



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

AUG 10 2006

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Washington, D.C. 20590

Via Federal Express and Facsimile To: (907) 564-5000

Ms. Maureen L. Johnson
Senior Vice President & Greater
Prudhoe Bay Performance Unit Leader
BP Exploration (Alaska), Inc.
900 E. Benson Blvd.
Anchorage, AK 99508

**RE: CPF #5-2006-5015H
Amendment No.2 to Corrective Action Order**

Dear Ms. Johnson:

Enclosed is Amendment No. 2 to the March 15, 2006 Corrective Action Order (CAO) issued by the Associate Administrator for Pipeline Safety to BP Exploration (Alaska), Inc., (BP). Amendment No. 2 sets forth further preliminary findings based on PHMSA's continuing oversight of BP's compliance with the March 15, 2006 CAO, and the results of recent testing and inspections of the subject lines. Amendment No. 2 imposes additional monitoring, testing, and information requirements and prescribes standards and deadlines for the repair of pipeline defects. The Amendment also imposes new requirements arising out of BP's decision to suspend or terminate operations involving one or more of its pipelines segments. Except as expressly provided in Additional Preliminary Finding No. 16, Amendment No. 2 does not waive, alter or supplant the original terms and requirements of the July 20, 2006 Amendment No. 1 to the CAO or the March 15, 2006 CAO.

Your receipt of the enclosed document constitutes service of that document under 49 C.F.R. § 190.5. The terms and conditions of this Amendment are effective upon receipt.

Sincerely,


Theodore L. Willke,
Acting Associate Administrator
for Pipeline Safety

Enclosure

cc: Chris Hoidal, P.E., Director
Western Region, PHMSA

Additional Preliminary Findings

Prudhoe Bay EOA Transmission Pipeline

1. The EOA pipeline is constructed of X60 Grade, 0.344-inch wall thickness pipe manufactured between 1976 and 1979. The first segment of the EOA pipeline, extending approximately three (3) miles from Flow Station 2 (FS2) to Flow Station 1 (FS1), is constructed of 30-inch nominal diameter pipe. The second segment, constructed of 34-inch nominal diameter pipe, extends approximately five (5) miles from FS1 to Skid 50; just upstream of the Trans Alaska Pipeline System (TAPS).
2. On or about July 22, 2006, 37 days after the deadline established under the March 15, 2006 CAO (as extended), BP performed smart pigging of the FS2-FS1 segment of the EOA pipeline. BP reportedly received initial reports of the smart pig data on August 4, 2006.
3. These reports identified sixteen (16) anomalies (representing wall loss in excess of 70 percent, including two (2) over 80 percent) at twelve (12) separate areas on the FS2-FS1 segment of EOA pipeline. According to BP, the data indicated each of the sixteen anomalies is approximately 1.5 by 1.5 inches in size and is located in the lower quadrant of the pipe (between the 5:45 to 6:45 positions).
4. On or about August 5, 2006, BP began performing direct visual and ultrasonic inspection of the locations identified by the smart-pig data as having significant wall loss. In the course of that work, according to BP reports, BP discovered a location where crude oil apparently had leaked through the pipe wall and onto the insulation material. On the basis of that discovery, BP reportedly initiated shut down of the FS2-FS1 segment of the EOA pipeline at approximately 6:00 a.m. on August 6, 2006.
5. Later in the morning of August 6, 2006, according to BP, BP personnel discovered crude oil leaking from a different location on the FS2-FS1 segment of the EOA pipeline. According to BP, field inspection of the leak site revealed multiple holes in the pipe wall at a single location, contributing to an estimated spill of approximately five (5) barrels of processed crude oil.
6. Since August 6, 2006, BP reportedly has discovered pinhole leaks on at least four additional locations on the FS2-FS1 segment of the EOA pipeline.
7. On the afternoon of August 6, 2006, BP notified the Director of PHMSA's Western Region Pipeline Safety Office of the EOA pipeline spill and advised PHMSA that BP had decided to shut down all of its Prudhoe Bay production fields on the North Slope. BP further stated that the Lisburne pipeline and associated production facilities would remain in service. On August 8, 2006, BP indicated its desire to maintain operations of the WOA pipeline if pipeline integrity could be demonstrated through further field assessments.

8. To date, BP has not performed cleaning or smart pigging operations on the FS1-Skid 50 (34-inch diameter) segment of the EOA pipeline.
9. On or about August 7, 2006, a team of PHMSA personnel and officials were deployed to BP facilities in Alaska to investigate the August 6, 2006 spill, examine the basis for BP's decision to cease operations, oversee BP's shutting down of pipeline operations, and evaluate what procedures would be necessary to safely restart operations.
10. On August 9, 2006, BP announced that it had decided to replace the FS2-FS1 segment and that BP had no plans to return the segment to operation.

