



U.S. Department
of Transportation

1200 New Jersey Avenue SE
Washington, DC 20590

**Pipeline and Hazardous
Materials Safety
Administration**

July 16, 2015

VIA CERTIFIED MAIL AND FAX TO: 713-646-4310

Mr. Troy Valenzuela
Vice President - Environmental, Health & Safety
Plains Pipeline, LP
333 Clay Street, Suite 1600
Houston, TX 77002

CPF No. 3-2015-5007H

Dear Mr. Valenzuela:

Enclosed is an Amended Corrective Action Order issued in the above-referenced case. This Order corrects one of the preliminary findings. It is corrected to read the following:

The pipeline moves crude oil from Patoka, Illinois to Wood River, Illinois. During the 24 hours prior to the Failure, the pipeline had undergone a cleaning-pig run. The pipeline was operating at the time of the leak and was delivering crude oil to Wood River.

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 Order are effective upon receipt.

Please direct any questions on this matter to Allan Beshore, Region Director, Central Region, OPS, at (816)329-3811.

Sincerely,

Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

Enclosure: Corrective Action Order and Copy of 49 C.F.R. § 190.233

cc: Ms. Linda Daugherty, Deputy Associate Administrator for Field Operations, OPS
Mr. Allan Beshore, Region Director, OPS
Mr. Greg L. Armstrong, President and CEO, Plains Pipeline, LP

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

In the Matter of)

Plains Pipeline, LP,)

Respondent.)

CPF No. 3-2015-5007H

AMENDED CORRECTIVE ACTION ORDER

Purpose and Background:

This Corrective Action Order (Order) is being issued, under authority of 49 U.S.C. § 60112, to require Plains Pipeline, LP (Plains or Respondent), to take necessary corrective actions to protect the public, property, and the environment from potential hazards associated with a failure involving the Pocahontas Station (Pocahontas Station or Affected Pipeline Facility), which serves as a booster pump location for Respondent's 20-inch-diameter hazardous-liquid pipeline running from Wood River, Illinois, to Patoka, Illinois. Plains is a publicly traded master limited partnership that operates approximately 17,800 miles of crude oil and natural gas liquids pipelines and gathering systems throughout the United States.¹ This Order finds that continued operation of the Affected Pipeline Facility without corrective action would be hazardous to life, property, or the environment and requires Respondent to take immediate action to ensure its safe operation.

On July 10, 2015, in the morning hours, a failure was identified at the Pocahontas Station located in Bond County, Illinois, resulting in the release of an estimated 100 barrels of crude oil (Failure). The commodity exited the pipeline through a failed 1" fitting used to connect the pipeline to a gravitometer.

Pursuant to 49 U.S.C. § 60117, the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), initiated an investigation of the accident. The preliminary findings of the agency's ongoing investigation are as follows:

¹ <https://www.plainsallamerican.com/what-we-do/transportation> (last accessed July 14, 2015).

Preliminary Findings:

- The accident was initially reported by Plains to the National Response Center at 11:10 am CDT on July 10, 2015 (NRC Report No. 1122376), indicating the quantity released as “0 barrels” and an unknown value for volume spilled in water. This NRC report was updated on 7/12/2015 with NRC Report No. 1122561 at 1:04 pm CDT, to reflect 100 barrels as the quantity released and a “0” unknown value for the volume spilled in water.
- At approximately 07:44 am CDT on July 10, 2015, Respondent’s operations control center received a call from the public reporting a leak in the area of the Affected Pipeline Facility. The Pocahontas Station is located in a rural agricultural area, approximately 2.5 miles from the town of Pocahontas, Illinois, and six miles from the town of Highland, Illinois. The Pocahontas Station is a booster pump facility for the Capwood Pipeline and Patoka to Wood River 20” pipeline. The Failure resulted in the release of an estimated 100 barrels of crude oil. The failure occurred at Mile Post 26 in Bond County, Illinois.
- A valve closure did not occur as intended in the initial control room response (Valve 001 upstream of Pocahontas Station). The valve closure was attempted several times without success.
- In response to the public notification, Plains dispatched a technician to the Pocahontas Station, which was not running at the time of the notification. Plains shut down the Capwood Pipeline and Patoka to Wood River 20” mainline and isolated the failed fitting and associated piping.
- The immediate cause of the leak was a fitting failure at the Pocahontas Station. The reason the fitting failed is still under investigation and unknown at this time. A third-party metallurgist has been contacted by the Respondent to evaluate the Failure.
- The Capwood Pipeline and Patoka to Wood River 20” mainline consists of a 20-inch pipeline and has three pump stations (i.e., the Patoka Station located in Marion County, Illinois; the Pocahontas Station located in Bond County, Illinois; and the Wood River Station located in Madison County, Illinois). The pipeline is 20” in nominal diameter and 55.72 miles long.
- The pipeline has 25.86 miles listed as “could affect” High Consequence Areas (HCAs) and travels through and crosses wetlands and a state park. The pipeline also transverses 9.23 miles of high population areas, 14.13 miles of other populated areas and approximately 21.17 miles of areas potentially affecting public drinking water supplies. The pipeline crosses many public roadways and I-70.
- The Capwood Pipeline and Patoka to Wood River 20” mainline is comprised predominately of pipe manufactured by National Tube, constructed in 1951, with a wall thickness ranging from 0.312-0.344 inch, Seamless, X-46, and coal tar coated.

