



U.S. Department
of Transportation

Pipeline and Hazardous Materials
Safety Administration

1200 New Jersey Ave., SE
Washington, DC 20590

SEP 16 2011

VIA CERTIFIED MAIL [7005 1160 0001 0075 9957] AND FACSIMILE TO: (918) 574-7421

Mr. Michael Pearson
Vice President - Technical Services
Magellan Ammonia Pipeline, LP
One Williams Center
Mail Drop 27
Tulsa, Oklahoma 74172

Re: CPF No. 3-2011-5010H

Dear Mr. Pearson:

Enclosed please find a Corrective Action Order issued in the above-referenced case. It requires Magellan Ammonia Pipeline, LP, to take certain corrective actions with respect to its pipeline located in the same right-of-way as that of an Enterprise Products Operating, LLC pipeline that failed on August 13, 2011. Service of this Order by electronic transmission is effective upon transmission, in accordance with 49 C.F.R. § 190.5.

Sincerely,

Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

Enclosure: 49 C.F.R. § 190.233

cc: Mr. David Barrett, Director, Central Region, PHMSA
Mr. Alan Mayberry, Deputy Associate Administrator for Field Operations, Pipeline Safety

**U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
OFFICE OF PIPELINE SAFETY
WASHINGTON, DC 20590**

In the Matter of)
)
Magellan Ammonia Pipeline, LP,)
)
Respondent.)
_____)

CPF No. 3-2011-5010H

CORRECTIVE ACTION ORDER

Background and Purpose

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require Magellan Ammonia Pipeline, LP (Magellan or Respondent), to take necessary corrective actions to protect the public, property, and the environment from potential hazards associated with its pipeline located in the same right-of-way as that of an Enterprise Products Operating, LLC (Enterprise) pipeline that failed on August 13, 2011.

On August 13, 2011, a failure occurred on a hazardous liquids pipeline in the vicinity of Magellan's 8-inch anhydrous ammonia pipeline (Green Line) that crosses underneath the Missouri River approximately 8 miles west of Onawa, Iowa, in Monona County (Failure). The Failure occurred on Enterprise's 8-inch West Leg Red pipeline (Red Line), which is located in a common right-of-way (ROW) with Respondent's Green Line. These two pipelines in the ROW, plus Enterprise's West Leg Blue pipeline (Blue Line), all remain shut down following the Failure. The cause of the Failure is unknown. Pursuant to 49 U.S.C. § 60117, the Pipeline and Hazardous Materials Safety Administration (PHMSA) has initiated an investigation of the Failure.

On August 19, 2011, PHMSA issued a Notice of Proposed Corrective Action Order to Magellan, in accordance with 49 U.S.C. § 60112, notifying Respondent of the preliminary findings of the investigation, and proposing that the company take certain corrective measures with respect to the Green Line, to protect the public, property, and the environment from potential hazards associated with the pipeline. By letter dated September 6, 2011, Magellan responded to the Notice, waiving its right to a hearing and agreeing to comply with the proposed corrective actions. Therefore, the preliminary findings as set forth in the Notice are as follows:

Preliminary Findings

- Magellan's anhydrous ammonia pipeline system is approximately 1,090 miles in length. This system delivers anhydrous ammonia from production facilities in Oklahoma and Texas to terminals in the Midwest, and terminates near Mankato, Minnesota.
- Magellan's Green Line is in a common ROW with Enterprise's Red Line (Red Line). A release from the Red Line occurred at approximately 1:57 a.m. CDT, on August 13, 2011. The Failure was approximately eight miles west of Onawa, Iowa, in Monona County.
- The Failure was reported to the National Response Center at 4:23 a.m. CDT on August 13, 2011 (NRC Report No. 985803). Enterprise updated the initial report to the National Response Center at 8:14 a.m. CDT (Report No. 985813) on August 13, 2011.
- Following receipt of the NRC notice by Enterprise on August 13, 2011, PHMSA Central Region communicated to Magellan personnel that a sudden pressure drop was noted on the Red Line, and per PHMSA's information, that Magellan's Green Line was located in close proximity to the failed line.
- In response to PHMSA's notification, Magellan's Control Center in Tulsa, Oklahoma, shut down the Green Line on August 13, 2011 at 6:45 a.m.

PHMSA issued a Corrective Action Order to Enterprise on August 19, 2011, requiring certain corrective actions on Enterprise's Red and Blue Lines crossing the Missouri River between Decatur, Nebraska, and Onawa, Iowa.

