

DEPARTMENT OF TRANSPORTATION  
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION  
OFFICE OF PIPELINE SAFETY  
WASHINGTON, DC 20590

In the Matter of	)	
BP Exploration (Alaska), Inc.,	)	CPF No. 5-2006-5015H
Respondent	)	

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require BP Exploration (Alaska), Inc. (Respondent), to take necessary corrective action to protect the public, property, and the environment from potential hazards associated with a failure involving Respondent's Prudhoe Bay West Operating Area (PBWOA) hazardous liquid pipeline.

On March 2, 2006, Respondent discovered a leak on the PBWOA hazardous liquid pipeline in North Slope Borough, Alaska. The probable cause of the failure is internal corrosion. Pursuant to 49 U.S.C. § 60117, the Pipeline and Hazardous Materials Safety Administration (PHMSA) initiated an investigation of the accident.

Preliminary Findings

- On March 2, 2006, at approximately 5:30 AM AKST, Respondent's surveillance crew discovered a crude oil spill in the proximity of Respondent's PBWOA hazardous liquid transmission pipeline in North Slope Borough, Alaska. Respondent determined the failure site to be at or near Mile 1.0 between Gathering Center 2 (GC-2) and Gathering Center 1 (GC-1) on the PBWOA pipeline, several miles upstream of the Trans Alaska Pipeline's first pump station (PS-1). No fires, injuries, or fatalities were reported in connection with the accident.
- The pipeline failure resulted in a release currently estimated at 5,000 barrels of processed crude oil, impacting the arctic tundra and covering approximately 2 acres of permafrost. Potential damage to the ecology and environment is presently unknown.
- Respondent's leak detection system was not effective in recognizing and identifying the failure. Following discovery of the spill, Respondent isolated the segment between GC-2

and GC-1, initiated shutdown at 6:49 AM AKST and depressurized the segment. Respondent located the leak site and installed a containment welded sleeve. Respondent also initiated oil spill response.

- The failure point is a 0.25-inch by 0.5-inch hole in the pipe. The probable cause of the failure is internal corrosion. There is evidence of bacterial corrosion (increased hydrogen sulfide and nitric acid in the crude oil) and increased water content.
- Respondent's PBWOA hazardous liquid pipeline system is approximately 10 miles in length and transports processed crude oil from GC-2 to PS-1 on the Trans Alaska Pipeline in North Slope, Alaska. The PBWOA system is constructed of 34-inch nominal diameter, X52 Grade, 0.375-inch wall thickness, submerged arc welded pipe manufactured in 1975 through 1977. The pipe is not coated and it is not cathodically protected. The pipeline sits on a vertical support member above-ground and is surrounded by an air culvert. The pipe is insulated and has a steel jacket. Although the pipeline is above-ground, at the time of the failure, the pipeline was lying in water that had pooled from melting snow.
- The established maximum operating pressure (MOP) for the PBWOA is 826 pounds per square inch gauge (psig) established by design pressure. Estimated maximum normal operating pressure is 100 psig. Actual operating pressure was approximately 80 psig when the failure was discovered.
- The PBWOA operates at less than 20% of the specified minimum yield strength (SMYS) and is therefore a low-stress pipeline under 49 C.F.R. § 195.2. Federal hazardous liquid pipeline safety regulations (49 C.F.R. Part 195) do not apply to the PBWOA under the exception in 49 C.F.R. § 195.1 for onshore low-stress pipelines located in a rural area, outside a waterway currently used for commercial navigation, which do not transport highly volatile liquids.
- The PBWOA is one of three similar low-stress pipelines operated by Respondent that feed into PS-1. The other two pipelines are the Prudhoe Bay East Operating Area (PBEOA) pipeline and the Lisburne pipeline. All three pipelines were constructed around the same time, operate in similar environmental conditions, transport the same quality crude oil that contributed to the cause of the internal corrosion in PBWOA, and are operated and maintained in a similar manner by Respondent.
- Respondent's failure investigation has identified at least six additional anomalies on the PBWOA segment between GC-2 and GC-1. Internal corrosion has been observed at several of those anomalies. The worst noted anomaly had a remaining wall thickness of 0.04-inches.
- An internal inspection of the PBWOA was last performed in 1998 using a high-resolution magnetic flux leakage (MFL) tool. Respondent has not established a regular internal inspection or maintenance pigging (cleaning pig) program.
- Respondent plans to bypass the segment between GC-2 and GC-1 using a 24-inch flow-line. Once the bypass is in place, Respondent plans to restart the PBWOA. Respondent

anticipates the bypass process will take up to 10 days before the PBWOA pipeline can be restarted.

#### 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, when PHMSA decides that a pipeline facility is hazardous. A pipeline facility is a pipeline, right-of-way, facility, building, or equipment used or intended to be used in the movement of hazardous liquid by pipeline, or the storage of hazardous liquid incidental to the movement of hazardous liquid by pipeline, in or affecting interstate or foreign commerce. A pipeline facility does not include movement of hazardous liquid through gathering lines in a rural area; onshore production, refining, or manufacturing facilities; or storage or in-plant piping systems associated with onshore production, refining, or manufacturing facilities. The basis for deciding 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 of Title 49, United States Code, 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 a 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 PBWOA, PBEOA, and Lisburne pipelines operated by Respondent are pipeline facilities within the meaning of that term as used in 49 U.S.C. §§ 60101 and 60112, notwithstanding the inapplicability of the pipeline safety regulations at 49 C.F.R. Part 195. Those pipelines are used in the movement of hazardous liquid by pipeline in interstate commerce and are not gathering lines in a rural area, onshore production, refining, or manufacturing facilities, or in-plant piping systems. Additionally, after considering the age of the pipe, the hazardousness of the product the pipelines transport, the large spill volume, the ineffectiveness of the leak detection system to identify the leak, the number, type, and severity of anomalies discovered on the segment that was inspected, the similarity of the PBEOA and Lisburne pipelines to the pipeline that failed, and the proximity of the pipelines to wildlife areas or other possible sensitive areas, I find that the continued operation of Respondent's PBWOA, PBEOA, and Lisburne hazardous liquid pipelines without corrective measures will be hazardous to life, property, and the environment. Moreover, failure to expeditiously issue this Order requiring immediate corrective action would likely result in serious harm to life, property, or the environment.