Prudhoe Bay Lisburne Transmission Pipeline

11. On or about June 30, 2006, fifteen (15) days after the deadline established under the March 15, 2006 CAO (as extended), BP performed smart pigging of the Lisburne pipeline. BP reportedly received initial reports of the smart pig data on or about July 13, 2006.
12. BP reports that smart-pigging data indicate ten (10) areas in which external wall loss exceeded 40 percent.

Prudhoe Bay WOA Transmission Pipeline

13. The WOA pipeline consists of two segments of 34-inch nominal diameter pipe. The first segment (OT-21) extends approximately three (3) miles from Gathering Center 2 (GC2) to Gathering Center 1 (GC1). The OT-21 segment is currently bypassed by a jumper pipeline (GHX21). The second, downstream segment extends approximately five (5) miles from GC1 to Skid 50, and then to Pump Station 1 (PS1), just upstream of TAPS.
14. To date, BP has not performed cleaning or smart-pigging operations on either segment of the WOA pipeline.
15. BP took the OT-21 segment out of service following the spill discovered March 2, 2006 and has not returned the line to service since that date. Pursuant to Item 16 of Amendment No. 1 to the March 15, 2006 CAO, BP has submitted a plan for de-oiling the OT-21 segment beginning on or before August 22, 2006. The Director of the Western Region Pipeline Safety Office has reviewed and concurs with the plan.
16. BP has advised PHMSA by letter dated July 28, 2006, that the OT-21 segment will not be returned to service and will be permanently replaced with a new pipeline. To the extent that OT-21 will not be returned to service and is deoiled, BP is not required to complete smart-pigging of that segment as otherwise required by the March 15, 2006 CAO.
17. On June 6, 2006, BP submitted a plan for conducting assessment of pipeline wall integrity using ultrasonic testing (UT) to measure the thickness of the pipe wall at particular points on the line. BP proposed to use this inspection method until it conducts

smart pigging as required by the March 15, 2006 CAO, and interprets the results. BP contended that by extrapolation from the UT data, BP could obtain information, of equivalent reliability to smart pig results, for understanding the pattern and extent of internal corrosion in its pipelines. BP submitted the results of ultrasonic testing, performed from March through July, 2006, on the GC1-Skid 50 segment of the WOA pipeline.

18. Following the recent discovery of leaks and internal corrosion on the EOA line, BP announced a plan to conduct more thorough continuous automatic UT testing (AUT) of the in-service segment of its WOA pipeline. As of August 9, 2006, BP reportedly had initiated AUT testing on the GC1-Skid 50 segment.
19. As of August 8, 2006, BP has advised PHMSA investigators that all available resources are being deployed for completing inspection of the in-service segment of the WOA pipeline as soon as possible. BP representatives have advised PHMSA investigators and officials that they have deployed all available equipment and resources in support of completing continuous AUT testing as soon as possible. At the same time, BP reports that it is moving ahead with plans to smart pig all or part of the WOA pipeline by acquiring equipment and planning preliminary operations.
20. PHMSA has not ordered BP to cease operating the GC1-Skid 50 segment or the OT21 bypass (GHX21) of the WOA pipeline, and PHMSA is not aware of any data concerning the current condition of pipe on the GC1-Skid 50 segment, or the GHX21 bypass, that would necessitate an immediate cessation of operations on the WOA pipeline in order to protect life, property, or the environment.

DETERMINATION OF NECESSITY FOR AMENDMENT OF CORRECTIVE ACTION ORDER AND RIGHT TO A 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. Corrective action may include the suspended or restricted use of a pipeline facility, physical inspection, testing, repair, replacement or other appropriate action. 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.

Section 60112(e) of Title 49, United States Code, and the regulations promulgated thereunder (49 C.F.R. §190.233(b)), 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.

Based on the additional preliminary findings set forth above and the preliminary findings in the March 15, 2006 CAO and Amendment No. 1, I continue to find that the presence of hazardous

conditions on the EOA, Lisburne, and WOA pipelines, without the implementation of corrective measures, would result in likely serious harm to property or the environment.

Additionally, after considering the circumstances surrounding the failures discovered on August 6 and March 2, 2006, the number and severity of anomalies discovered on the EOA line, the immediate proximity of the pipeline to environmentally sensitive areas, and the safety and environmental threats posed by serious internal corrosion of the EOA line, I find that failure to expeditiously issue this Amendment would result in likely serious harm to life, property and the environment.

