



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

1200 New Jersey Avenue SE  
Washington, DC 20590

FEB 06 2012

**VIA CERTIFIED MAIL [Mr. Greg Smith] AND FAX TO: (713)-241-1856**

Mr. Greg Smith  
President  
Shell Pipeline Company, L.P.  
701 Poydras Street  
Suite 1000  
New Orleans, LA 70139

**Re: CPF No. 3-2012-5003H**

Dear Mr. Smith:

Enclosed please find the Corrective Action Order issued in the above-referenced case. It finds that Shell Pipeline Company's hazardous liquid pipeline at the General Mitchell International Airport in Milwaukee County, Wisconsin, is hazardous to life, property, or the environment and requires you to take immediate corrective actions to ensure public safety.

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 the Order are effective upon receipt.

We look forward to a successful resolution of the concerns arising out of this recent pipeline failure and to restoring the safety of the line. Please direct any questions on this matter to David Barrett, Director, Central Region, OPS, at (816) 329-3800.

Sincerely,

for Jeffrey D. Wiese  
Associate Administrator  
for Pipeline Safety

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

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

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

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**In the Matter of** ) )  
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**Shell Pipeline Company, L.P.,** ) )  
 ) )  
**Respondent.** ) )  
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**CPF No. 3-2012-5003H**

**CORRECTIVE ACTION ORDER**

**Purpose and Background**

This Corrective Action Order (Order) is being issued under 49 U.S.C. § 60112 to Shell Pipeline Company, L.P. (Shell or Respondent), the operator of a 2-mile, 10-inch-diameter pipeline that delivers commercial aviation jet fuel from the Mitchell Field terminal to the Mitchell International Airport in Milwaukee County, Wisconsin (Affected Pipeline). The Order finds that the Affected Pipeline is hazardous to life, property, or the environment and requires Respondent to take immediate corrective actions to ensure public safety.

On January 25, 2012, the National Response Center (NRC) received a report of a jet fuel spill at that Mitchell International Airport (Airport). In subsequent NRC reports, Shell confirmed that a jet fuel release had occurred in the area and estimated the amount of the spill at 215 barrels. Shell did not report any injuries or fatalities, but stated that the spill had reached a nearby waterway.

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. OPS determined that the release originated from the Affected Pipeline, but the cause of the failure has not yet been determined. The preliminary findings of the investigation are as follows:

**Preliminary Findings**

- At 7:28 p.m. ET, on January 25, 2012, the NRC received a report of a jet fuel spill at the Mitchell International Airport. The incident date on this NRC report was January 23, 2012 at 1:00 pm CT. The caller did not identify the cause of the release, but stated that jet fuel was in a storm sewer near Wilson Park Creek. The caller estimated the amount of

the spill to be approximately 100 gallons and noted that local responders had deployed pumps and booms in the area for containment.

