



US Department
of *Transportation*
Research and
Special Programs
Administration

400 Seventh St S W
Washington DC 20590

NOV 18 2004

Mr. David L. Young
Senior Vice President
Mark West Hydrocarbon, Inc.
155 Inverness Drive West
Suite 200
Englewood, CO 80112-5000

Re: CPF No. 2-2004-5017H

Dear Mr. Young:

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, including a pressure reduction, with respect to the Maytown Station to Ranger Junction segment of your Appalachian Liquid Pipeline System. 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.

Sincerely,

James Reynolds
Pipeline Compliance Registry
Office of Pipeline Safety

Enclosure

VIA CERTIFIED 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)	
)	
MarkWest Hydrocarbon, Inc.,)	CPF No. 2-2004-5017H
)	
Respondent.)	

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued under authority of 49 U.S.C. § 60112 to require MarkWest Hydrocarbon, Inc. (Respondent) to take the necessary corrective action to protect the public, property, and the environment from potential hazards associated with a failure involving the four- and five-inch Maytown Station to Ranger Junction segment (“the affected segment”) of Respondent’s Appalachian Liquid Pipeline System running from near Langley, Kentucky to near South Shore, Kentucky.

On November 8, 2004, a failure occurred on the affected segment in Floyd County, Kentucky resulting in the release of natural gas liquids (NGLs). The cause of the failure has not yet been determined. Pursuant to 49 U.S.C. § 60117, the Southern Region, Office of Pipeline Safety (OPS) initiated an investigation of the incident.

Preliminary Findings

- At approximately 8:30 a.m. EST on November 8, 2004, a Kentucky State Trooper spotted a vapor cloud and ensuing explosion around the failure site. The Trooper began evacuating residents from the housing division adjacent to the failure site.
- The failure occurred at or around Mile Post (MP) 86.7 of the affected segment in Ivel, Floyd County, Kentucky, resulting in the release of an undetermined quantity of NGL.
- Respondent reported the incident to the National Response Center at 1:50 p.m. EST.
- The incident resulted in fires, explosions, nine injuries that included three or more hospitalizations, and the destruction of five homes in the Ivel, Kentucky subdivision.

- Respondent's Appalachian Liquid Pipeline System is approximately 140 miles long and transports NGL products from the Maytown Station near Langley, Kentucky through the Ranger Junction in Ranger, West Virginia, and terminates at the Siloam Fractionation Plant near South Shore, Kentucky. The affected segment extends from the Maytown Station (MP 96.1) northeast to the Ranger Junction (MP 35.9).
- Portions of the affected segment cross or are adjacent to highways, drinking water sources, and populated areas. The failure site is located in a residential subdivision. Residents along the affected segment right-of-way have expressed concern that, prior to the incident, they may have lacked knowledge of the pipeline location or the ability to identify and notify proper parties of the pipeline emergency.
- Following the failure, Respondent's personnel shut down the pump station upstream from the failure site. An employee of the owner of the pipeline system then closed valves upstream and downstream of the failure site.
- The cause of the failure has not yet been determined. Preliminary visual inspection indicated the presence of localized external corrosion around the failure site. Inspectors identified a small hole in the pipeline at the 6 o'clock position when examining the failure site.
- Respondent removed the failed portion of pipe on November 10, 2004 and has sent the failed portion to a metallurgist for analysis.
- Respondent has replaced the failed portion of pipe with a flanged portion of pipe. The pipeline remains out of service. Respondent stated that it plans to purge the pipeline in the area of the failure site with nitrogen and preliminarily replace 650 feet of pipe in that area.
- The affected segment contains **65** miles of pipe constructed between 1956 and 1957, 39 miles of which are bare steel pipe and 26 miles that are coated with a variety of coatings. Impressed current cathodic protection is not in use. The affected segment is constructed of 4- and 5-inch nominal diameter, grade B, 0.312-inch wall thickness, seamless pipe manufactured by National Tube.
- The maximum operating pressure (MOP) of the affected segment is 2340 pounds per square inch gauge (psig). At the time of the failure, the pressure at the Maytown Station was 1260 psig and the pressure at the failure site is yet to be determined.
 - The affected segment was hydrostatically tested in 1957 to a pressure of 2925 psig, according to Respondent. Records supporting the 1957 test could not be located.
- The pipeline has not been subject to internal inspection. However, Respondent has indicated its intent to perform internal inspections on the pipeline.

- In 2002, Respondent conducted an electrical survey on the pipeline at five-foot intervals using a cell-to-cell process with the pipe connected.
- Respondent has informed OPS inspectors of 13 previous leaks that were identified on the pipeline. Eleven of these leaks were confirmed to be caused by corrosion.

