



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

SENT TO COMPLIANCE REGISTRY

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12300 W Dakota Ave , Suite 110
Lakewood, CO 80228

NOTICE OF AMENDMENT

VIA FEDEX AND FACSIMILE to (907) 787-8330

November 27, 2007

Mr. Jim Johnson
Pipeline Vice President
Alyeska Pipeline Service Company
900 East Benson Blvd.
P.O. Box 196660
Anchorage, AK 99519-6660

CPF 5-2007-5042M

Dear Mr. Johnson:

On April 10-14, August 9-24, September 11-15, and October 16-20, 2006 representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code, inspected Alyeska Pipeline Service Company's (Alyeska) procedures for reporting, construction, corrosion control, integrity management and operation and maintenance in Anchorage and Fairbanks, Alaska.

PHMSA also investigated a series of pipeline failures that occurred on TAPS in December 2006 and January 2007. The first of these incidents occurred on December 12, 2006, in connection with Alyeska's operation of a scraper pig (Pig # 67) between Pump Station 4 (PS4) and PS9 on TAPS. Alyeska reported that the scraper pig was destroyed when it was pushed into the Mainline Unit (MLU) strainer at PS7. This Notice of Amendment (NOA) addresses the Pig #67 failure. The other failures are described and addressed in the companion Notice of Probable Violation (NOPV) in this case. See 5-2007-5041.

On the basis of these inspections and investigations, PHMSA has identified apparent inadequacies in Alyeska's plans and procedures, as described below:

1. **§195.422 Pipeline Repairs.**

(b) No operator may use any pipe, valve, or fitting, for replacement in repairing pipeline facilities, unless it is designed and constructed as required by this part.

Alyeska's procedures for operations, maintenance, repairs and construction of its pipeline facilities are inadequate because they do not indicate which editions of standards and/or codes are to be used. For example, Alyeska procedure, WP-3.1, General Welding and Brazing Requirements references API 1104 and ASME Section IX standards, but the procedure does not specify the edition that is to be used. Part 195 incorporates by reference specific editions of standards and codes. Alyeska must amend its procedures to refer to the specific editions referenced by Part 195.

2. **§195.49 Annual report**

Beginning no later than June 15, 2005, each operator must annually complete and submit DOT form RSPA F 7000-1.1 for each type of hazardous liquid pipeline facility operated at the end of the previous year. A separate report is required for crude oil, HVL (including anhydrous ammonia), petroleum products, and carbon dioxide pipelines. Operators are encouraged, but not required, to file an annual report by June 15, 2004, for calendar year 2003.

Alyeska's OM-1 Section 9 procedures for making reports and notifications to the Government are inadequate because they do not include a process for submittal of annual reports. Alyeska must amend its OM-1 Section 9 procedures to include a process for submittal of annual reports in accordance with §195.49.

3. **§195.54 Accident reports.**

(b) Whenever an operator receives any changes in the information reported or additions to the original report on DOT Form 7000-1, it shall file a supplemental report within 30 days.

Alyeska's OM-1 9 3.5.2 procedure for submitting accident reports is inadequate because it does not require Alyeska to submit any changes in the information reported or additions to the original DOT Form 7000-1 within 30 days. Alyeska's procedure states that changes or additions may be submitted within 30 days. Alyeska must amend its OM-1 9.3.5.2 procedure to indicate that changes shall be submitted within 30 days via the filing of a supplemental report.

4. **§195.266 Construction records.**

A complete record that shows the following must be maintained by the operator involved for the life of each pipeline facility:

- (a) The total number of girth welds and the number nondestructively tested, including the number rejected and the disposition of each rejected weld.**
- (b) The amount, location, and cover of each size of pipe installed.**
- (c) The location of each crossing of another pipeline.**
- (d) The location of each buried utility crossing.**
- (e) The location of each overhead crossing.**
- (f) The location of each valve and corrosion test station.**

Alyeska's OM-1 10.3.1.1 procedure for complying with construction and repair record keeping requirements is inadequate because it only explains that Alyeska has kept all records in the past, rather than what Alyeska does in the present, and will do in the future, to retain current girth weld records. Alyeska must amend its OM-1 10.3.1.1 procedure to indicate that all current and future girth weld records will be retained

5. §195.402 Procedural manual for operations, maintenance, and emergencies.