The pipeline does have one area approximately 0.55 miles in length that is Grade B, Seamless, 0.500 inch wall thickness constructed in 1951 and manufactured also by National Tube. Small portions of the pipeline are of newer vintage as late as 1994 but are of similar or thicker wall, different seam and pipe manufacturer characteristics, and newer coatings.

- The Capwood Pipeline and Patoka to Wood River 20” mainline was purchased by Plains from Shell Pipeline in 2003. The pipeline was last hydrotested in the year 2000. This hydrotest and certain design considerations were used by Plains to determine the Maximum Operating Pressure (MOP) of the pipeline. The Pocahontas Station was last hydrotested in 2013. The MOP of the pipeline at the station discharge is 1,033 psig. The pressure at the Pocahontas Station prior to the Failure was 633 psig. A section of the pipeline between the W. Kaskaskia River to Pocahontas Station has a lower MOP of 987 psig.
- The pipeline moves crude oil from Patoka, Illinois to Wood River, Illinois. During the 24 hours prior to the Failure, the pipeline had undergone a cleaning-pig run. The pipeline was operating at the time of the leak and was delivering crude oil to Wood River.
- The Pocahontas Station is a booster facility utilized intermittently to increase pipeline throughput by changing the pressure profile and is not required for normal mainline operations. The Pocahontas Station is located in a “could affect HCA” area.
- The crude oil flowed from the pump station to a road ditch into Little Silver Creek and then into Silver Lake. Silver Lake is an approximately five mile by ½-mile man-made reservoir constructed to supply the town of Highland, Illinois with drinking water. The City of Highland’s primary drinking water source is from the south end of Silver Lake. Crude oil reached the north end of the reservoir following the Failure. Several oil containment booms were placed across the reservoir.
- Removal of crude oil from Little Silver Creek and Silver Lake is underway. Various state and federal agencies, including the Local Emergency Management Agency, Illinois Environmental Protection Agency, Illinois Department of Natural Resources, U. S. Environmental Protection Agency Region V, numerous contractors working on behalf of the operator, and other operating personnel are performing clean-up, remediation, and monitoring activities.
- The City of Highland’s water intake was shut down on the evening of July 10, 2015. The water supply was tested on the morning of July 11, 2015, and no contamination of the City of Highland’s water supply was found. Workers continue to flush the roadside ditch and connecting ditch from the Pocahontas Station to Little Silver Creek. Thus far, Plains has collected 59,500 gallons of water and crude-oil mix.
- Removal of the crude oil from the road ditch and creek area is ongoing and drinking water monitoring will continue. Highland has an alternate supply of water plumbed up

with pump in the event it is necessary to stop taking water from the lake. Drinking-water tests are showing no crude oil. Silver Lake appears to be improving but pools of crude oil in the inlet to the lake remain. All recreational activities were banned on Silver Lake over the weekend following the Failure and this order is still in place.

- The investigation is on-going and as such the time of the Failure could change. It is estimated currently as being around 7:29 am CDT on July 10, 2015.
- The Pocahontas Station has no history of failures associated with tubing fittings.
- The worst-case discharge at Pocahontas Station is reported as 2,691 barrels. This value assumes that the pipeline could be shut down in 15 minutes and all Motor Operated Valves were used for isolation.

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 and 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 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 Pipeline Facility without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the age of the pipe, the circumstances surrounding the Failure, the proximity of the Pocahontas Station to a public water supply, populated areas, public roadways and High Consequence Areas, the hazardous nature of the product being transported, the pressure required for transporting the material, 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.

