



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

400 Seventh St. S.W.  
Washington D.C. 20590

NOV 25 2003

Mr. Brian Jury  
Vice President of Operations  
Buckeye Pipe Line Company, LP  
5002 Buckeye Road  
Emmaus, PA 18049-0368

Re: CPF No. 3-2003-5026H

Dear Mr. Jury:

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 pipeline. Service is being made by registered mail and facsimile. Your receipt of the enclosed document constitutes service of that document. The terms and conditions of this Corrective Action Order are effective upon receipt.

Sincerely,

James Reynolds  
Pipeline Compliance Registry  
Office of Pipeline Safety

Enclosure

VIA REGISTERED MAIL (RETURN RECEIPT REQUESTED) AND TELECOPY

**DEPARTMENT OF TRANSPORTATION  
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION  
OFFICE OF PIPELINE SAFETY  
WASHINGTON, DC 20590**

In the Matter of )  
 )  
Buckeye Pipe Line Company, LP )  
 )  
Respondent. )

CPF No. 3-2003-5026H

**CORRECTIVE ACTION ORDER**

**Purpose and Background**

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require Buckeye Pipe Line Company, LP (Respondent) to take the necessary corrective action to protect the public and environment from potential hazards associated with its 8-inch Norco Pipeline, known as the West Line. Norco Pipe Line Company is operated by Buckeye Pipe Line Company, LP. The 8-inch West Line extends from Hartsdale, Indiana to Galesburg, Illinois.

On November 9, 2003 and November 14, 2003, the 8-inch West Line failed in Mazon, IL, resulting in the release of 5 bbls of unleaded gasoline and 5 bbls of gasoline and diesel fuel.

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

**Preliminary Findings**

- At approximately 2:40 p.m. CST, on November 9, 2003, Respondent discovered a leak on its 8-inch West Line, resulting in the release of 5 bbls of unleaded gasoline in Mazon, IL, Grundy County. The failure occurred at Mile Post 57.9 (MP 57.9), approximately 200 feet west of Highway 47.
- At approximately 5:00 p.m. CST, on November 14, 2003, a second failure was discovered at MP 57.7 during proof testing. The failure occurred approximately 1500 feet east of the first leak in a casing on Grand Ridge Road in Mazon, Illinois.
- Contaminated soil was removed from both leak sites. Monitoring wells are to be installed at both leak sites to detect any additional soil contamination.

- No injuries or fatalities occurred. One residential home is located across the street from the first failure site at MP 57.9. There were no evacuations.
- The line is routed through populated areas around Chicago, IL and passes through or near other small communities along the route as well as crossing numerous state and public roadways, rivers and streams. It also lies adjacent to an active railroad right-of-way.
- Immediately following the first failure on November 9, 2003, Respondent isolated the failure site by closing the valves at the Chillicothe Terminal (MP 129.1), located approximately 71.2 miles downstream of the failure, and at the first upstream valve, located approximately 2.7 miles from the failure site. Between 2:40 p.m. and 5:00 p.m., Respondent recorded a 30 psi pressure drop in the isolated segment. Respondent initiated the excavation process approximately 200 feet west of State Highway 47 near South Street at MP 57.9. The mainline valve was closed at the Mazon Station (MP 59.1) and the remaining pressure was bled off the pipeline.
- On November 11, 2003, Respondent repaired the first failure site at MP 57.9. On November 12, 2003, Respondent began a proof test at 400 psig. During the proof test a small drop in pressure was noted. The section of pipe between Tynan Junction (MP 55.2) and Mazon Station (MP 59.1) was blinded to assure no leakage was occurring through the block valves.
- On November 14, 2003, a petroleum odor was detected on the casing vent at Grand Ridge Road. Excavation revealed a small leakage of gasoline/diesel fuel near the end of the casing. The line was purged of product between Diamond Pump Station (MP 47.2) and Mazon Station (MP 59.1) and a section of pipe removed.
- The preliminary investigation revealed pinhole leaks in corrosion pits on the pipeline as the probable cause of both failures. A corrosion pit approximately 1¼-inch diameter with a pin hole leak was located at the 6:00 o'clock position on the pipe at the first failure site, MP 57.9. The second leak site revealed a corrosion pit on the pipe in the casing at Grand Ridge Road (MP 57.7). Both corrosion pit failure sites were repaired by pipe replacement on November 11, 2003 and November 16, 2003 respectively.
- The failed pipe segments have been sent to a metallurgical laboratory for further analysis. The investigation is ongoing.
- On November 18, 2003, a four-hour hydrostatic pressure test with water was successfully conducted at 791 psi on the line segment from the Diamond Pump Station to the Mazon Station. After the hydrostatic pressure test, a four-hour leak test was successfully conducted at 678 psi.
- At the time of the first accident, the operating pressure at the Diamond Pump Station was 578 psig. The Diamond Pump Station is the nearest upstream pump station. The maximum operating pressure of the pipeline segment at the failure site is 633 psig. The Hartsdale control valve was set at 655 psi, with the high pressure shutdown set at 660 psi.