- (a) General. Each operator shall prepare and follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. This manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year, and appropriate changes made as necessary to insure that the manual is effective. This manual shall be prepared before initial operations of a pipeline commence, and appropriate parts shall be kept at locations where operations and maintenance activities are conducted.**

Alyeska's OM-1 procedures are inadequate because, in several instances, rather than setting forth specific provisions on how Alyeska will comply with Part 195, the procedures simply reference Part 195 as guidance. For example, Alyeska's OM-1 9.3.2.1 procedure for reporting Safety Related Conditions provides that the DOT report shall be submitted according to the requirements of 49 C.F.R. 195. Alyeska must amend its OM-1 procedures to include specific provisions for compliance with applicable Part 195 regulations. Alyeska may not simply refer readers of OM-1 to Part 195 for guidance.

6. §195.402 Procedural manual for operations, maintenance, and emergencies.

- (c) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:**
 - (4) Determining which pipeline facilities are located in areas that would require an immediate response by the operator to prevent hazards to the public if the facilities failed or malfunctioned.**
 - (6) Minimizing the potential for hazards identified under paragraph (c)(4) of this section and the possibility of recurrence of accidents analyzed under paragraph (c)(5) of this section.**

Alyeska's OM-1 procedures are inadequate because they do not give guidance or refer to guidance to minimize the hazards to the public identified under (c)(4). Alyeska must amend its OM-1 procedures to include provisions to give guidance or refer to guidance to minimize the potentials for hazards as identified under (c)(4).

7. §195.402 Procedural manual for operations, maintenance, and emergencies.

(c) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:

(10) Abandoning pipeline facilities, including safe disconnection from an operating pipeline system, purging of combustibles, and sealing abandoned facilities left in place to minimize safety and environmental hazards. For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through commercially navigable waterways the last operator of that facility must file a report upon abandonment of that facility in accordance with §195.59 of this part.

Alyeska's OM-6.7.1 procedure for abandoning pipeline facilities is inadequate because it does not provide guidance or reference a procedure for purging combustibles from abandoned facilities. Alyeska must amend OM-6.7.1 to include procedures on how combustibles are to be purged from a pipeline facility

8. §195.404 Maps and Records.

(a) Each operator shall maintain current maps and records of its pipeline systems that include at least the following information;

(2) All crossings of public roads, railroads, rivers, buried utilities, and foreign pipelines.

Alyeska's OM-1 10.3.1.1 procedures regarding the maintenance of maps and records of pipeline crossings, utilities and other pipeline data are inadequate because they do not indicate that this data is available on the Alyeska intranet website. Alyeska indicated that this information was in fact available to all company employees on the website. Alyeska must amend OM-1 10.3.1.1 to indicate that this data is available on Alyeska's intranet website.

9. §195.404 Maps and Records.

(a) Each operator shall maintain current maps and records of its pipeline systems that include at least the following information;

(3) The maximum operating pressure of each pipeline.

Alyeska's OM-1 10.3.1.1 procedure is inadequate because it does not indicate where the official record of the MOP of TAPS resides. Alyeska must amend OM-1 10.3.1 1 to indicate the location of the official record of MOP.

10. §195.406 Maximum operating pressure.

(a) Except for surge pressures and other variations from normal operations, no operator may operate a pipeline at a pressure that exceeds any of the following:

(1) The internal design pressure of the pipe determined in accordance with §195.106.

Alyeska's OM-1 1.7 procedures are inadequate because they do not provide or reference the design formula used for determining the design pressure and do not provide the design factors. Alyeska's OM-1 1.7 includes in the definition of MOP, "the maximum internal pressure of the pipe as determined by the design factor from the applicable code, the nominal wall thickness and the specified minimum yield strength for the pipe."

11. §195.428 Overpressure safety devices and overflow protection systems

(a) Except as provided in paragraph (b) of this section, each operator shall, at intervals not exceeding 15 months, but at least once each calendar year, or in the case of pipelines used to carry highly volatile liquids, at intervals not to exceed 7½ months, but at least twice each calendar year, inspect and test each pressure limiting device, relief valve, pressure regulator, or other item of pressure control equipment to determine that it is functioning properly, is in good mechanical condition, and is adequate from the standpoint of capacity and reliability of operation for the service in which it is used.

Alyeska's OM-1 Section 7.1 procedures are inadequate because they do not list the pressure transmitters that send signals to Alyeska's Operations Control Center (OCC) as pressure control equipment. These devices are considered pressure control equipment and are subject to the requirements of §195.428.

