



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

MAY 18 2016

1200 New Jersey Ave, S.E.
Washington, D.C. 20590

VIA CERTIFIED MAIL AND FAX TO: (419) 421-3125

Mr. Craig Pierson
President
Marathon Pipe Line, LLC
539 South Main Street
Findlay, Ohio 45840

Re: CPF No. 2-2016-5003H

Dear Mr. Pierson:

Enclosed is an Amended Corrective Action Order (Amended Order) issued in the above-referenced case, which replaces and supersedes the original Corrective Action Order issued to Marathon Pipe Line, LLC, on April 22, 2016, and which related to the failure of Marathon's Robinson-Mt. Vernon 10-inch Products Pipeline on April 17, 2016, in Wabash County, Illinois.

The Amended Order is being issued to correct certain errors and make other technical clarifications to the original Corrective Action Order. The Amended Order amends preliminary findings 3, 4, 9, 10, 16, and 17, the definition of "Isolated Segment" as applied to the required corrective actions, and corrective actions 2(d) and 2(j).

Service is being made by certified mail and facsimile. Service of the Amended Order by electronic transmission is deemed complete upon transmission and acknowledgement of receipt, or as otherwise provided under 49 C.F.R. § 190.5. The terms and conditions of this Amended Order are effective upon completion of service.

Thank you for your cooperation in this matter.

Sincerely,

Alan K. Mayberry
Acting Associate Administrator
for Pipeline Safety

Enclosure

cc: Ms. Linda Daugherty, Deputy Associate Administrator for Field Operations, Office of Pipeline Safety, PHMSA
Mr. James Urisko, Regional Director, Southern Region, Office of Pipeline Safety, PHMSA

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

_____)
In the Matter of)

Marathon Pipe Line, LLC,)

Respondent.)
_____)

CPF No. 2-2016-5003H

AMENDED CORRECTIVE ACTION ORDER

Purpose and Background:

This Amended Corrective Action Order (Order) is being issued under the authority of 49 U.S.C. § 60112 to require Marathon Pipe Line, LLC (Marathon or Respondent), to take the necessary corrective action to protect the public, property, and the environment from potential hazards associated with the recent failure on its Robinson-Mt. Vernon 10-inch products pipeline.

Marathon operates a 78.4-mile pipeline segment referred to as the Robinson-Mt. Vernon 10-inch products pipeline (Mt. Vernon Line). The pipeline passes through Crawford, Lawrence, and Wabash Counties in Illinois and through Gibson and Posey Counties in Indiana, transporting refined products, a blend of grade gasoline, ultra-low sulfur diesel, and jet fuel, in a batched system. On April 17, 2016, a reportable accident occurred at the Mt. Vernon Line crossing over the Wabash River in Wabash County, Illinois (Wabash River Crossing), located between the Robinson Refinery in Robinson, Illinois, and the Mt. Vernon Station in Mt. Vernon, Indiana.

As of April 22, 2016, Marathon estimated a release of 48,300 gallons of ultra-low sulfur diesel fuel from the Mt. Vernon Line failure (the Failure). The cause of the Failure has not yet been determined.

On April 22, 2016, PHMSA issued a Corrective Action Order to Marathon. This Amended Corrective Action Order replaces and supersedes the CAO issued to Marathon on April 22, 2016.

Pursuant to 49 U.S.C. § 60117, the Office of Pipeline Safety (OPS), PHMSA, initiated an investigation of the Failure, the preliminary findings of which are as follows.

