



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

OCT 20 2003

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OFFICE OF PIPELINE SAFETY

Mr. Jeffrey L. Barger
Vice President, Pipeline Operations
Dominion Transmission, Inc.
445 West Main Street
Clarksburg, WV 26301

Re: CPF No. 1-2003-1007-H

Dear Mr. Barger:

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
Dominion Transmission, Inc.,
Respondent.

CPF No. 1-2003-1007-H

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require Dominion Transmission, Inc. (Respondent) to take the necessary corrective action to protect the public and environment from potential hazards associated with Respondent's Harrison Storage Field in Potter County, Pennsylvania. Pursuant to 49 U.S.C. § 60117, the Eastern Region, Office of Pipeline Safety (OPS), initiated an investigation of the failure.

Preliminary Findings

- About 2:22 p.m. on October 10, 2003, a failure occurred in Respondent's HP 20 6-inch Line to Well H W7 within the Harrison Storage Field in Potter County, Pennsylvania.
- The failure resulted in a release of natural gas and a fire. A trailer, car, and garage were damaged. Residents were not at home. There were no deaths or injuries.
- Following the failure, Respondent isolated the HP 20 6-inch Line by closing valves. Respondent cut out a 2-3 foot segment of pipeline that contained the failed pipe and sent the segment to Kiefner & Associates Inc. for metallurgical analysis. Respondent took the HP 20 6-inch Line out of service and indicated that it intends to replace the line.
- The failure was a full circumferential rupture. Respondent indicated to OPS staff that it suspected corrosion (internal or external) as the probable cause. Photographs of the failed segment indicate some corrosion pitting and discoloration on the inside of the pipe that could be indicative of internal corrosion. The metallurgical report should indicate the cause.

- The maximum allowable operating pressure (MAOP) of the storage field is 2200 psig (about 56% of the specified minimum yield strength), which was established based on the highest actual operating pressure. The HP 20 6-inch Line was operating at 2124 psig at the time of failure.
- The Harrison Storage Field is composed of three mainlines and forty-three well lines, including the HP 20 6-inch Line. A single compressor station is used for moving gas throughout the storage field.
- At the time of failure, Respondent was injecting gas into the storage pool of the Harrison Storage Field. It is estimated to be about 95 % full. Because of the amount of gas already in storage, the injection operation requires virtually full MAOP.
- The Harrison Storage Field is in a rural area, likely Class 1. However, Respondent indicates that there are about 15 houses near the field. Although the actual proximity of the houses is not known, the damaged trailer was about 300 feet from the rupture.
- Based on the information available at this time, the HP 20 6-inch Line is made of seamless pipe of 0.312" wall thickness, pipe grade X-42, of unknown manufacturer. The line was installed in 1955 and is bare. It contains about 937 feet of pipe.
- There was a corrosion leak on another 6-inch well line within the Harrison Storage Field in August 1995. The cause was external corrosion that resulted from third party damage to the pipeline.
- There was an internal corrosion leak in a drip on an 8-inch well line within the Harrison Storage Field in August 2000. Respondent has a four-year drip removal program that will be completed next year. Eighteen drips have been removed so far.
- The well pipelines in the Harrison Storage Field have never been pressure tested or internally inspected using an instrumented device. A large part, if not all, of the lines are bare. They are cathodically protected by impressed current. A close interval survey was done in September 2002. The report sent to Respondent in February 2003, did not indicate any deficiencies in HP 20 6-inch Line at the site of the failure. However, as a result of the survey, Respondent installed an additional 22 anodes on the well pipelines to support the cathodic protection system.

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, provides 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 the Harrison Storage Field without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the evidence of corrosion in the well lines, the proximity of the pipeline to people, the characteristics of natural gas, and the high pressures required in the field, 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 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 Respondent to immediately take the following corrective actions with respect to its Harrison Storage Field:


1. Suspend the injection operation in the storage field. As gas is withdrawn from the field and the pressure required to inject additional gas decreases, Respondent may ask to resume injection at a pressure not to exceed 80 % of the operating pressure at the time of failure. Upon confirming that Respondent is complying with other requirements of this order, the Regional Director, Eastern Region, OPS, shall grant such a request. In addition, Respondent may request, and the Regional Director grant, authority to operate at pressures that exceed 80 % of the failure pressure upon a showing that the corrective action required by this order has been substantially completed, or, that completion of the corrective action is not needed to ensure safety at the higher pressure.

2. Conduct a detailed metallurgical analysis of the pipe that failed on October 10, 2003 to determine the cause and contributing factors. Submit a copy of the report of this analysis to the Regional Director, Eastern Region, OPS, within one week of your receipt of the report. ✓
3. Do not operate the HP 20 6-inch Line to Well HW 7 until doing the following:
 - a. Replace the pipe; or
 - b. Examine the pipe adjacent to the failure for any signs of corrosion, wall thinning, or dents or gouges that could result in corrosion and take appropriate remedial action.
4. Identify all locations where people reside, work, or congregate in the vicinity of the well lines within the Harrison Storage Field. Identify the thermal radiation protection zone for each of these locations. For each of these identified zones, do the following:
 - a. Review the cathodic protection system to determine whether it is adequate to protect pipe that could affect the zone. Take into account the results of the 2002-close interval survey, cathodic protection readings, and rectifier size.
 - b. If the review indicates questions about the adequacy of the cathodic protection system, excavate the pipe and examine it for evidence of corrosion.
 - c. Take appropriate remedial action including improvements to the cathodic protection system or pipe replacement, if needed.
5. If the metallurgical analysis indicates that external corrosion was a factor in the failure, review the report on the 2002-close interval survey and determine why active corrosion was not identified at the failure site.
6. Within 60 days of receipt of the metallurgical analysis required by item 2, submit a written plan to address the factors identified as causing or contributing to the failure with respect to the well lines within the Harrison Storage Field:
 - a. This plan must include any evaluation, testing, repairs, or other remedial action necessary to verify the integrity of the segment as well as a schedule for completion of these actions.
 - b. If external corrosion is a factor, include a program for internal inspection to identify dents, gouges, and grooves and metal loss.
 - c. To the extent a well line is not "piggable", include alternative means such as pressure testing or direct assessment.
 - d. If internal corrosion is a factor, include a schedule to expedite the removal of drips that could affect the zones identified in item 4.

- e. If internal corrosion is a factor, determine the causal factors of the internal corrosion, include a methodology to identify other areas in the which those causal factors may be present, and include a program for addressing the risk of internal corrosion in those areas.
- 7. Implement the plan required by item 6 after approval by the Regional Director. The Regional Director may approve the plan incrementally.
- 8. In order to allow OPS the opportunity to monitor the work, notify the Regional Director in advance of any excavations or pipe repairs or replacement required under this order.

The Regional Director may, in writing, grant an extension of time for compliance with any of the terms of this order for good cause. The request for an extension must be in writing. Decisions of the Regional Director may be appealed to the Associate Administrator for Pipeline Safety.

Failure to comply with this Order may result in the administrative 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

OCT 20 2003

Date Issued