- At 11:19 a.m. CT, on January 31, 2012, Shell shut down the Affected Pipeline by closing the valves at the Mitchell Field terminal and the Airport. Four hours later, at 4:13 p.m.ET, Shell informed the NRC that jet fuel had been released at the Airport. Shell reported that both the quantity and source of the release were unknown and that local responders had been onsite for the past several days.
- At 11:40 a.m. ET, on February 2, 2012, Shell provided a supplemental report to the NRC. Shell continued to report that both the cause and source of the failure remained unknown, but estimated the amount of the spill at 215 barrels of jet fuel.
- On February 3, 2012, Shell completed purging the Affected Pipeline of jet fuel and began excavating the pipeline at the cased crossing of a taxiway at the Airport.
- The Affected Pipeline transports commercial aviation jet fuel from the Mitchell Field terminal to the Airport. The Mitchell Field terminal is connected to the West Shore pipeline, which delivers commercial aviation jet fuel from refineries in the Chicago area.
- The Affected Pipeline is located in a High Consequence Area (HCA) (*see* 49 C.F.R. § 195.450) and runs parallel to a railroad, crosses local streets, and traverses the grounds of the Airport.
- The jet fuel spill originated near the endpoint of the Affected Pipeline at Milepost (MP) 2.0. There is a casing on the pipeline at that location that crosses under Taxiway "Echo." Taxiway "Uniform" is immediately adjacent to Taxiway "Echo" but the casing does not continue in this area. The pipeline also runs under Taxiway "Gulf."
- After the failure occurred, jet fuel from the Affected Pipeline entered a drainage ditch, the public storm sewer system, and Wilson Park Creek. Initially, the spill location was not known. Further investigation determined that the spill was under a portion of the taxiway. This spill has interrupted airport operations and led to the closure of three runways and continues to impact traffic. Hazardous atmosphere concerns, taxiway stability and construction requirements led to the taxiway and runway impacts that are ongoing.
- The Affected Pipeline was constructed in 1972 of 10-inch diameter, 0.250-inch wall thickness, with an electric resistance welded (ERW) seam. The manufacturer of the pipe is unknown.
- The Affected Pipeline has a coal tar coating and an impressed-current cathodic protection system.
- The maximum operating pressure (MOP) of the Affected Pipeline is 150 psig.

- The Affected Pipeline was pressure tested in 1993 for eight hours to a pressure of 241 psig.
- The most recent internal assessment of the Affected Pipeline occurred in 2010 with a combination Hi-Resolution Magnetic Flux Leakage and Geometry inline inspection (ILI) tool. A previous internal assessment of the Affected Pipeline with an ILI tool occurred in 2007.
- Operational data indicates that the pressure of the Affected Pipeline began to decrease on January 14, 2012, when the pipeline was in a shutdown condition.
- Various federal, state, and local agencies, including the Wisconsin Department of Natural Resources and U.S. Environmental Protection Agency, have responded to the spill. Their efforts have included, but have not been limited to, deploying booms and other response, containment, and oil recovery measures.
- The cause of the failure is unknown and the investigation is ongoing.
- Shell is a wholly-owned subsidiary of Shell Oil Products US, a unit of Shell Oil Company, and transports over seven million barrels of crude oil and refined products every day, with pipelines in 21 states.<sup>1</sup>

### **Determination of Necessity for Corrective Action Order and Right to Hearing**

Under 49 U.S.C. § 60112 and 49 C.F.R. § 190.233, the Associate Administrator for Pipeline Safety (Associate Administrator) may issue a corrective action order after providing reasonable notice and the opportunity for a hearing if he finds that a particular pipeline facility is or would be hazardous to life, property, or the environment. The terms of such an order may include the suspended or restricted use of a pipeline facility, physical inspection, testing, repair, replacement, or any other action as appropriate. The Associate Administrator may also issue a corrective action order without providing any notice or the opportunity for a hearing if he finds that a failure to do so expeditiously will result in likely serious harm to life, property or the environment. The opportunity for a hearing will be provided as soon as practicable after the issuance of the CAO in such cases.

After evaluating the preliminary findings, I find that the continued operation of the Affected Pipeline without corrective measures would be hazardous to life, property, and the environment. The Affected Pipeline is located in an HCA that includes a railroad, local street crossings, and an international airport. The failure originated at a pipeline casing underneath a taxiway and resulted, according to Shell estimates, in the release of 215 barrels of jet fuel. The failure resulted in the closure of three runways at the Airport and continues to adversely impact airport

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<sup>1</sup> [http://www.shell.us/home/content/usa/products\\_services/solutions\\_for\\_businesses/pipeline](http://www.shell.us/home/content/usa/products_services/solutions_for_businesses/pipeline). (last visited February 6, 2012).

operations. The spill entered a drainage ditch, the public sewer system, and a nearby creek. Information provided through the initial NRC report identified a release of jet fuel as early as January 23, 2012. The Affected Pipeline was not shut down until January 25, 2012. The manufacturer of the Affected Pipeline is unknown and the cause of the accident remains under investigation.