Preliminary Findings:

- 1) On the morning of April 17, 2016, a resident on the Illinois side of the Wabash River observed a sheen on the river water, downstream of the Wabash River Crossing. The resident notified the Wabash County, Illinois Sheriff's Department, which in turn,

- notified the Mt. Carmel, Illinois, Fire Department at 11:25 a.m., Central Daylight Time (CDT).
- 2) The Mt. Carmel Fire Department observed the sheen on the river and, after reviewing its pipeline maps, notified Marathon at 11:59 a.m.
 - 3) Upon notification, Respondent deployed crews to investigate the reported sheen. Marathon confirmed the presence of a sheen on the Wabash River and consequently shut down the Mt. Vernon Line by closing block valve TWRKIRK-MVERBVTR-22, (TR-22), located in Illinois at milepost (MP) 51.5, at 2:26 p.m. CDT and also closing block valve TWRILIN-MVERBVTR-23, (TR 23), located Indiana at MP 56.1, at 2:31 p.m. CDT. The segment between these two block valves spans – a distance of 4.5 miles (Isolated Segment).
 - 4) At 1:54 p.m. CDT on April 17, 2016, Respondent initially reported a sheen on the Wabash River to the National Response Center (NRC Report No. 1145495). This NRC report was updated the same day at 10:05 p.m. CDT, reporting the release of diesel from its pipeline (NRC Report No. 1145511).
 - 5) Respondent estimates 48,300 gallons of ultra-low sulfur diesel fuel have been released as a result of the Failure. Marathon also reported that sheen was discovered at the confluence of the Wabash and Ohio Rivers. Marathon deployed five Shoreline Cleanup and Assessment Technique (SCAT) teams.
 - 6) On April 17, 2016, Respondent's personnel also attempted boom deployment but were hampered by high water levels and high river velocity. Marathon also dispatched an aerial patrol to determine the extent of the sheen, and began setting up its unified incident command center in Grayville, IL.
 - 7) The Mt. Vernon Line is a single 10-inch diameter products pipeline that transports refined products, a blend of grade gasoline, ultra-low sulfur diesel, and jet fuel, in a batched system. The pipeline originates at the Robinson Refinery in Robinson, Illinois, and terminates at the Mt. Vernon station in Mt. Vernon, Indiana, a distance of approximately 78.4 miles (Affected Segment).
 - 8) The Failure occurred on the Affected Segment on the Mt. Vernon Line, at the Wabash River Crossing near milepost (MP) 53.2 (Failure Site).
 - 9) The Affected Segment was constructed in 1951 and consists of 10-inch diameter, 0.307" wall thickness, Grade API 5L X42 Low-Frequency Electric Resistance Welded (LF-ERW) seam pipe. The Affected Segment also has a coal tar coating and an impressed current cathodic protection (CP) system. The manufacturer of the pipeline is unknown.
 - 10) The maximum operating pressure (MOP) of Respondent's Mt. Vernon Line is 1,359 pounds per square inch (psig), as established by an 11-hour hydrostatic test in

August 2015. At the time of the Failure, the Mt. Vernon Line was operational but no product was flowing through the pipeline.

- 11) Marathon asserts that cessation of operation of the Mt. Vernon Line occurred for reasons unrelated to the Failure.
- 12) On April 17, 2016, at a site close to the Wabash River Crossing where the sheen had been observed, Respondent took water samples to confirm concentration of petroleum product in the water, and deployed divers to assess the condition of the Mt. Vernon Line.
- 13) Respondent's divers found that approximately 60 feet of the Mt. Vernon Line was exposed and no longer covered by the river bottom. Additionally, portions of the 60-foot segment of exposed pipeline were not supported by the river bottom.
- 14) Respondent injected the Mt. Vernon Line with water to determine if the line would hold pressure. The water-injection test revealed that the pipeline was not holding pressure.
- 15) Further, during this water-injection test, Respondent's employees and PHMSA OPS personnel observed bubbles in the water over the pipeline, as well as an increase in diesel smell. Respondent's employees and PHMSA OPS personnel believed the bubbles and smell collectively indicated a leak in the Mt. Vernon Line.
- 16) Marathon reported to PHMSA that it believes the leak started on the Mt Vernon line around 3:00 a.m. CDT on April 17, 2016, at a small leak rate – the pressure on the Mt. Vernon Line was 191 psig.
- 17) Respondent notes the leak on the Mt. Vernon Line worsened over time because at approximately 5:00 a.m. CDT on April 17, 2016, the pressure calculated at 73 psig.
- 18) Marathon partnered with the U.S. Environmental Protection Agency, Illinois Environmental Protection Agency, the Illinois Emergency Management Agency, the Indiana Department of Environmental Management, the U.S. Coast Guard, and PHMSA to establish a Unified Command in order to more effectively respond to the Failure.
- 19) There were no impacts to life or property as a result of the Failure.
- 20) The cause of the Failure is unknown, and therefore it is also unknown if the conditions that led to the Failure on the Isolated Segment are also present on the Affected Segment. While the investigation is ongoing, the Mt. Vernon Line remains out of service.
- 21) Marathon has not yet developed a repair plan for the Isolated Segment, but is considering horizontally directionally drilling a new pipe section at the Wabash River Crossing as an alternative to repairing the failed line.