- The 8-inch West Line transports gasoline, diesel and fuel oil.
- Buckeye reported that the 8-inch NorcoWest Line pipe was originally installed in the 1920s and is constructed of 8-inch x 0.322 w.t., bare steel, lapweld pipe. The manufacturer is unknown. There were multiple parallel pipelines when Sinclair was the owner and operator in the 1920s. Buckeye related that in the 1930's, the West Line was constructed of the better sections of the original parallel pipelines. Buckeye also reported that, over the years, ARCO performed rehab programs on the line. These programs added the welding of couplings used to join the joints of pipe and applying external coating for corrosion control. OPS is not aware of the date that cathodic protection was first applied to this pipeline. The pipeline is now protected by an impressed current system. Except where replaced, the Norco system has threaded collars and acetylene welds that were used in the 1930 construction.
- The 8-inch West Line was internally inspected in 1997 by Transmontaigne (TMG) and was hydrotested in 1999 prior to Buckeye purchasing the Norco Pipeline from TMG on July 31, 2001.
- A Close Interval Survey (CIS) for the entire Norco System east of Hartsdale is in progress. The CIS between Hartsdale Station (MP 0.0) and the Mazon Station (MP 59.1) is scheduled for completion in December 2003. Respondent reported that TMG performed a CIS in 1997 or 1998.
- Respondent has completed a flame ionization test of the right-of-way from the Diamond Station (MP 47.2) to the Mazon Station (MP 59.1). Five locations were identified as having potential hydrocarbon present. Three locations have been excavated. One had an odor of hydrocarbon but clean soil. The other two locations revealed clean soil. The excavation of a fourth location is in progress. The fifth location was found to have natural gas present as a result of a leak from another operator's pipeline.
- As of November 19, 2003, Respondent's inspection of all casing vents between the Hartsdale Pump Station (MP 0.0) and the Diamond Station (MP 47.2) for hydrocarbon vapors was 35% complete, with no hydrocarbons found.
- Respondent restarted the 8-inch West Line on November 19, 2003 with a pressure reduction. The discharge pressure at the Hartsdale Pump Station is limited to 566 psi.

#### **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 circumstances surrounding these failures, the proximity of the pipeline to populated areas, the line's proximity to public highways, a railroad, the hazardous liquids the pipeline facility transports, the pressure required for transporting the material, and the uncertainties as to the factors contributing to the failure, 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, 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 Kansas City, Missouri or Washington, DC on a date that is mutually convenient to OPS and Respondent.