Accordingly, this Corrective Action Order mandating immediate corrective action is issued without prior notice and opportunity for 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, delivered personally, by mail or by facsimile at (202) 366-4566. The hearing will be held in Lakewood,

Colorado or Washington, D.C. on a date that is mutually convenient to PHMSA and the Respondent.

After receiving and analyzing additional data in the course of this investigation, PHMSA may identify other corrective action measures that need to be taken. In that event, Respondent will be notified of any additional measures required and amendment of this Order will be considered. To the extent it is consistent with safety considerations, Respondent will be afforded notice and an opportunity for a hearing prior to the imposition of additional corrective measures.

#### Required Corrective Action

Pursuant to 49 U.S.C. § 60112, I hereby order BP Exploration (Alaska), Inc. to immediately take the following corrective actions with respect to the PBWOA, PBEOA, and Lisburne hazardous liquid pipeline systems:


1. Repair all anomalies on the PBWOA segment between GC-2 and GC-1, including those anomalies identified after the March 2, 2006 pipeline failure before resuming service. Extract and record dimensional data of all anomalies found, including data on distance from upstream and downstream girth weld, o'clock position, minimum and maximum remaining wall thickness, and remedial actions taken on each anomaly.
2. Obtain prior written approval from the Director, Western Region, PHMSA before resuming operations on the PBWOA pipeline. Operating pressure on the PBWOA is not to exceed 80 psig. This pressure restriction shall remain in effect until written approval to increase the pressure is obtained from the Director, Western Region, PHMSA.
3. Perform an internal inspection using a calibrated smart pig on the PBWOA pipeline within 3 months of placing the pipeline back in service. Take appropriate action to address all anomalies discovered by this inline inspection device, in accordance with the standards for anomaly repair in 49 C.F.R. Part 195. Record differences between inline inspection data and actual "as found" data for all anomalies and integrate that data in future analyses, mapping corrosion growth, and confirming data gathered by inline inspection tool. Develop and submit for approval a plan to perform internal inspections at regular intervals, not to exceed 5 years, and schedule for the repair of anomalies identified through those inspections. Implement that plan upon approval.
4. Develop and submit for approval a plan for running maintenance pigs (cleaning pigs) on the PBWOA, PBEOA, and Lisburne pipelines at regular intervals. Implement that plan upon approval. Until that plan has been approved and implemented, run maintenance pigs on those pipelines on a weekly basis. Conduct laboratory analyses on sludge to determine its corrosive properties and integrate those findings into the internal corrosion management plan in Item 5 below.
5. Conduct a review of the leak detection system for the PBWOA, PBEOA, and Lisburne pipelines and make necessary modifications to ensure that the leak detection systems comply with API 1130, within 3 months of receipt of this order.

6. Develop and submit for approval an internal corrosion management plan to reduce internal corrosion on the PBWOA, PBEOA, and Lisburne pipelines within 3 months of receipt of this order. The plan must address the use of corrosion inhibitors, emulsion breakers, and mechanisms to reduce water and solid particles. This plan should also allow for monitoring sludge extracted from pipelines to ensure that internal corrosion is being controlled. Implement that plan upon approval.
7. Perform an internal inspection using a calibrated smart pig on the PBEOA and Lisburne pipelines within 3 months of receipt of this Order. Take appropriate action to address all anomalies discovered, in accordance with the standards for anomaly repair in 49 C.F.R. Part 195. Record differences between inline inspection data and actual "as found" data for all anomalies and integrate that data in future analyses, mapping corrosion growth, and confirming data gathered by inline inspection tool. Develop and submit for approval a plan to perform internal inspections at regular intervals, not to exceed 5 years, and schedule for the repair of anomalies identified through those inspections. Implement that plan upon approval.
8. Perform infrared aerial surveys at already-established intervals for the entirety of the PBWOA, PBEOA, and Lisburne pipelines.
9. At the earliest practicable moment following discovery of any pipeline failure on the PBWOA, PBEOA, and Lisburne pipelines that involves the release of any amount of the hazardous liquid transported, give telephonic notice of the failure to the National Response Center in accordance with 49 C.F.R. § 195.52(b).
10. Submit for review each oil spill response plan developed pursuant to the requirements of Federal law or regulation for the PBWOA, PBEOA, and Lisburne pipelines.

The Director, Western Region, PHMSA may grant an extension of time for compliance with any of the terms of this Order for good cause. A request for an extension must be in writing.

Respondent may appeal any decision of the Director, Western Region, PHMSA to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator are final.

In accordance with 49 U.S.C. § 60122 and 49 C.F.R. § 190.223, failure to comply with this Order may result in the assessment of civil penalties of not more than \$100,000 per day and in referral to the Attorney General for appropriate relief in a United States District Court.

  
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Stacey Gerard  
Associate Administrator  
for Pipeline Safety

MAR 15 2006

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Date Issued