



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

JAN 4 2001

Mr. Jeryl L. Mohn
Sr. Vice President
CMS Panhandle Eastern Pipe Line Company
5444 Westheimer Road
Houston, TX 77056-6306

Re: CMS Panhandle Eastern Pipe Line Company
CPF No. 3-2001-1001-H

Dear Mr. Mohn:

Enclosed is a Corrective Action Order issued by the Associate Administrator for Pipeline Safety in the above-referenced case. Service is being made by certified mail and telefacsimile. Your receipt of the enclosed document 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.

Sincerely,

for Gwendolyn M. Hill
Pipeline Compliance Registry
Office of Pipeline Safety

Enclosure

cc: Mr. Merlin Remmenga

VIA CERTIFIED MAIL (RETURN RECEIPT REQUESTED) AND TELECOPY

DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
WASHINGTON, DC 20590

In the Matter of)
CMS Panhandle Eastern Pipe Line Company,)
Respondent.)
_____)

CPF No. 3-2001-1001-H

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order (Order) is being issued, under authority of 49 U.S.C. § 60112, to require CMS Panhandle Eastern Pipe Line Company (Panhandle Eastern) to take the necessary corrective action to protect the public and environment from potential hazards associated with its pipeline. The Office of Pipeline Safety (OPS) has found that corrective action is necessary to prevent the recurrence of a failure similar to that which occurred on December 9, 2000.

On December 9, 2000, at 5:36 PM CST, an in-service rupture occurred on Panhandle Eastern's 30-inch Haven 400 line located in Reno County, Kansas. The escaping gas did not ignite. No injuries, fatalities or property damage occurred.

Pursuant to 49 U.S.C. § 60117, the Central Region, OPS initiated an investigation of this incident.

Preliminary Findings

1. On December 9, 2000, at 5:36 CST, Panhandle Eastern's 30-inch diameter Line 400 failed near Haven, Kansas, in Reno County. The rupture location was approximately six miles downstream of the Haven Station in an open field in a Class One area. This location is in the vicinity of where the line crosses Kansas State Highway 96. The failure site is in an area with high resistivity sandy soil and a high groundwater table. No injuries, fatalities or property damage occurred.
2. A 1000-foot long Class 3 location is within the 20-mile segment of Line 400 from the Haven station to Gate Valve 402. This location is adjacent to football fields used by the public. The pipe in the Class 3 location was replaced in 1976 to meet the requirements of the class location change.
3. At the time of the incident, discharge pressure at the Haven Station was 899 psig. The MAOP of this line section is 900 psig.

4. The pipeline was installed in 1962 and is made of 30-inch x 0.312-inch w.t., API 5L-X60, electric flash welded (EFW) pipe manufactured by A.O. Smith. The protective coating is coal tar enamel.
5. Preliminary investigation by Panhandle Eastern personnel has indicated the failure initiated in the seam of the pipe and was caused by crevice type corrosion. Personnel also observed surface corrosion approximately 60 mils deep, on the exterior of the pipe in the area of the failed seam. The rupture propagated the entire length in the seam in a brittle mode and was arrested on each end when the fracture entered the body of the two adjacent pipe joints. The fracture in the two adjacent pipe joints was a ductile mode. The total length of the fracture was approximately 70 feet.
6. Panhandle Eastern personnel and other incident responders isolated the line by closing valves at the Haven compressor station and the first mainline valve (Valve 402), located approximately 19 miles downstream of the Haven station. Isolation was completed at 6:45 p.m. CST.
7. The incident occurred approximately 200 feet upstream of a similar failure on Line 400 that occurred on June 28, 1996.
8. On June 28, 1996, a rupture occurred on Panhandle Eastern's Line 400 at station 315+42, approximately six miles downstream of the Haven compressor station. The failed pipe was of the same construction as detailed in Finding #4.
9. When the June 1996 incident occurred, the discharge pressure at the Haven station was 886 psig, and the pressure at the failure site was 865 psig.
10. Metallurgical analysis by Panhandle Eastern of the failed pipe from the 1996 incident determined that a very localized external crevice-type corrosion mechanism attacked the weld seam. Investigation of the 1996 failure also found several possible contributing factors - disbondment of the coal tar enamel pipe coating, high soil resistivity in the sandy soil, differences in soil moisture content from the top to the bottom of the pipe, and selective corrosion of the weld seam because of the micro structural differences in the weld and the base metal. These findings were described in a report prepared by Panhandle Eastern.
11. Coating disbondment and external corrosion have occurred on Line 400. In June 1998, Panhandle personnel ran a standard resolution, magnetic flux leakage (MFL), internal inspection tool and evaluated corrosion anomalies as graded by the MFL tool vendor. Since the December 9, 2000 incident, Panhandle has evaluated three other less severe corrosion indications located on the top half of the pipe. One of these corrosion indications, after being excavated, was determined to be associated with the seam of the pipe, and the section of pipe was replaced. At the other two locations light surface corrosion was identified.