Within ten (10) days of receipt of this Order, BP 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) 366-3666. A hearing, if requested, will be held in Lakewood, Colorado or Washington, DC on a date that is mutually convenient to PHMSA and BP. A hearing requested on this Amendment may be consolidated with the hearing BP has already requested on this CAO.

In the course of this investigation, PHMSA may identify additional measures that need to be taken to ensure the safety of BP's pipelines covered by the CAO. The terms of the March 15, 2006 CAO and the additional terms added by Amendment No. 1, this amendment, and subsequent amendment(s) will remain in place for as long as the Associate Administrator deems necessary to ensure the subject pipelines are operated in a safe and environmentally sound manner. The actions required by this CAO are in addition to and do not waive or modify any requirements that apply to BP's pipeline systems under any provision of Federal or state law, or under any other order issued to BP under authority of 49 U.S.C. §§60101 et seq.

Amendments to Required Corrective Action

Pursuant to 49 U.S.C. § 60112, I hereby order BP to immediately take the following additional corrective actions with respect to BP's Prudhoe Bay oil transmission pipeline system:

The following items are added to the Corrective Action Order:

Item 22. Additional Measures for Monitoring and Response. Within one (1) day of receipt of this Amendment No. 2, and until further order of the Western Region Director, BP shall begin four times daily visual and handheld infrared surveys via ground patrol of the entire length of the EOA, Lisburne, and WOA pipelines. Surveys shall seek out signs of leaks and any other threats to pipeline integrity. BP shall report the results of the surveys to the Western Region Director on a weekly basis, provided that any leaks or threats to pipeline integrity must be reported immediately.

Prudhoe Bay EOA Transmission Pipeline

Item 23. EOA Plan. Within 30 days of receipt of this Amendment No. 2, BP shall submit a report to the Western Region Director, detailing its proposed actions and plans for replacing,

abandoning, and/or restoring operation of the FS2-FS1 and FS1-Skid 50 segments of EOA. The report shall include preliminary or final engineering plans and timetables, and identify all necessary equipment, parts, and supplies, specifying, inventories, availability and delivery schedules.

Item 24. Interim Ultrasonic Testing of EOA FS1-Skid 50 Segment. Until BP has completed cleaning and smart pigging of the EOA pipeline in accordance with Items 4 and 7 of the March 15, 2006 CAO, BP shall perform interim alternative testing in accordance with the requirements of this paragraph, on a basis not to interfere with AUT inspections on operational oil transmission lines. BP shall conduct AUT inspection of the 34-inch diameter segment of the EOA line from FS1 to Skid 50. The AUT inspection shall cover 100% of the length of the FS1-Skid50 segment and the bottom 120 degrees of pipe circumference (between the 4:00 and 8:00 positions). BP shall ensure that the AUT scans are performed, verified, calibrated, and recorded in accordance with established industry practices and shall submit data to the Western Region Director, in raw and graphical formats, within seven (7) days of receipt of AUT results by BP.

Item 25. Ultrasonic Testing of Anomalies Identified by Smart-Pigging. Within three weeks of receipt of this Amendment No. 2, BP shall perform external UT assessment at the location of each anomaly where wall loss exceeds 50%, as revealed by smart-pig data collected on the FS2-FS1 segment. BP shall provide PHMSA data reports and a graphical comparison of smart-pig and UT data for anomalies specified above within six (6) weeks of receipt of this order.

Item 26. Plan For De-Oiling EOA Pipeline. Within 30 days of receipt of this Amendment No. 2, BP shall develop, and submit for approval to the Western Region Director, a plan to safely remove the crude oil in the segments of the EOA pipeline that will not be restored to operation. The plan shall provide for removal of the crude oil in a safe and environmentally sound manner, and in compliance with all applicable federal, state and local laws and regulations. BP shall implement such plan upon approval.

Item 27. Safe Resumption of Operations. BP may return the EOA pipeline to operation only with the prior approval of the Director of PHMSA's Western Region Pipeline Safety Office, upon a record of satisfactory testing, repair, inspection, and planning in accordance with the March 15, 2006 CAO, the July 20, 1006 Amendment No. 1, and this Amendment No. 2. Any request for resumption of operations, temporary or otherwise, shall be submitted no fewer than fourteen (14) days in advance of the proposed restart date.

Prudhoe Bay Lisburne Transmission Pipeline

Item 28. Ultrasonic Testing of Anomalies Identified by Smart-Pigging. Within three weeks of receipt of this Amendment No. 2, BP shall perform external UT assessment at the location of each anomaly where wall loss exceeds 50 %, as revealed by smart-pig data collected on the Lisburne line. BP shall provide PHMSA data reports and a graphical comparison of smart-pig and UT data for anomalies specified above within six (6) weeks of receipt of this order.