Alyeska's OM-1 Section 7 procedures, including Table 7.1, are also inadequate because they do not list a number of mainline speed controllers that are used to prevent pipeline overpressure. While some of these speed controllers are listed in OM-1 2.4.1, they are not listed in Section 7 or Table 7.1. Alyeska must Amend OM-1 Section 7, including table 7.1, to include the following overpressure devices: PIC-X01 Suction Pressure Controller; PIC-X03, Suction Pressure Rate of Rise, PIC-X04, Suction Pressure Relief Controller; PSH-X04, Suction Pressure Relief Switch; PIC-X02, Discharge Pressure Speed Controller; PIC-X05, Discharge Pressure Relief Controller; and PSH-X05, Discharge Pressure Relief Switch.

12. §195.428 Overpressure safety devices and overflow protection systems

(a) Except as provided in paragraph (b) of this section, each operator shall, at intervals not exceeding 15 months, but at least once each calendar year, or in the case of pipelines used to carry highly volatile liquids, at intervals not to exceed 7½ months, but at least twice each calendar year, inspect and test each pressure limiting device, relief valve, pressure regulator, or other item of pressure control equipment to determine that it is functioning properly, is in good mechanical condition, and is adequate from the standpoint of capacity and reliability of operation for the service in which it is used.

Alyeska's OM-1 procedures for inspecting and testing thermal relief valves are inadequate because they state that the valves must be inspected annually under ASME B31.4 and not once each calendar year, not to exceed 15 months, as required under Part 195. Alyeska must amend OM-1 to reflect the specific time interval requirement provided by §195.428(a).

13. §195.432 Breakout tanks.

(b) Each operator shall inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to section 4 of API Standard 653. However, if structural conditions prevent access to the tank bottom, the bottom integrity may be assessed according to a plan included in the operations and maintenance manual under §195.402(c)(3).

Alyeska's OM-1 Section 7.3.5 and 12.8.1 procedures are inadequate because they neither include nor reference clear guidance for the internal inspections that must be performed according to §195.432 and Section 6 of API 653 as referenced therein. Alyeska must amend OM-1 Sections 7.3.5 and 12.8.1 to include or reference guidance on internal inspections in accordance with Section 6 of API 653.

14. §195.432 Breakout tanks.

(b) Each operator shall inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to section 4 of API Standard 653. However, if structural conditions prevent access to the tank bottom, the bottom integrity may be assessed according to a plan included in the operations and maintenance manual under §195.402(c)(3).

Alyeska's OM-1 Section 7.3.5 and 12.8.1 procedures are inadequate because they do not require that the actual internal inspection interval shall be set to ensure that the bottom plate minimum thickness at the next inspection shall not be less than the values listed in Section 6 of API 653. Alyeska must amend OM-1 Section 7.3.5 and 12.8.1 to include or reference guidance on setting inspection intervals in accordance with Section 6 of API Standard 653.

15. §195.555 What are the qualifications for supervisors?

You must require and verify that supervisors maintain a thorough knowledge of that portion of the corrosion control procedures established under Sec. 195.402(c)(3) for which they are responsible for insuring compliance.

Alyeska's OM-1 Section 12.2 procedures are inadequate because they do not include or reference a method for insuring and documenting that corrosion control supervisors have a thorough knowledge of corrosion control procedures for which they are responsible. Alyeska must amend OM-1 Section 12.2 to include or reference a method for insuring and documenting that corrosion control supervisors have a thorough knowledge of corrosion control procedures for which they are responsible.

16. §195.561 When must I inspect pipe coating used for external corrosion control?

- (a) You must inspect all external pipe coating required by Sec. 195.557 just prior to lowering the pipe into the ditch or submerging the pipe.**
- (b) You must repair any coating damage discovered.**

Alyeska's OM-1 coating procedures are inadequate because they do not state that the holiday inspection and repair procedures reside under the individual coating specifications, such as Specification B-420, etc. Alyeska must amend OM-1 to state that the holiday inspection and repair procedures reside under the individual coating specifications.

17. §195.563 Which pipelines must have cathodic protection?

- (a) Each buried or submerged pipeline that is constructed, relocated, replaced, or otherwise changed after the applicable date in Sec. 195.401(c) must have cathodic protection. The cathodic protection must be in operation not later than 1 year after the pipeline is constructed, relocated, replaced, or otherwise changed, as applicable.**

Alyeska's OM-1 procedures are inadequate because they do not require that cathodic protection must be applied to a pipeline within one year of construction as required by §195.563(a). Alyeska must amend OM-1 to reflect the specific requirements of §195.563(a).

18. §195.563 Which pipelines must have cathodic protection?

