



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

JUN - 6 2001

Mr. Steve Springer
Senior Vice President & General Manager
Williams Energy Services
1800 South Baltimore
Tulsa, OK 74119

Re: CPF No. 320015011H

Dear Mr. Springer:

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 certified 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,

Gwendolyn M. Hill
Pipeline Compliance Registry
Office of Pipeline Safety

Enclosure

VIA CERTIFIED MAIL (RETURN RECEIPT REQUESTED) AND TELECOPY

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

In the Matter of)
Williams Energy Services,)
Respondent.)

CPF No. 3-2001-5011H

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require Williams Energy Services (Williams) to take the necessary corrective action to protect the public and environment from potential hazards associated with Mid-America Pipeline Company's (MAPCO) East Red Line segment which extends from Conway, Kansas to Chillicothe, Missouri (hereinafter Conway-Chillicothe segment).

On May 1, 2001, Williams' 10¾-inch diameter East Red Line failed near Tracy, Missouri, resulting in the release of 6,000 to 8,000 barrels of a mixture of ethane and propane which ignited.

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

Preliminary Findings

1. At approximately 11:10 a.m. CDT, on May 1, 2001, Williams' 10¾-inch diameter East Red Line ruptured, resulting in the release of 6,000 to 8,000 barrels of a mixture of propane and ethane which ignited. The failure at Mile Post 183.0 (MP 183.0), on the Conway-Chillicothe segment, occurred in an open field approximately 375 feet south of Missouri State Highway 273.
2. No fatalities or injuries occurred. One residence approximately 300 feet southwest of the failure site was evacuated. Missouri State Highway 273 between Tracy, Missouri and Weston, Missouri was shut down.
3. The Conway-Chillicothe segment is routed through predominantly rural areas of Kansas and Missouri. The line does pass within 1-2 miles of numerous small communities along the route as well as crossing numerous state and interstate highways, rivers, and streams. The pipeline also passes to the south of Smithville lake, a recreational area.

4. The Conway-Chillicothe segment, which is bi-directional, originates at Conway, KS and runs northeast to McLouth, KS then moves east into Kearney, MO where it shifts in a northeasterly direction through Chillicothe, MO. The failure occurred between McLouth, KS and Kearney, MO.
5. The pipeline is owned by MAPCO and operated by Williams.
6. The East Red Line transports natural gas liquids, specifically, a propane and ethane mixture. Ethane and propane are highly volatile liquids. Highly volatile liquids form a vapor cloud when released into the atmosphere and have vapor pressures exceeding 40 psia and 100°F. The vapor clouds generated by propane and ethane will stay close to the ground and follow the terrain accumulating in the low areas, such as the ditches along a highway, valleys and streams.
7. The East Red Line segment, which runs from Conway to Kearney, was installed in 1970 and is constructed of 10¾-inch x 0.188-inch w.t., API 5L-X52, ERW pipe manufactured by Republic Steel. The protective coating is Polyken #960 tape. In 1972, the same pipe was used to construct the first three (3) miles of the East Red Line segment from Kearney to Chillicothe.
8. The pipe is believed to be high frequency welded, ERW pipe, as Republic Steel did not manufacture low frequency ERW after 1961 or 1962, according to Kiefner & Associates.
9. At the time of the incident, discharge pressure at the McLouth Pump Station (MP 154.5) was 1198 psig. Pressure at the failure site (MP 183) was 1113 psig. The maximum operating pressure of this line segment is 1236 psig. The failure location is approximately twenty-eight and one half (28 ½) miles northeast of McLouth and twenty-six (26) miles southwest of the Kearney pump station (MP 209).
10. The preliminary investigation, conducted May 1, 2001, indicates the failure may have initiated in the longitudinal seam. The rupture propagated down the longitudinal seam. The length of the fracture was approximately 10½ feet. The upstream end of the rupture arrested when the pipe was torn in two. The downstream end of the rupture arrested in the pipe body. Near the center of the failed segment is a circumferential crack in the pipe body on both sides of the longitudinal seam. The failed pipe segment has been sent to a metallurgical laboratory for further analysis.
11. The cause of the failure could not be determined by examination at the site. The investigation is ongoing.
12. Williams internally inspected this line section in 1995, using a British Gas High-Resolution Magnetic Flux Leakage inspection tool, to address integrity concerns. No anomalies were identified at the failure site by the tools.
13. Williams ran a geometry tool in the past several months, but has not received the results.