- 22) Respondent also operates a 6-inch line that runs from Kirkwood Station, Illinois, to Mt. Vernon Terminal, Indiana, a distance of approximately 57.3 miles. This line runs parallel to the Mt. Vernon Line and also crosses the Wabash River at MP 53.2. This line was abandoned in 1984 and Respondent asserts it was not a factor in the Failure.

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 or would be 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 opportunity for hearing, upon a finding that failure to issue the Order expeditiously would result in the likelihood of serious harm to life, property, or the environment. In such cases, an opportunity for a hearing and expedited review will be provided as soon as practicable after the issuance of this Order.

After evaluating the foregoing preliminary findings of fact, I find that continued operation of the Affected Segment without corrective measures is or would be hazardous to life, property, or the environment. Additionally, the Mt. Vernon Line was constructed in 1952 of low frequency ERW pipe, a known threat to pipeline integrity under certain conditions, and is used to transport products of a hazardous nature. Further, there is soil and water contamination in the vicinity and downstream of the Failure Site, the cause of the Failure is still unknown, and therefore it also unknown if the conditions that led to the Failure on the Isolated Segment are present on the Affected Segment. Last, there is still an ongoing investigation to determine the cause of the Failure. Based on these factors, I find that a failure to issue this Order expeditiously to require immediate corrective action would result in the likelihood of serious harm to life, property, or the environment.

Accordingly, this 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 contest its issuance obtain expedited review either by answering in writing or requesting a hearing under 49 C.F.R. § 190.211, to be held as soon as practicable under the terms of such regulation, by notifying the Associate Administrator for Pipeline Safety in writing, with a copy to the Director, Southern, PHMSA (Director). If Respondent requests a hearing, it will be held telephonically or in-person in Southern Region office or Washington, D.C.

After receiving and analyzing additional data in the course of this investigation, PHMSA may identify other corrective measures that need to be taken. In that event, PHMSA will notify Respondent of any additional measures that are required and an amended Order issued, if

necessary. 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 Marathon to immediately take the following corrective actions for the Affected Segment and Isolated Segment:

Definitions:

The term “Affected Segment” means Respondent’s Robinson-Mt. Vernon 10-inch products pipeline, (Mt. Vernon Line), originating at the Robinson Refinery in Robinson, Illinois and terminating at the Mt. Vernon station in Mt. Vernon, Indiana, a distance spanning approximately 78.4 miles.

The term “Isolated Segment” means the section on Respondent’s Mt. Vernon line between block valve TWRKIRK-MVERBVTR-22, (TR-22), located in Illinois at milepost (MP) 51.5, and block valve TWRILIN-MVERBVTR-23, (TR 23), located Indiana at MP 56.1. The segment between these two block valves spans – a distance of 4.5 miles.

The term “Director” means Director, Southern Region, PHMSA.