Item 29. Repair of Pipeline Defects. BP shall document and repair all defects and other conditions defined under 49 C.F.R. §195.452(h)(4)(i) through (iv) on a schedule that at a

minimum, comports with the deadlines set out in 49 C.F.R. §195.452(h)(4) and in a manner consistent with ASME B-31.4. Within 30 days of receipt of this order, BP shall extract, record and provide to the Western Region Director dimensional data of all anomalies found, including data on distance from upstream and downstream girth weld, position, minimum and maximum remaining wall thickness, and remedial actions taken with respect to each anomaly. As repairs are made, BP shall submit monthly reports to the Western Region Director documenting each repair made (including photographs) with respect to each such anomaly.

Prudhoe Bay WOA Transmission Pipeline

Item 30. Information Request. Within 48 hours of receipt of this Amendment No. 2, BP shall provide the Western Region Director with all data and risk analyses not previously provided by BP, concerning the current condition of the WOA pipeline, including all data and analyses on the basis of which BP announced its original decision to cease operation of the WOA pipeline.

Item 31. Ultrasonic Testing Pending Smart-Pigging. Until BP has completed cleaning and smart pigging of the GC1-Skid 50 segment of the WOA pipeline in accordance with Items 3 and 4 of the March 15, 2006 CAO, BP shall perform testing in accordance with the requirements of this paragraph. BP shall conduct AUT inspection of the GC1-Skid 50 segment of WOA. The AUT inspection shall cover 100% of the length of the GC1-Skid 50 segment and the lowest 120 degrees of pipe circumference (between the 4:00 and 8:00 positions). The entire circumference of the pipe shall be visually inspected and any areas of general external corrosion shall be assessed and documented. BP shall ensure that the AUT scans are performed, verified, calibrated, and recorded in accordance with established industry practices and shall submit data to the Western Region Director, in raw and graphical formats, within seven (7) days of receipt of AUT results by BP. Any external corrosion shall also be reported at that time.

Item 32. Documentation and Repair of Pipeline Defects. BP shall document and repair all defects and other conditions defined under 49 C.F.R. §195.452(h)(4)(i) through (iv) on a schedule that at a minimum, comports with the deadlines set out in 49 C.F.R. §195.452(h)(4) and in a manner consistent with ASME B-31.4. Within 30 days of receipt of this order, BP shall extract, record and provide to the Western Region Director dimensional data of all anomalies found, including data on distance from upstream and downstream girth weld, position, minimum and maximum remaining wall thickness, and remedial actions taken with respect to each anomaly. As repairs are made, BP shall submit monthly reports to the Western Region Director documenting each repair made (including photographs) with respect to each such anomaly.

Item 33. Condition of GHX21 Bypass. Within 30 days of receipt of this Amendment No. 2, BP shall provide a report to the Western Region Director detailing all maintenance, cleaning and inspection, and repair activities with respect to GHX21. BP shall also develop, submit to the Western Region Director for review and approval, a plan for performance of smart pigging at regular intervals not to exceed five (5) years, and a schedule for the repair of anomalies identified through those inspections.

Item 34. Inspection Plan for OT501. Within 30 days of receipt of this Amendment No. 2, BP shall provide a report to the Western Region Director detailing the results of inspections and testing of the OT501 section, and plans for future inspection and testing.

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Except as expressly provided in Additional Preliminary Finding No. 16, this Amendment does not modify, waive or supplant any requirements imposed under the March 15, 2006 CAO, the July 20, 2006 CAO Amendment No.1. This Amendment No.2 does not modify, waive, or supplant any requirements that apply to BP's pipeline systems under any other provision of federal, state, or local law, or permit.

With respect to all actions undertaken pursuant to this Amendment, BP is responsible for achieving and maintaining compliance with all applicable federal, state and, local laws, regulations and permits. This Amendment is not and shall not be construed to be a permit, or a modification of any permit, under any federal, state, or local law or regulation.

In accordance with 49 U.S.C. § 60122 and 49 C.F.R. § 190.223, failure to comply with the CAO, as amended, may result in the assessment of administrative civil penalties of not more than \$100,000 per violation per day pursuant to 49 U.S.C. §60122, or in the imposition of civil judicial penalties and other appropriate relief pursuant to 49 U.S.C. §60120. The terms and conditions of this Amendment are effective upon receipt.



Theodore L. Willke
Acting Associate Administrator
for Pipeline Safety



Date Issued