14. The segment of pipe that failed, between McLouth and Kearney, was last pressure tested in 1970.
15. Following the May 1, 2001 accident, Williams' personnel isolated the line by closing the upstream and downstream mainline valves. The upstream valve is located approximately four (4) miles from the failure site. The downstream valve is located approximately seven (7) miles from the failure site.
16. On May 3, 2001, Respondent restarted the East Red Line with a 20% pressure reduction from the discharge pressure at the time of the failure. The reduction in pressure includes the Conway, Herington, Eskridge, McLouth, Kearney and Chillicothe pump stations. The failure site is approximately 183 miles northeast of the Conway Pump Station and approximately 86 miles southwest of the Chillicothe Pump Station (MP 269).

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 this failure, the proximity of the pipeline to populated areas, the line's proximity to public highways, the highly volatile liquids the pipeline facility transports, the pressure required for transporting the material, and the uncertainties as to the cause of 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, Williams 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, D.C. 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. Williams will be notified of any additional measures required and amendment of this Order will be considered. To the extent consistent with safety, Williams 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 Williams Energy Service to immediately take the following corrective actions with respect to the Conway-Chillicothe segment of the East Red Line:

1. Maintain a 20 percent (20%) reduction in the operating pressure along the entire bi-directional Conway-Chillicothe segment, which is not to exceed 80% of the pressure in effect just prior to the failure. The pressure at the failure site, between McLouth and Kearney, is not to exceed 890 psig. The operating pressures for other line segments shall be limited to 80% of the MOP in effect prior to failure.
2. Conduct a detailed metallurgical analysis of the pipe that failed on May 1, 2001 to determine the cause and contributing factors for the failure. Submit the report to the Regional Director, Central Region, OPS, within one week of receiving it.
3. Submit a written plan, with a schedule, to verify the integrity of the line from the McLouth Pump Station to the Kearney Pump Station, plus the first three (3) miles of Republic pipe immediately east of the Kearney Pump Station, which is the same pipe used in 1970. The plan must provide integrity testing that addresses all known or suspected factors in the failure, including if relevant:
 - A. Internal inspection tool surveys and remedial action. The type of internal inspection tools used must utilize the best technology available for providing information on the integrity of this segment of the East Red Line and assessing the system based on the type of failure that occurred on May 1, 2001, with emphasis on identifying and evaluating the following: 1) anomalies associated with 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) cracks, mill defects and stress corrosion cracking.
 - B. 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.
 - C. An evaluation of the line for areas of damaged or disbonded coating, including but not limited to, a close-interval, current interrupted, and pipe-to-soil potential survey.

- D. Integration of all available data from internal inspections, metallurgical analyses, and historical data, including repair and cathodic protection records.
 - E. Hydrostatic pressure testing of the line segment and/or other mitigative measures required to address the cause and contributing factors to the May 1, 2001 pipeline failure.
 - F. A schedule and means for providing the results and data for testing programs performed to the Central Region.
4. Each element of the plan must be approved by the Regional Director, who may provide approvals incrementally. Implement the plan as approved.
 5. Respondent may request approval from the Regional Director, to increase its operating pressure above the interim maximum operating pressure under item 1, based on a 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 mitigative actions taken by the operator provide for the safe operation of the pipeline. Appeals to determinations of the Regional Director in this regard will be subject to the decision of the Associate Administrator for Pipeline Safety.
 6. The Central Regional Director 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 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 describes 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 \$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

JUN - 6 2001

Date Issued