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, with a copy to the Director, Central Region, PHMSA (Director). If a hearing is requested, it will be held

telephonically or in-person in Kansas City, Missouri.

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 Actions:

Pursuant to 49 U.S.C. 60112, I hereby order Plains Pipeline to immediately take the following corrective actions with respect to the Affected Pipeline Facility:

1. ***Shutdown of the Affected Pipeline Facility.*** The Pocahontas Station and the Capwood Pipeline and Patoka to Wood River 20" mainline are currently out of service. The Affected Pipeline Facility must remain shut down until the Central Region Director has approved a Return-to-Service Plan under this Order. The Central Region Director will work together with Respondent to determine a suitable restart date and time for the Affected Pipeline Facility.

2. ***Return-to-Service Plan.*** Respondent must develop a Return-to-Service Plan and submit the plan to the Central Region Director for approval prior to returning the Pocahontas Station to service. The plan must include a provision that the failed fitting will be replaced and that the choice of a replacement fitting will be based upon sound engineering analysis. The replacement fitting must be installed by a qualified employee (technician or similar) following manufacturer's instructions.

3. ***Testing of Fitting.*** Within 90 days of receipt of this Order, Respondent must remove the failed fitting and pipe/tubing inserted into the fitting from the pump station, complete third-party mechanical and metallurgical testing, and perform failure analysis of the fitting. Complete the testing and analysis as follows:

- A. Document the chain-of-custody when handling and transporting the failed fitting and pipe/tubing and other evidence from the failure site (if any);
- B. Within 10 days of receipt of this Order, develop and submit the testing protocol, including selection of the testing laboratory, to the Central Region Director for prior approval;
- C. Determine if fatigue, vibration or pulsation, or tubing lack of support contributed or caused this leak;
- D. Prior to commencing the mechanical and metallurgical testing, provide the Central Region Director with the scheduled date, time, and location of the testing to allow a PHMSA representative to witness the testing; and

- E. Ensure that the testing laboratory distributes all resulting reports in their entirety (including all media), whether draft or final, to the Central Region Director at the same time as they are made available to Respondent.

4. ***Integrity Verification and Remedial Work Plan.*** Within 120 days following receipt of this Order, submit an integrity verification and remedial work plan (RWP) to the Central Region Director for approval. The plan must provide for the verification of the integrity of the Pocahontas Station piping and must address all factors known or suspected in the leak, including, but not be limited to the integration of information as follows:

- A. Integrate the results of the metallurgical analysis required by Item 3 with all relevant operating data, and perform a root cause analysis of the Failure;
- B. Review the failure history of all pump stations on Respondent's Capwood Pipeline and Patoka to Wood River 20" mainline over the past 20 years and develop a written report containing all available information on the locations of failures, dates of failures, and causes of failures. This report shall include a review of remote valve activation failures, other valve-type failures, and all valve maintenance records, regardless of type. Submit the report to the Central Region Director within 90 days of receipt of this Order.
- C. Provide, maintain, and submit a project schedule associated with all elements of the internal root cause analysis, including, but not limited to:
 - 1. Scoping document of the root cause analysis;
 - 2. Internal procedures associated with root cause analysis;
 - 3. Multiple methods used and updates on each method as it progresses;
 - 4. Contributory factors; and
 - 5. Final Summary, including any internal lessons learned, recommendations that may be apparent from the failure analysis and designed to prevent reoccurrence, and conclusions about whether any of the findings are applicable to other locations within the Plains Capwood Pipeline and Patoka to Wood River 20" mainline system.
- D. Utilizing all information gained through history review, operational experience, failure investigation, and root cause analysis, conduct an integrity review designed to prevent reoccurrence.

5. ***SCADA and Control Room Operations Review.*** Within 90 days of receipt of this Order, determine if control room or SCADA-related activities contributed to the size of the leak. Review and identify possible enhancements and provide a summary report to the Central Region Director regarding enhancements, findings, recommendations, and implementation of improvements to the associated systems. This shall include, but not be limited to, added instrumentation (pressure, flow meters, temperatures, automated valves, etc.), work load review of the console involved in the Failure as compared to others in the system, controller response, improved alarming, controller training, remote-valve operations, maintenance

requests and the status of such requests from Respondent's control center, a review of the deployment of an American Petroleum Institute 1130 compliant leak detection system on an accelerated basis, and alarming provisions.

