



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

DEC 18 2003

Mr. Randy Barnard
Vice President of Operations
Williams Gas Pipeline - Northwest
2800 Post Oak Boulevard
MD - 21
Houston, TX 77056

Re: CPF No. 5-2003-1003-H

Dear Mr. Barnard:

Enclosed is an Amendment to the Corrective Action Order issued by the Associate Administrator for Pipeline Safety in the above-referenced case. It requires you to take additional corrective actions with respect to your 26-inch line in Western Washington and to evaluate your 30-inch parallel line, the 26-inch line from the Washougal Compressor Station east to the Goldendale Compressor station, and all transmission lines from the Washougal Compressor Station south to Grants Pass, Oregon, for similar safety concerns. Service is being made by certified mail and facsimile. Your receipt of this Amendment constitutes service of that document under 49 C.F.R. § 190.5. The terms and conditions of this Amendment to the 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
WASHINGTON, DC 20590**

In the Matter of

Williams Gas Pipeline - Northwest,

Respondent.

CPF No. 5-2003-1003-H

AMENDMENT TO THE CORRECTIVE ACTION ORDER

Purpose and Background

On May 2, 2003, the Associate Administrator for Pipeline Safety issued a Corrective Action Order (May 2 Order) in this case, under authority of 49 U.S.C. § 60112, finding that continued operation by Williams Gas Pipeline - Northwest (Respondent) of its 26-inch natural gas pipeline in western Washington State would be hazardous to the public, property, and the environment without corrective measures.

The May 2 Order was issued as a result of the May 1, 2003 rupture of the line at mile post 1352.7 near Lake Tapps in Pierce County, Washington. The May 2 Order restricted operating pressure on the line and required Respondent to conduct a metallurgical analysis of the May 1, 2003 failure, to re-evaluate in-line inspection surveys, to do a geotechnical evaluation of the area, and to take appropriate remedial action.

On December 13, 2003, the line ruptured again. This time the failure occurred near Toledo, Lewis County, Washington.

Pursuant to 49 U.S.C. § 60117, the Western Region, Office of Pipeline Safety (OPS) initiated an investigation of the incident. The Washington Utilities and Transportation Commission (WUTC), which, as an interstate agent, inspects the line for compliance with pipeline safety regulations, is participating in the investigation.

Additional Preliminary Findings

- On the morning of December 13, 2003, a rupture occurred on Respondent's 26-inch gas transmission pipeline at Mile Post 1281.5, approximately 7 miles south of the Chchalis compressor station in Lewis County, Washington. After confirming that the pressure drop that had been detected was indeed a failure, Respondent reported the failure to the National Response Center at approximately 11:15 A.M. EST.

- The failure resulted in the release of gas for at least three hours. There was no ignition and no fatalities or injuries. The residents of 4 of the 12 homes in the vicinity evacuated voluntarily.
- The line is located in primarily rural locations. However, the line is in close proximity to population where the line passes through the Seattle area, Whatcom County, as well as other communities. There were houses within 250 yards of the failure site as well as a road crossing approximately 30 feet away.
- The maximum allowable operating pressure (MAOP) had been reduced by 20 percent by the May 2 Order.
- Visual examination of the failed section revealed a dark stain at the edge of the rupture area which is indicative of corrosion. Field examination revealed signs of moisture between the 1957 vintage tar coating and the pipe wall and indications of surface corrosion and pitting. Visual examination also revealed significant longitudinal cracking of the pipe body that appears to be stress corrosion cracking (SCC).
- The May 2 Order required a metallurgical analysis of the May 1, 2003 failure. The analysis, performed by an independent laboratory, found that the cause was stress corrosion cracking (SCC). The May 2 Order also required a geotechnical evaluation. This evaluation, performed by an independent consultant, indicated that land movement, originally thought to be a factor, was not the cause.
- According to a November 1992 metallurgical report by an independent third party, the failure that occurred on the line approximately 7 miles south of Snohomish during hydrotesting was caused by stress corrosion cracking.
- An April 23, 1999 metallurgical report by an independent third party consultant indicated that stress corrosion cracking was involved in a leak that occurred near M.P. 1255.5 in March 1999.
- In addition to the failures on the line within the State of Washington, there were 22 failures due to SCC experienced during hydrostatic testing of a 16-inch lateral between June and August 1994 between Mile Posts 21 and 26 near Oregon City, Oregon.
- On October 1, 2003, OPS issued an advisory bulletin to owners and operators of gas and hazardous liquid pipelines advising them to assess their pipelines for susceptibility to SCC. The bulletin contains detailed instructions on identifying and addressing the SCC threat. The advisory bulletin has been posted on the OPS website at <http://ops.dot.gov>. Factors that can play a role in SCC include the operating pressures, imposed loads placed on pipeline due to stress, the acidity of the soil, and coal tar coating. These are factors found on this 26-inch line.

- Respondent operates a 30-inch pipeline parallel to the 26-inch line that is the subject of the May 2 Order. This line is of newer construction and does not have the failure history of the 26-inch line. However, it is subject to the same land movements and soil conditions, and has coal tar coating.

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 preliminary findings of fact, I continue to find that the operation of Respondent's 26-inch line between the Sumas station near the Canadian border and the Washougal station near the Columbia River (Sumas-Washougal 26-inch line), without corrective measures would be hazardous to life, property and the environment and that additional measures are required. Additionally, after considering the age of the pipe, the population near the pipeline in western Washington state, the excessive land movements in the area, the prior history of the pipeline, the May 1, 2003 accident attributed to stress corrosion cracking, the possibility that the December 13, 2003 accident was also caused by stress corrosion cracking, and the fact that a second accident occurred under the reduced operating pressure, I find that a failure to expeditiously issue this Amendment, requiring immediate corrective action, would likely result in serious harm to life, property, and the environment.