- No fires, injuries, fatalities, or evacuations were reported in connection with the Failure. The Missouri River at the crossing of Enterprise's and Magellan's pipelines between Decatur, Nebraska, and Onawa, Iowa, has experienced ongoing flood conditions. The toll bridge across the Missouri River had been closed previously due to flooding.
- The cause of the Failure is unknown and the investigation is ongoing. Due to flooding conditions on the Missouri River, visual observation of the failure section was not possible.
- A sonar survey of the flooded river after the Failure indicated washout areas exposed the Green Line close to Highway 175 near Onawa, Iowa. Therefore, the Green Line faces a heightened risk of suffering the same type of failure as the one already experienced on Enterprise's Red Line.
- There are Green Line block valve sites on either side of the Missouri River near the Decatur, Nebraska Milepost (MP) 269 and near Onawa, Iowa, at MP 271. This portion of the Green Line between MP 269 and MP 271 (Affected Pipeline) remains shutdown.
- The segment of the Green Line that crosses the Missouri River traverses from Conway, Kansas, to Whiting, Iowa. Product originates at Conway into this segment from the

Magellan South Leg. Delivery points on this segment of the system are located at Conway, Clay Center, Beatrice, Greenwood, Blair, and Whiting. Pump stations and terminals are located as follows: Conway Station MP 0; Abilene Station MP 52.4; Clay Center MP 87.5; Linn Station MP 98.4; Beatrice Station MP 147.1; Greenwood Terminal MP 194.9; Herman Station MP 247; and Whiting Station MP 280.8. An 11.6-mile lateral running to Blair, Nebraska, is also located on this segment. The total length of the Green Line segment from Conway to Whiting is 280.8 miles, excluding the Blair Lateral.

- Respondent's Green Line and Enterprise's Red and Blue Lines are parallel lines that run beneath the Missouri River approximately 270 pipeline miles from Conway, KS.
- The Affected Pipeline in the area of the Failure consists of 8-inch diameter, 0.277 inch wall thickness, Grade X-42 line pipe manufactured by Lone Star Steel in 1992. The pipe is coated with fusion bonded epoxy, and cathodic protection is provided by impressed current.
- According to Magellan, the established maximum operating pressure of the Green Line at the Missouri River crossing is 1198 psig. Respondent has calculated that the actual operating pressure at the time of shut down on August 13, 2011, was 598 psig.
- The Green Line was most recently hydrostatically tested with water in October 2010. The test pressure was 1520 psig for 8 hours, including a spike test to 1673 psig.
- There were two previous failures on the Green Line, one in 2004 and one in 2006, for which PHMSA issued the following Corrective Action Orders to the previous operator:
 - 1) CPF No. 3-2004-5032H following a failure near Kingman, KS; and
 - 2) CPF No. 3-2006-5044H following a failure near Clay Center, KS.
- A third significant failure on this line occurred near Pawnee, Oklahoma, on January 10, 2010.
- Respondent has reported that an inline inspection of the Affected Pipeline was performed in 2006 using geometry and magnetic flux leakage (MFL) technology.
- The Affected Pipeline impacts one or more "High Consequence Areas" as defined under 49 C.F.R. 195.450, and the site of the exposed pipeline along the Missouri River is located adjacent to State Route 175 in Monona County, Iowa.
- OPS issued Advisory Bulletin ADB-11-04 in the Federal Register on July 27, 2011, entitled "Potential for Damage to Pipeline Facilities Caused by Flooding," cautioning operators to take appropriate action to minimize the risk of damage to pipelines due to flooding. The Advisory was also posted on PHMSA's website:

<http://phmsa.dot.gov/staticfiles/PHMSA/WebArticles/Pipeline%20topics/Advisory%20Bulletins/Flooding%20Advisory.pdf>

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, and may require various corrective actions to be taken, including 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 notice and an opportunity for a 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 Affected Pipeline without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the age of the pipe, the unknown circumstances surrounding the Failure, the proximity of the Affected Pipeline to the failed Red Line, populated areas, public roadways, navigable waterways and High Consequence Areas, the hazardous nature of the product transported, the pressure required for transporting such product, the uncertainties as to the cause of the Failure and the ongoing investigation to determine the cause of the Failure, I find that a failure to issue this order expeditiously to require immediate corrective action would result in likely serious harm to life, property, and the environment. The terms and conditions of this order are effective upon receipt.