Additionally, after considering the age of the pipe, the circumstances surrounding the failure, the proximity of the pipeline to populated areas, public roadways and HCAs, the hazardous nature of the product being transported, the pressure required for transporting the material, 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 is being issued without prior notice and opportunity for a hearing and the terms and conditions 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, Shell will receive 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, Shell is ordered to immediately take the following corrective actions to ensure the safe operation of the Affected Pipeline:

1. *Repair Plan.* Develop and submit to the Director a written repair plan for prior approval. The plan must consider the results of prior ILIs, cathodic protection surveys, all other relevant tests, inspections, and surveys of the Affected Pipeline, and the long-term integrity of the crossing of the taxiway. The plan must comply with all Airport rules, regulations, and requirements and minimize any adverse impacts to airport operations.
2. *Restart Plan.* Develop and submit to the Director a written re-start plan for prior approval. The plan must require hydrostatic pressure testing of the Affected Pipeline prior to resuming operations, provide for adequate patrolling to ensure the prompt detection of leaks and monitoring of other casings, identify all casings by location, include a daylight restart, and require advance communications with local emergency response officials.

3. *Return to Service.* Obtain written approval from the Director prior to re-filling the pipeline and resuming operations. Before resuming operations, submit a document that includes a review of all operational information about the Affected Pipeline, including SCADA and leak detection data, to determine the time and identify any prior indications of leaks. Based on such review, submit and implement a written plan for near-term improvements to the Affected Pipeline to enhance the capability of detecting and responding to indications of abnormal operations, as indicated by SCADA, monitoring, leak detection, or other operator systems. These enhancements must address all modes of pipeline operation (steady-state, transient, and shut-down status) and include additional alarms, adjustments to alarm thresholds or setpoints, added software programming, modified staffing, revised shutdown limits, and revised procedures for normal, abnormal, and emergency operations. Establishment of critical alarms based on low and high pressures must also be included.
4. *Recovery of Failed Pipe.* Within 10 days of receipt of this Order, develop a plan and schedule for recovery of the failed segment of pipe. The plan must comply with Airport rules, regulations, and requirements and minimize adverse impacts to airport operations.
5. *Mechanical and Metallurgical Testing and Failure Analysis.* Within 45 days of recovery, complete mechanical and metallurgical testing and failure analysis of the failed pipe, including analysis of soil samples, the condition of the pipe external coating, and any foreign materials. 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 receipt of this Order, develop and submit to the Director the testing protocol, including selection of the testing laboratory, for prior approval.
  - C. Prior to commencing the mechanical and metallurgical testing, provide the Director with the scheduled date, time, and location of the testing, to allow a PHMSA representative to witness the testing; and
  - D. Ensure that the testing laboratory distributes all resulting reports in their entirety (including all media), whether draft or final, to the Director at the same time as they are made available to Respondent.
6. *Inline Inspection.* Within 30 days of resuming operation, perform an ILI of the Affected Pipeline. The Director must provide prior approval of the final criteria and specific technology considerations taken into account in selecting the specific inspection tool. Technology considerations and final criteria should account for the size of anomalies experienced in casings and other pipeline-specific elements. The ILI must include consideration of best available technology to reliably detect and size anomalies in casings. The data analysis must be completed expeditiously, but no later than 30 days of successful completion of the ILI. The ILI vendor must evaluate the results per a

performance specification, including consideration of the location and size of the defects. The ILI vendor must distribute all reports in their entirety (including all media), whether preliminary or final, to the Director and the Respondent at the same time. Results of the ILI must be compared with the results of the 2007 and 2010 ILIs in a report submitted to the Director that includes such comparison, as well as criteria and a plan for remediation of anomalies requiring immediate action.