The term “Failure Site” means the affected Segment on Respondent’s Mt. Vernon line, at the Wabash River crossing near milepost (MP) 53.2

1. ***Shutdown of Pipeline.*** Marathon must not operate the *Isolated Segment* until authorized to do so by the Director.
2. ***Restart Plan.*** Prior to resuming operation of the *Isolated Segment*, Marathon must develop and submit a written *Restart Plan* to the Director for prior approval.
 - a. The Director may approve the *Restart Plan* incrementally without approving the entire plan, but the *Isolated Segment* cannot resume operation until the *Restart Plan* is approved in its entirety.
 - b. Once approved by the Director, the *Restart Plan* will be incorporated by reference into this Order.
 - c. The *Restart Plan* must include procedures to safely return the *Isolated Segment* to service and provide evidence that all mandated actions required prior to restart are adequately completed.
 - d. The *Restart Plan* must include repair or replacement of the pipeline crossing of the Wabash River as follows:
 - i. If the pipeline crossing is repaired, the pipeline repair must provide adequate support and protection to prevent future scour and damage.

- ii. If the pipeline crossing is replaced, a horizontally directionally drilled (HDD) pipeline crossing must be made.
 - e. The *Restart Plan* must specify a day-light restart and must include advance communications with local emergency response officials.
 - f. The *Restart Plan* must provide for a review of the *Isolated Segment* for conditions similar to those in which the failure occurred. This review should include a review of Marathon's construction, operating and maintenance (O&M) and integrity management records such as ILI results, hydrostatic tests, root cause failure analysis of prior failures, aerial and ground patrols, corrosion, cathodic protection, excavations and pipe replacements. Marathon must address any findings that require remedial measures to be implemented prior to restart.
 - g. The *Restart Plan* must include documentation of the completion of all mandated actions and a management of change plan to ensure that all procedural modifications are incorporated into Marathon's operations and maintenance manual.
 - h. The *Restart Plan* must provide for hydrostatic pressure testing of the *Isolated Segment*.
 - i. Prior to restart, Marathon must submit to the Director a contingency plan to operate and monitor the *Isolated Segment* during flooding conditions, including enhanced patrolling and surveillance.
 - j. Within 90 days of restarting the *Isolated Segment*, perform an ILI to ensure that there has been no metal loss, deformation, or other damage to the *Affected Pipeline*. If the cause(s) of the failure are determined to apply only to the Wabash River crossing, and the Wabash River crossing is replaced with an HDD pipeline crossing, the Director may waive the requirement to perform an ILI of the *Affected Pipeline* upon request, with supporting justification, by Marathon.
3. ***Mechanical and Metallurgical Testing.*** Within 45 days of receipt of this Order, Marathon must complete mechanical and metallurgical testing, as well as a failure analysis of the failed pipe, including an analysis of soil samples and any foreign materials. The testing and failure analysis must be completed by an independent laboratory or expert. Complete the testing and analysis as follows:
- a. Document the chain-of-custody when handling and transporting the failed pipe section and other evidence from the Failure Site;
 - b. Within 10 days of removing the failed pipe, develop and submit the testing protocol and the proposed testing laboratory to the Director for prior approval;
 - c. Prior to beginning the mechanical and metallurgical testing, provide the Director with the scheduled date, time, and location of the testing to allow for an OPS representative to witness the testing;

- d. Ensure the testing laboratory distributes all reports whether draft or final in their entirety to the Director at the same time they are made available to Marathon; and
- e. The Director may grant an extension of time, in accordance with **Item 11 Extensions of Time**, to complete the Mechanical and Metallurgical Testing.

4. **Root Cause Failure Analysis.**

- a. Within 90 days following receipt of this Order, Marathon must complete a root cause failure analysis (RCFA) and submit a final report of this RCFA to the Director. The RCFA must be supplemented/facilitated by an independent third-party acceptable to the Director and must document the decision making process and all factors contributing to the failure, including river scouring of the pipeline crossing. The final report must include findings and any lessons learned whether the findings and any lessons learned are applicable to other locations within Marathon's pipeline system, and actions Marathon is taking for those other locations where the lessons learned are applicable.
- b. The Director may grant an extension of time, in accordance with **Item 11 Extensions of Time**, to complete the RCFA. If an extension of time is granted, Marathon must complete a preliminary RCFA of the cause of the river bottom scouring and exposure of the pipeline within 90 days of receipt of this Order and submit a report of this preliminary RCFA to the Director. The preliminary RCFA must be supplemented/facilitated by an independent third-party acceptable to the Director and must document the decision making process and all factors contributing to the river scouring of the pipeline crossing. The preliminary report must include findings and any lessons learned whether the findings and any lessons learned are applicable to other locations within Marathon's pipeline system, and actions Marathon is taking for those other locations where the lessons learned are applicable.