After receiving and analyzing additional data in the course of this investigation, PHMSA may identify other corrective 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 Magellan to immediately take the following corrective actions with respect to the Affected Pipeline:

1. Magellan's Green Line crossing the Missouri River is to remain shut down between MP 269 near Decatur, Nebraska, and MP 271 near Onawa, Iowa.
2. Within 30 days following service of this Order, and prior to restart of the Affected Pipeline, develop and submit a written "Repair Plan" (Repair Plan) for approval to the Director, Central Region, OPS (Director), Pipeline and Hazardous Materials Safety Administration, 901 Locust Street, Suite 462, Kansas City, MO 64106-2641. The terms of that Repair Plan, at a minimum, must include the following provisions:

- a. Any testing, assessments, or evaluations necessary to understand the condition of the Affected Pipeline in the area of the pipeline crossing of the Missouri River between Decatur, Nebraska, and Onawa, Iowa, affected by flooding, and submit a written report of findings;
 - b. Replacement, if appropriate, of the Affected Pipeline crossing the Missouri River between Decatur, Nebraska, and Onawa, Iowa, to fully remediate any risks identified by evaluations required by Item 2(a);
 - c. The design basis for the replacement of the pipeline, including but not limited to; anticipated internal and external loads, pipeline operating conditions, and anticipated Missouri River flooding conditions impacting the replaced crossing; and
 - d. Relocation of block valve sites and/or additional protective measures to existing block valve sites, as necessary, to maintain continuous remote control operation of the valves in the event of flooding.
3. Within 30 days following service of this Order, develop and submit to the Director for prior approval a written “Restart Plan” (Restart Plan) for the Green Line. The terms of the Restart Plan must, at a minimum, include the following provisions:
 - a. A specific daylight restart;
 - b. Aerial patrolling of the Green Line during the restart process;
 - c. Advance communications with local emergency response officials; and,
 - d. A contingency plan to operate and monitor the Green Line during flooding conditions, including enhanced patrolling and remote monitoring.
4. Within 90 days following service of this Order, submit to the Director a “Root Cause Analysis” (RCA) for the washout and exposure of the Affected Pipeline. Magellan must take the following actions:
 - a. Submit a proposal, for the Director’s prior approval, to utilize a third party to perform and/or facilitate the RCA;
 - b. Evaluate the 1992 crossing design and any assumptions utilized in developing the design, and the actions taken by Magellan since the advent of the 2011 flooding to reduce the risk of scouring and possible failure of the Green Line;
 - c. Include the following elements in the RCA: a scoping document for the RCA; procedures associated with the RCA; multiple methods used for the RCA analysis and updates on each method as it progresses; documentation of the decision-making process; and a final report of the RCA results, including any lessons learned and whether the findings are applicable to other segments, processes, or programs across Magellan’s pipeline system; and
 - d. Develop and submit a plan with identified timelines to apply the lessons learned to other segments, processes or programs across the Respondent’s pipeline system.
5. The Repair Plan shall be incorporated into this Order and be revised as necessary to incorporate the results of actions undertaken pursuant to this Order and whenever necessary to incorporate new information obtained during the investigation and remedial

activities. Submit any such plan revisions to the Director for prior approval. The Director may approve plan elements incrementally.

6. Implement the Repair Plan as approved by the Director, including any revisions to the plan. Any actions taken by Magellan to meet the requirements of the Repair Plan must be in accordance with the terms of such plan, as approved by the Director, unless the actions have prior written approval from the Director before the actions are initiated. Make the results of all actions taken in accordance with the approved plan available to PHMSA or its representative.
7. Submit monthly reports to the Director that: (1) include available data and results of the testing and evaluations required by this Order; and (2) describe the progress of the repairs and other remedial actions being undertaken. The first monthly report shall be due September 30, 2011.
8. It is requested that Magellan maintain documentation of the costs associated with implementation of this Corrective Action Order. It is requested that Magellan include in each monthly report submitted pursuant to Item 7 the to-date total costs associated with: (1) preparation and revision of procedures, studies and analyses; (2) physical changes to pipeline infrastructure, including repairs, replacements and other modifications; and (3) environmental remediation.

The Director may grant an extension of time for compliance with any of the terms of this Order upon a written request timely submitted demonstrating good cause for an extension.