After receiving and analyzing additional data in the course of this investigation, OPS may identify other longer term 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 Buckeye to immediately take the following corrective actions with respect to its 8-inch Norco West Line segment between the Hartsdale Station and the Mazon Station:

1. Maintain a 10 percent (10%) reduction in the operating pressure from Hartsdale Pump Station (MP 0.0) to Diamond Pump Station (MP 47.2), which is not to exceed 90% of the actual operating pressure in effect just prior to the November 9, 2003 failure. Specifically the discharge pressure at the Hartsdale Pump Station is not to exceed 566 psig. This pressure restriction shall remain in effect until written approval to increase the pressure or return the pipeline to full service is obtained from the Director, Central Region, OPS.

2. Conduct a detailed metallurgical analysis of the pipe that failed on November 9, 2003 and on November 14, 2003 to determine the cause and contributing factors. Submit the metallurgical report to the Director, Central Region, OPS, within one week of its receipt.
3. Submit a written plan with a schedule for completion, within 30 days of receipt of this Order, to verify the integrity of the line from the Hartsdale Pump Station (MP 0.0) to Mazon Station (MP 59.1), the affected segment. The plan must provide integrity verification that addresses all known or suspected factors in the failure, including if relevant:
  - A. The performance of appropriate repairs or other remedial actions fully addressing all known or suspected factors that caused or contributed to the failure.
  - B. The use of a high-resolution, internal inspection tool. The type of in-line internal inspection tool (ILI) used must be technologically appropriate for assessing the affected segment based on the types of failures that were discovered on November 9 and 14, 2003.
  - C. The performance of a close-interval, current interrupted, pipe-to-soil potential survey (CIS) to evaluate the effectiveness of corrosion control on the affected segment, including the criteria to be used to establish cathodic protection.
  - D. A detailed description of the inspection and repair criteria that will 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. The integration of all available data from internal inspections, pressure tests, metallurgical analyses, and historical data, including leak, repair, other inspection and corrosion control records to identify causal factors or other integrity threats, including data from the 1997 TMG internal inspection survey.
  - F. A schedule and means for providing the results and data for testing programs and studies performed to the Director, Central Region. The results of the ILI and CIS surveys are to be provided within 20 days of your receipt of the respective reports. A monthly report must be provided on the status of the project.
4. Each element of the plan must be approved by the Director, Central Region who may provide approvals incrementally. Implement the plan as approved. The plan must be revised as necessary to incorporate new information obtained during the failure investigation and analysis actions required by this Order.

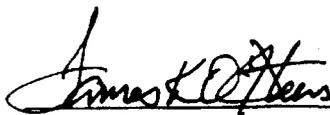
5. Provide to the Director, Central Region, in tabular and/or graphical format, a comparison of the planned CIS and the prior CIS survey data illustrating the potentials along the affected segment. Provide in an overlay, or other graphical format, the locations of anomalies found to require evaluation and a description of those anomalies. Casing locations should be identified and noted to be shorted, bonded, or not bonded, to the carrier pipe. Also provide in overlay, or other graphical presentation, the location and description of other anomaly evaluations and repairs made since the 1997 TMG ILI survey.
6. Respondent may request approval from the Regional Director, to increase its operating pressure above the interim maximum operating pressure under Item 1, based on showing that the hazard has been abated or that a higher pressure is justified based on an analysis showing that the pressure increase is safe considering all known defects, anomalies and operating parameters of the pipeline. The Regional Director's determination will be based on cause of failure and provision of evidence that mitigation actions taken by the operator provide for the safe operation of the pipeline. An appeal of a determination by the Regional Director will be subject to the decision of the Associate Administrator for Pipeline Safety.

The Director, Central Region, OPS may grant an extension of time for compliance with any of the terms of this order for good cause. A request for an extension must be in writing.

The corrective actions required by this Corrective Action Order are in addition to and do not waive any requirements that apply to the affected segment under 49 C.F.R. Part 195, including the integrity management program regulations.

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

Failure to comply with this Order may result in the assessment of civil penalties of not more than \$100,000 per day and in referral to the Attorney General for appropriate relief in United States District Court.

  
Stacey Gerard  
Associate Administrator  
for Pipeline Safety

NOV 25 2003

Date Issued