12. The metallurgical report of the June 1996 incident noted coating disbondment on the pipe. Panhandle Eastern personnel also noted disbonded coating when excavating various anomalies both before and after the December 9, 2000 incident.
13. In November 1999, Panhandle Eastern installed a new rectifier and replaced a ground bed in the vicinity of the failure sites due to lower potential readings Panhandle personnel had observed in a close-interval survey done in April 1997.
14. The subsurface soil conditions on the 20 mile segment of Line 400 from Haven Station to the next downstream gate valve inhibit effective cathodic protection. A sandy, highly resistive soil with a fluctuating high ground water level is evident. The soil and moisture conditions in upstream and downstream segments are reported to be different from the line segment that has experienced the failures.
15. The segment of pipe that failed on December 9, 2000, was last pressure tested in 1962.

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 this pipeline without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the similarity between the 1996 and 2000 failures on the same line, the soil conditions in the failure locations, the experience with coating disbondment and external corrosion, and the line's proximity to a public highway, I find that a failure to issue expeditiously this Order, requiring immediate corrective action, would result in likely serious harm to life, property, and the environment.

Accordingly, this Corrective Action Order, mandating needed 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, the 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. Any hearing will be held in Kansas City, Missouri or Washington, D.C. on a date that is mutually convenient to OPS and the Respondent.

After receiving and analyzing additional data in the course of this investigation, OPS may identify other measures that need to be taken. 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

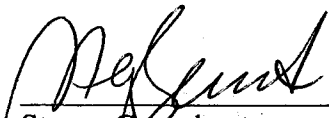
Pursuant to 49 U.S.C. 60112, I hereby order CMS Panhandle Eastern Pipe Line Company to take the following corrective actions with respect to Line 400:

1. Maintain a 15% pressure reduction of MAOP (i.e. a limit of 765 psig) on the Line 400 segment from Haven Station to the next downstream valve (Valve 402) until the following items have been completed and the Regional Director, Central Region, OPS gives written authorization to exceed the restriction.
2. Submit, within 30 days of this Order, a plan, subject to approval by the Regional Director, Central Region, OPS, to verify the integrity of the 20-mile segment from Haven Station to valve 402. The plan must, at minimum, provide for the following:
 - a. A detailed metallurgical analysis of the pipe that failed on December 9, 2000 to determine cause and contributing factors.
 - b. The running of a high resolution, MFL, internal inspection tool with emphasis on identifying and evaluating the following: 1) anomalies associated with the pipe seam; 2) indications located on the top half of the pipe; and 3) minor surface corrosion that has been associated with the selective seam corrosion of the past incidents.
 - c. A detailed description of the repair criteria that will be used in the field evaluation of the anomalies that are excavated.
 - d. An evaluation of the line for areas of disbonded coating, including but not limited to, a close-interval, current interrupted, pipe-to-soil potential survey.
 - e. Integration of all available data from internal inspections, including, cathodic protection surveys, metallurgical analyses, soil conditions, and historical data.

- f. Pressure testing of the line segment. In lieu of pressure testing, Panhandle may use an alternative technology capable of identifying cracks and other defects in the longitudinal seam welds, subject to OPS approval.
3. The Central Regional Director may extend the time for compliance with any of the terms of this order for good cause. Requests for extension must be in writing.

The procedures for the issuance of this Order are described in Part 190, Title 49, Code of Federal Regulations. Section 190.233, a copy of which is enclosed, is made part of this Order and describes the Respondent's procedural rights relative to this Order.

Failure to comply with this Order may result in the assessment of civil penalties of not more than \$25,000 per day and in referral to the Attorney General for appropriate relief in United States District Court.



Stacey Gerard
Associate Administrator
for Pipeline Safety

JAN 4 2001

Date Issued