With respect to each submission that under this Order requires the approval of the Director, the Director may: (a) approve, in whole or part, the submission; (b) approve the submission on specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove in whole or in part, the submission, directing that Respondent modify the submission; or (e) any combination of the above. In the event of approval, approval upon conditions, or modification by the Director, Respondent shall proceed to take all action required by the submission as approved or modified by the Director. In the event that the Director disapproves all or any portion of the submission, Respondent shall correct all deficiencies within the time specified by the Director, and resubmit it for approval. In the event that a resubmitted item is disapproved in whole or in part, the Director may again require Magellan to correct the deficiencies in accordance with the foregoing procedure, and/or the Director may otherwise proceed to enforce the terms of this Order.

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

Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

In your correspondence on this matter, please refer to "CPF No. 3-2011-5010H" and for each document you submit, please provide a copy in electronic format whenever possible.

The actions required by this Corrective Action Order are in addition to and do not waive any requirements that apply to Respondent's pipeline system under 49 C.F.R. Parts 190 through 199, under any other order issued to Respondent under authority of 49 U.S.C. Chapter 601, or under any other provision of Federal or State law.

Failure to comply with this Order may result in the assessment of civil penalties and in referral to the Attorney General for appropriate relief in United States District Court pursuant to 49 U.S.C. § 60120.

The terms and conditions of this Corrective Action Order are effective upon service in accordance with 49 C.F.R. § 190.5.



Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

SEP 16 2011

Date Issued

practicable after the issuance of a compliance order. The provisions of paragraph (c)(2) of this section apply to an owner or operator's decision to exercise its opportunity for a hearing. The purpose of such a post-order hearing is for the Associate Administrator, OPS to determine whether a compliance order should remain in effect or be rescinded or suspended in accord with paragraph (g) of this section.

(c) Notice and hearing:

(1) Written notice that OPS intends to issue an order under this section shall be served upon the owner or operator of an alleged hazardous facility in accordance with §190.5. The notice shall allege the existence of a hazardous facility and state the facts and circumstances supporting the issuance of a corrective action order. The notice shall also provide the owner or operator with the opportunity for a hearing and shall identify a time and location where a hearing may be held.

(2) An owner or operator that elects to exercise its opportunity for a hearing under this section must notify the Associate Administrator, OPS of that election in writing within 10 days of service of the notice provided under paragraph (c)(1) of this section, or under paragraph (b) of this section when applicable. The absence of such written notification waives an owner or operator's opportunity for a hearing and allows the Associate Administrator, OPS to issue a corrective action order in accordance with paragraphs (d) through (h) of this section.

(3) A hearing under this section shall be presided over by an attorney from the Office of Chief Counsel, Pipeline and Hazardous Materials Safety Administration, acting as Presiding Official, and conducted without strict adherence to formal rules of evidence. The Presiding Official presents the allegations contained in the notice issued under this section. The owner or operator of the alleged hazardous facility may submit any relevant information or materials, call witnesses, and present arguments on the issue of whether or not a corrective action order should be issued.

(4) Within 48 hours after conclusion of a hearing under this section, the Presiding Official shall submit a rec-

ommendation to the Associate Administrator, OPS as to whether or not a corrective action order is required. Upon receipt of the recommendation, the Associate Administrator, OPS shall proceed in accordance with paragraphs (d) through (h) of this section. If the Associate Administrator, OPS finds the facility is or would be hazardous to life, property, or the environment, the Associate Administrator, OPS shall issue a corrective action order in accordance with this section. If the Associate Administrator, OPS does not find the facility is or would be hazardous to life, property, or the environment, the Associate Administrator shall withdraw the allegation of the existence of a hazardous facility contained in the notice, and promptly notify the owner or operator in writing by service as prescribed in §190.5.

(d) The Associate Administrator, OPS may find a pipeline facility to be hazardous under paragraph (a) of this section:

(1) If under the facts and circumstances the Associate Administrator, OPS determines the particular facility is hazardous to life, property, or the environment; or

(2) If the pipeline facility or a component thereof has been constructed or operated with any equipment, material, or technique which the Associate Administrator, OPS determines is hazardous to life, property, or the environment, unless the operator involved demonstrates to the satisfaction of the Associate Administrator, OPS that, under the particular facts and circumstances involved, such equipment, material, or technique is not hazardous.

(e) In making a determination under paragraph (d) of this section, the Associate Administrator, OPS shall consider, if relevant:

(1) The characteristics of the pipe and other equipment used in the pipeline facility involved, including its age, manufacturer, physical properties (including its resistance to corrosion and deterioration), and the method of its manufacture, construction or assembly;

(2) The nature of the materials transported by such facility (including their corrosive and deteriorative qualities),