7. *Root Cause Analysis.* Within 90 days of recovering the failed pipe, complete a root cause failure analysis for the accident that is directed and reviewed by an independent third-party approved by the Director. Within 10 days of receipt of this Order, submit to the Director the name of the proposed independent third-party contractor for prior approval. Elements of the root cause analysis must include, but not be limited to: a scoping document; procedures associated with the root cause analysis; multiple methods used for the analysis and updates on each method as it progresses. Provide the Director with the scheduled date, time, and location of personnel interviews and document reviews to allow a PHMSA representative to attend either in person or via teleconference. The root cause analysis must document all contributory factors and the decision-making processes involved in such factors. Submit to the Director a final report, which includes any lessons learned and whether the findings are applicable to other locations within Shell's entire pipeline system.
8. *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 Pipeline for prior approval. Such review must include a comprehensive analysis of the SCADA, leak detection, surveillance, and other monitoring systems on the Affected Pipeline. The written plan must include a schedule for improving the leak detection capability on the Affected Pipeline through additional instrumentation, updated hardware or software, installation of a computational pipeline monitoring system and associated software programming, additional surveillance, pipeline control staffing, ongoing leak surveys, and any other appropriate measures.
9. *Integrity Verification Plan.* Within 90 days following receipt of this Order, submit to the Director an integrity verification and remedial work plan for approval. The plan must provide for the verification of the integrity of the Affected Pipeline and must address all factors known or suspected in the failure. The plan must include:
  - A. Integration of the results of the metallurgical analysis performed pursuant to Item 5 and the root cause failure analysis required by Item 7 with all relevant data, including: all historical repair information; construction, operating, maintenance, testing, metallurgical analyses or other third-party consultation information; failure history (including both in-service and pressure test failures); and assessment data for the line segment. Data-gathering activities must include a review of the corrosion control history of the Affected Pipeline and development of a written report containing all available information regarding installation,

system modifications, surveys and results, pipe maintenance and repairs, and casing inspections;

- B. The performance of additional field testing, inspections, and evaluations to determine whether, and to what extent, the conditions associated with the failure, or any other integrity-threatening conditions, are present on the Affected Pipeline. At a minimum, removing casings or replacing carrier pipe at casings must be considered in the plan and, if rejected, must be technically justified. Include a detailed description of the criteria to be used for the evaluation and prioritization of any identified integrity threats and anomalies;
  - C. Include a detailed description of the inspection and repair criteria to be used in the evaluation and prioritization of identified integrity threats. This is to include a description of how any defects are to be graded and scheduled for repair or replacement;
  - D. Include provisions for continuing long-term periodic testing and integrity verification measures, considering the results of the analyses, inspections, and corrective measures undertaken pursuant to this Order, to ensure the ongoing safe operation of the Affected Pipeline;
  - E. Include a proposed schedule for completion of the actions required by paragraphs A-D of this Item.
10. *Approvals.* Any plans approved by the Director will be incorporated into this Order and 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 Director may approve plan elements incrementally.
11. *Implementation.* Implement any plans as approved by the Director, including any revisions.
12. *Reporting.* Submit monthly 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 monthly report for the period from February 6, 2012, through February 29, 2012, is due by March 16, 2012.
13. *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.

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 actions 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.

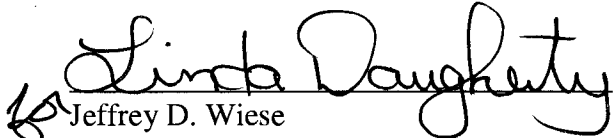
Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), you must provide, along with the complete original document, a second copy of the document with those portions you believe qualify for confidential treatment redacted, along with 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. 3-2012-5003H" and for each document you submit, please provide a copy in electronic format whenever possible. 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. Parts 190 through 199, under any other order issued to Shell 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, whose decision will 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 Order are effective upon service in accordance with 49 C.F.R. § 190.5.

  
Jeffrey D. Wiese  
Associate Administrator  
for Pipeline Safety

**FEB 06 2012**  
\_\_\_\_\_  
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),