Accordingly, this Amendment mandating needed immediate corrective action is issued without prior notice and opportunity for a hearing. The terms and conditions of this Amendment are effective upon receipt.

Within 10 days of receipt of this Amendment, 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 Lakewood, Colorado 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 further amendment of the May 2 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 additional corrective actions

With respect to the Sumas-Washougal 26-inch line:

1. *Additional pressure restriction.* Immediately reduce operating pressure on the line and allow depletion of the product to achieve a reduced pressure of 100 psi **within 30 days** of issuance of this Amendment. Once the reduced pressure of 100 psi has been achieved, the line may be operated at a maximum pressure of 110 psi as needed to maintain a minimal line pack on the system.
2. *Metallurgical analysis.* Conduct a detailed metallurgical analysis of the pipeline that failed on December 13, 2003 to determine the cause of failure and contributing factors. Submit an original copy of the report of this analysis to the Director, Western Region, OPS, within one week of your receipt of the report.
3. *Integrity management.* Finalize an integrity management program that conforms to the requirements for integrity management programs published on December 15, 2003 (new subpart O to 49 C.F.R. Part 192) on an expedited basis. The program must address the factors involved in the failures on the line that have occurred since 1990, including stress corrosion cracking and land movement, as risks. Submit this program **within 90 days** of issuance of this Amendment for approval by the Director, Western Region.
4. *Replacement program.* **Within 120 days** of issuance of this Amendment, develop a plan for replacement of pipe in those segments for which Respondent intends to seek removal of pressure restrictions as provided for in item 5 below. The plan must provide that:
 - i. A segment in a high consequence area, as defined in the natural gas integrity management rule published on December 15, 2003, which is to be replaced, must be replaced on a priority basis **within three years** of issuance of this Amendment.
 - ii. A segment in a class 2 area must be replaced within five years of the issuance of this Amendment.

- iii. All other segments to be replaced must be replaced **within ten years** of issuance of this Amendment.
 - iv. To the extent that pressure restrictions have been lifted on a segment in accordance with item 5, retesting prescribed in item 5 must continue until replacement.
 - v. Provided that there are no indications of SCC, segments that contain pipe with well-bonded coating and material toughness that meet standards for pipelines constructed after 1970 need not be replaced.
5. *Removal of pressure restrictions.* The Director, Western Region, may authorize removal of the pressure restrictions in this corrective action order, as amended, upon request by Respondent. Support a request for removal of the pressure restrictions on a segment by demonstrating the following:
- i. The successful completion of either hydrostatic test or internal inspection of the segment in accordance with requirements provided below and the establishment of an approved retest interval for the segment that does not exceed 3 years; or
 - ii. There is evidence that the pipe in the segment is not prone to SCC. This includes evidence that the pipe has been replaced since original construction with pipe meeting standards for toughness and coating acceptable for pipeline constructed since 1970 and has not shown indications of SCC.
 - iii. Successful completion of hydrostatic testing must include a “spike test”; that is, a test conducted at 110 percent of the specified minimum yield strength of the weakest pipe in the test section for a period of 1 hour. The spike test must be followed by a test at a minimum of 90 percent of the specified minimum yield strength for eight hours. Each failure must be metallurgically tested to identify cause and failed pipe must be replaced with pretested pipe.
 - iv. Successful completion of internal inspection must include:
 - Use of a tool that is at least capable of reliably detecting SCC. Tool capability must be validated. Validation is done through hydrostatic testing of one statistically representative section without failure during the test. This hydrostatic test is done after the tool has been run and all identified SCC anomalies in the section have been addressed.
 - Direct evaluation and repair or replacement of any identified SCC that could fail before the middle of the next test cycle.
 - Following written procedures approved by the Director, Western Region, that include fitness for service criteria for identifying, prioritizing, and correcting defects.


6. *Other exceptions from replacement.* At any time, Respondent may present evidence that a segment of pipe that this Amendment requires to be replaced is not susceptible to SCC and request that the Deputy Associate Administrator, OPS, grant an exception to replacement. For example, Respondent may present evidence that a segment has been both hydrostatically tested without failure due to SCC and internally inspected without identification of SCC. The decision of the Deputy Associate Administrator granting or denying the request must be in writing.
7. *Advance notification of activities.* Provide the Regional Director, Western Region, at least 5 working days advance notice of the schedules for any testing, inspection, excavation, repair, or replacement done under the corrective action order, as amended. The purpose of this is to allow the Regional Director the opportunity to arrange for a Federal or State representative to witness the activity.

With respect to the parallel 30-inch line within the State of Washington, the 26-inch line from the Washougal Compressor Station east to the Goldendale Compressor Station, and all the transmission lines from the Washougal Compressor Station south to Grants Pass, Oregon:

8. Evaluate the lines for susceptibility to SCC based on data available and risk factors. Provide a report to the Director, Western Region, **within 180 days** of issuance of this Amendment on the findings and any programs Respondent is undertaking to address the findings.
9. Monthly Progress Reports on the status of the evaluations required in Item 8 must be submitted to the Director, Western Region.

Except for a request for a replacement exception (Item 6), the Director, Western Region, may extend the time for the conduct of any item in this order, as amended. Respondent may appeal any decision of the Director, Western Region, OPS, or of the Deputy Associate Administrator, OPS, to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator are final.

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

DEC 18 2003

Date Issued