6. *Root Cause Failure Analysis (RCFA).* Within 90 days following receipt of this Order, complete a root cause failure analysis for the Failure that is supplemented and facilitated by an independent third party. Respondent should consider conflicts of interest in selecting an independent third party. Once a third party has been selected, provide the Central Region Director with the selected third-party's credentials and experience within 10 days of receipt of this Order. Elements of the root cause analysis must include but not be limited to: a scoping document of the root cause analysis; procedures associated with root cause analysis; multiple methods used for the analysis and periodic (not to exceed monthly) updates on each method as it progresses. This root cause failure analysis shall include control room activities to establish a timeline, including manual calculations associated with over and short material balance efforts, meter PLM imbalance calculations, emergency response procedures and execution of these procedures by personnel as may be necessary for timeline development, and associated personnel response to the Failure. Provide the Central Region Director with the scheduled date, time, and location of personnel interviews and document reviews to be conducted as part of this RCFA to allow a PHMSA representative to attend either in-person or via teleconference. The root cause analysis must document all contributing factors and the decision-making process. Submit a final report of the root cause analysis results to the Central Region Director, including any lessons learned and whether the findings are applicable to other locations within the Respondent's Capwood Pipeline and Patoka to Wood River 20" mainline.

7. *Spill Mitigation Study.* Respondent must review the topography and water run-off patterns associated with the Pocahontas Station to mitigate crude-oil migration offsite in the event of another leak at that location. Investigate the use of surveillance monitoring and/or leak detectors (hazardous vapor detectors) at this facility. Also, consider topography modification, surveillance monitoring and/or leak detectors (hazardous vapor detectors) at other unmanned facilities along the Capwood Pipeline and Patoka to Wood River 20" mainline to help immediately identify potential leaks.

8. *Emergency Response Plan and Training Review.* Respondent must review and assess the effectiveness of its emergency response procedures, plan, response, associated performance in regards to the Failure, and associated training. Include in the assessment a detailed review of the on-scene response and support activities (including timeline), coordination with all parties (including regulatory requests and proceeding with work), site security (including all phases of the response), procedures for improvements, lessons learned, and communication with emergency responders, third party contractors, public officials, and internal resources. Assess the effectiveness of communication with all other modes of transportation that could have been impacted by this type of spill, such as municipal water impacts, roads, railroads, electric power, and water intake considerations. This should include a review of Respondent's Federal Response Plan (FRP), an understanding of the worst-case discharge in the area for the pipeline and the other pipelines or facilities in the area that may need communication and coordination activities. The review will include

existing training under the Incident Command structure and emergency procedures. Also included will be a review and assessment of the effectiveness of other Plains emergency training or response elements such as Standard Operating Procedures (SOPs). Plains must amend its FRP or emergency response operating procedures and associated training, if necessary, to reflect the results of this detailed review. This review must be conducted by an independent third-party consultant who specializes in the emergency response and management aspects of hazardous liquids. A final report shall be the result of this review and it shall detail in the report findings, recommendations, potential process enhancements, lessons learned and other applicable information to improve the emergency response of Plains and associated contractors. The documentation associated with this detailed Emergency Response Plan and Training Review must be provided to the Central Region Director no later than 90 days after receipt of this Order.

9. **Data Management Software Study.** Respondent shall review and evaluate Plains' existing data management system software tools. Determine if improvements or enhancements could be made to allow integrity data to be quickly accessed by various stakeholders in the event of a failure. Report on these potential findings to the Central Region Director within 120 days of receipt of this Order.

10. **Order Revisions.** Upon approval by the Central Region Director, the remedial work plan becomes incorporated into this Order and shall 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 failure investigation and remedial activities. Submit any such plan revisions to the Director for prior approval. The Central Region Director may approve plan elements incrementally.

11. **Implementation of Approved Work Plan.** Implement the work plan as approved by the Central Region Director, including any revisions to the plan.

12. **Quarterly Reports.** Submit quarterly reports to the Central Region Director that:

(1) include all available data and results of the testing and evaluations required by this Order; and (2) describe the progress of the repairs or other remedial actions being undertaken. The first quarterly report for the period from July 15, 2015 through October 15, 2015 shall be due by November 15, 2015.

The Central Region 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 Central Region 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 any 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. If 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. If a resubmitted item is disapproved in whole or in part, the Director may again require Respondent to correct the deficiencies in accordance with the foregoing procedure, and the Director may otherwise proceed to enforce the terms of this Order.

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. 3-2015-5007H" 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.

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 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 B. Wiese
Associate Administrator
for Pipeline Safety

JUL 16 2015

Date Issued