5. **Leak Detection Plan.** Within 90 days of receipt of this Order, perform a review and submit to the Director a written plan to improve the leak detection capability on the *Affected Segment*, to include conditions of non-flowing pipelines. The review must include a comprehensive analysis of any SCADA, leak detection, surveillance, and other monitoring systems on the *Affected Segment*. The written plan must include a schedule for improving the leak detection capability on the *Affected Segment* through additional instrumentation, updated hardware or software, installation/improvement of a computational pipeline monitoring system and associated software programming, additional surveillance, pipeline control staffing, ongoing leak surveys, and any other appropriate measures.

6. **Emergency Response Plan and Training Review.** Marathon must review and assess the effectiveness of its emergency response plan with regards to the Failure. Include in the review and assessment the on-scene response and support, coordination, and communication with emergency responders and public officials. Also, include a review and assessment of the effectiveness of its emergency training program. Marathon must amend its emergency response plan and emergency training, if necessary, to reflect the results of this review. The documentation of this *Emergency Response Plan and Training Review* must be available for inspection by OPS or provided to the Director, if requested.

7. **CAO Documentation Report (CDR).** Marathon must create and revise, as necessary, a CAO Documentation Report (CDR). When Marathon has concluded all the items in this Order, it will submit the final CDR in its entirety to the Director. This will allow the Director to complete a thorough review of all actions taken by Marathon with regards to this Order prior to approving the closure of this Order. The intent is for the CDR to summarize all activities and documentation associated with this Order in one document.
 - a. The Director may approve the CDR incrementally without approving the entire CDR.
 - b. Once approved by the Director, the CDR will be incorporated by reference into this Order.
 - c. The CDR must include but not be limited to:
 - i. Table of Contents;
 - ii. Summary of the pipeline failure of April 17, 2016, and the response activities;
 - iii. Summary of pipe data/properties and all prior assessments of the *Affected Segment*;
 - iv. Summary of all tests, inspections, assessments, evaluations, and analysis required by the Order;
 - v. Summary of the Mechanical and Metallurgical Testing as required by the Order;
 - vi. Summary of the RCFA with all root causes as required by the Order;
 - vii. Lessons learned while completing this Order;
 - viii. A path forward describing specific actions Marathon will take on its entire pipeline system as a result of the lessons learned from work on this Order; and
 - ix. Appendices (if required).

Other Requirements:

8. **Reporting.** Marathon must submit quarterly reports to the 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 is due on **August 1, 2016**. The Director may change the interval for the submission of these reports.
9. **Documentation of the Costs.** It is requested but not required that Respondent maintain documentation of the costs associated with implementation of this Order. Include in each monthly report submitted, 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, if applicable.

10. **Approvals.** 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 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 must correct all deficiencies within the time specified by the Director, and resubmit it for approval.
11. **Extensions of Time.** 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.

The actions required by this Order are in addition to and do not waive any requirements that apply to Respondent's pipeline system under 49 C.F.R. Part 195, under any other order issued to Respondent under authority of 49 U.S.C. § 60101, *et seq.*, 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.

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).

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.

In your correspondence on this matter, please refer to CPF No. 2-2016-5003H and for each document you submit, please provide a copy in electronic format whenever possible.

The terms and conditions of this Amended Corrective Action Order are effective upon receipt.



Alan K. Mayberry
Acting Associate Administrator
for Pipeline Safety

MAY 18 2016

Date Issued