Determination of Necessity for Corrective Action Order and Right to Hearing

Section 601 12 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 601 12 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 the continued operation of the affected segment without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the age of the pipe, the proximity of the pipeline to highways, drinking water sources, and populated areas, the combustible nature of the products the pipeline transports, the pressure required for transporting the material, the history of leaks attributed to corrosion on the pipeline, and the ongoing investigation to determine the cause of the failure, I find that a failure to expeditiously issue this Order requiring immediate corrective action would likely result in 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, delivered personally, by mail or by telecopy at (202) 366-4566. The hearing will be held in Atlanta, Georgia 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 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 MarkWest Hydrocarbon, Inc. to immediately take the following corrective actions with respect to the Maytown Station to Ranger Junction segment of Respondent's Appalachian Liquid Pipeline System:

1. Conduct metallurgical testing of the failed pipe sections.
 - A. Provide to the Director, Southern Region, OPS for approval the protocol to be employed to test the failed pipe sections.
 - B. Ensure that the laboratory distributes all resulting metallurgical reports, whether draft or final, to OPS at the same time as they are made available to Respondent.
2. As soon as practicable, but not later than 30 days after receipt of this Order, establish an immediate action plan and submit the plan to the Director, Southern Region, OPS for approval. The plan must include:
 - A. Procedures for completion, within 120 days of receipt of this Order, of hydrostatic pressure testing of the affected segment to 125 percent (**125%**) of the existing MOP, in accordance with the pressure testing requirements of Part **195**.
 - B. A written return-to-service plan. The plan must provide for an incremental start-up and must include sufficient pressure monitoring, leak patrolling, and surveillance to ensure that no leaks are present when operation of the line is resumed.
 - C. Procedures for leak detection. Respondent must utilize a tracer chemical during any hydrostatic pressure testing or conduct an instrumented leak survey as **part** of the return-to-service plan.
 - D. A plan for conducting a close-interval electrical survey on the affected segment to be completed within **180** days of receipt of this Order.
 - E. Public education program and liaison procedures.
 - i. Review the existing public education program to ensure compliance with the requirements of **49 C.F.R. § 195.440**. If revisions to the public education program are warranted, submit brochures, articles, or other materials to be used in conjunction with the public education program to the Director, Southern Region, OPS along with the revisions to the public education program.
 - ii. Identify any action or series of actions to be undertaken that may require rapid decision-making by the responsible authorities at the community level to protect the public safety such as through evacuations, road closings, or notifications of police,

fire, or other emergency responders (such actions would include, but are not limited to, line restarts, pressure testing, purging, and significant excavation activities). Document your procedures for communicating timely notice of such actions to federal, state, and local officials and for maintaining liaison to coordinate pre-planned and actual response activities with the appropriate officials.

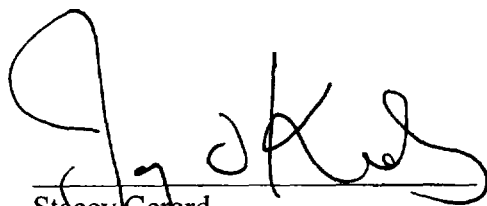
3. Once the pipeline is restarted in accordance with Item 2.B, the operating pressure on the affected segment is not to exceed 80 percent (80%) of the actual operating pressure in effect at the failure site just prior to the November 8, 2004 failure. This pressure restriction will remain in effect until written approval to increase the pressure or return the pipeline to its pre-failure operating pressure is obtained from the Director, Southern Region, OPS. If the results of any action undertaken pursuant to this Order dictate a reduction in the allowable operating pressure below that imposed by this Order, Respondent must further reduce the operating pressure accordingly.
4. Within 60 days of receipt of this Order, develop and submit a written plan with corrective measures for prior approval by the Director, Southern Region, OPS. The plan must fully address all known or suspected factors that caused or contributed to the November 8, 2004 failure and must include:
 - A. The integration of the information developed from the actions required by Items 1 and 2, along with any relevant information from previous failure investigations, leak history, repair records, corrosion control records, in-line inspections, hydrostatic testing, changes in pressure cycling, and other relevant operating data for the purpose of performing a comprehensive analysis of all factors that caused or contributed to the failure;
 - B. The performance of appropriate field testing, inspections, and evaluations to determine whether and to what extent the condition(s) associated with the failure, or other integrity threatening trends, are present along the remainder of the affected segment or elsewhere on any portion of the Appalachian Liquid Pipeline System constructed with similar methods and material as the affected segment. Include a description of the tools and methods to be used in any field evaluations and the criteria to be used for the prioritization of any integrity threats that are identified. Make the results of any field evaluations available to OPS or its representative;
 - C. The performance of appropriate repairs, pipe replacement, or other corrective measures fully remediating the integrity threatening condition(s) associated with the failure everywhere along the pipeline where such conditions are identified by the evaluation process. Include a description of the repair method(s) to be used in undertaking any repairs or other remedial actions; and
 - D. A proposed schedule for completion of the testing, repairs, and/or pipe replacement.

5. Submit the plan to: Director, Southern Region, Office of Pipeline Safety, 233 Peachtree Street, Suite 600, Atlanta, Georgia 30303. The plan must be revised as necessary to incorporate new information obtained during the failure investigation and remedial activities undertaken pursuant to this Order. Submit any such plan revisions to the Director for prior approval. The Director may approve plan elements incrementally.
6. Implement the plan as it is approved, including any revisions to the plan.
7. The Director, Southern Region, OPS may allow the removal or modification of the pressure restriction set forth in Item 3 upon a written request from Respondent demonstrating that the hazard has been abated and that restoring the pipeline 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.
8. The Director, Southern 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 pipeline under 49 C.F.R. Part 195, including the integrity management program regulations.

Respondent may appeal any decision of the Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.

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 18 2004

Date Issued