affected system, TGP’s Line 100-1, 100-2, 100-3, and

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<sup>6</sup> The CAO made a preliminary finding that “[t]he TGP 100 Pipeline System is approximately 1400 miles in length, running from Texas to West Virginia, and consists of a looped system that includes Lines 100-1, 100-2, 100-3, and 100-4 (Affected System).” CAO, p. 1. Respondent has indicated that the TGP 100 Pipeline System is actually 4600 miles.

100-4. The company argues that “[a] focus on this data will drive faster validation and improvement of a relative risk matrix while minimizing disturbing other vintage pipe which could cause integrity concerns in stable wrinkle bends.”

I agree that focusing TGP’s investigation, as specifically required in Required Corrective Action Item 4(B), to Line 100-2 MLV 40 to MLV 47 would provide sufficient data to apply findings to the Affected System, consistent with the CAO, and to the entire TGP 100 Pipeline System, as required under the integrity management regulations. Accordingly, Item 4(B) of the CAO is amended as follows:

The performance of additional field testing, inspections, and evaluations to determine whether and to what extent the conditions associated with the failure, or other integrity threatening conditions are present on Line 100-2 MLV 40 to MLV 47. Data-gathering activities shall include, to the extent warranted by the failure analysis, identification of the location and integrity of wrinkle bends along Line 100-2 MLV 40 to MLV 47. 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 the inspections, field excavations, and evaluations available to PHMSA or its representative;

### **Conclusion**

The CAO will remain in effect but is modified as provided above. All other provisions of CAO shall remain in full force and effect until the Director, Southwest Region, PHMSA, determines that all of the corrective actions required under the CAO have been satisfactorily completed and that the hazardous conditions giving rise to the CAO no longer exist.

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Jeffrey D. Wiese,  
Associate Administrator  
for Pipeline Safety

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Date Issued