- (a) Each buried or submerged pipeline that is constructed, relocated, replaced, or otherwise changed after the applicable date in Sec. 195.401(c) must have cathodic protection. The cathodic protection must be in operation not later than 1 year after the pipeline is constructed, relocated, replaced, or otherwise changed, as applicable.**

Alyeska's OM-1 procedures are inadequate because they do not include or reference guidance for pipelines that have been converted under §195.5, as required by §195.563(a). Alyeska must amend OM-1 to reflect the specific requirements of §195.563(a)

19. §195.567 Which pipelines must have test leads and what must I do to install and maintain the leads?

(c) Maintenance. You must maintain the test lead wires in a condition that enables you to obtain electrical measurements to determine whether cathodic protection complies with Sec. 195.571.

Alyeska's OM-1 Section 12.5 procedures are inadequate because they do not require that test lead repairs be completed as soon as possible to ensure cathodic protection measurements can be made as required under Part 195. Alyeska must amend OM-1 Section 12.5 to require that test lead repairs are completed as soon as possible.

20. §195.452(i) *What preventive and mitigative measures must an operator take to protect the high consequence area?*

(1) *General requirements.* An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection ...

(2) *Risk analysis criteria.* In identifying the need for additional preventive and mitigative measures, an operator must evaluate the likelihood of a pipeline release occurring and how a release could affect the high consequence area. This determination must consider all relevant risk factors, including, but not limited to: (i) Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area; (ii) Elevation profile; (iii) Characteristics of the product transported; (iv) Amount of product that could be released; (v) Possibility of a spillage in a farm field following the drain tile into a waterway; (vi) Ditches along side a roadway the pipeline crosses; (vii) Physical support of the pipeline segment such as by a cable suspension bridge; (viii) Exposure of the pipeline to operating pressure exceeding established maximum operating pressure.

Alyeska's procedures for risk analysis are inadequate because they underestimate segment risk and may be sensitive to segment length assumptions:

a. Risk ranking of pipeline segments is, in part, a function of segment length. Given that risk ranking is based on numeric likelihood criteria, short segment lengths have the potential to artificially lower the likelihood classification. Alyeska must perform further analysis to understand if the segmentation approach artificially results in some segments being classified as category 4 (no P&M evaluations required) or other higher risk categories.

b. The current segment risk ranking only considers the worst case risk of the three considered release sizes – small, medium, large. As each of these cases is possible, actual segment risk is the sum of the respective release cases. This may increase the number of segments classified as risk categories 1-3, which require the evaluation of P&M measures (and/or increase the number of segments in the higher risk categories 1-2).

Alyeska must revise its procedures to comply with 195.452

21. §195.402 Procedural manual for operations, maintenance, and emergencies.

(a) General. Each operator shall prepare and follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies.

(c) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:

(3) Operating, maintaining, and repairing the pipeline system in accordance with each of the requirements of this subpart and subpart H of this part.

Alyeska's pigging procedures did not address the risks associated with passing a scraper pig through Pump Station 7 (PS7) with the piping configuration in place at the time of the pig run. Alyeska's procedure (OCC-2.10, Rev 8, dated 08/23/06), Scraper Pigs: Launching, Passing and Receiving and SAFE procedure, 3.4.14.-07, Rev 2, 10/25/05, Manual pig passage at PS 7) did not adequately address the risks associated with passing a scraper pig through Pump Station piping. Alyeska's pigging procedures were not updated as a result of new information. For example, Alyeska had data that indicated that certain pig bars were missing from PS7. Alyeska did not modify its pigging procedure to reflect the risks of losing a pig into the Mainline Unit as a result of the missing pig bars.

The cleaning pig launched from PS4 December 16, 2006 did not arrive at PS9 as scheduled. Alyeska indicated that the cleaning pig was forced into the Mainline Unit (MLU) strainer at PS7. Alyeska offered a root cause analysis that asserted that:

- a The center pig bar at the PS07 S2 branch connection was missing. The report confirms that in 2005, when check valve CKV67A was installed, photographic evidence showed that the middle pig bar at the S2 branch connection was missing.
- b The newly installed mainline CKV67A clapper at PS7 was not raised during the Pig # 67 run. This check valve installation was not identified in Alyeska's pig passing procedures. Since the cleaning pig incident at PS7, Alyeska has revised its procedure for launching, passing, and receiving scraper pigs. The new procedure now requires the clapper on CKV 67A to be raised whenever a pig is passing PS7

Alyeska has also revised its procedure for launching, passing, and receiving scraper pigs. The new procedure now requires the pump house at PS07 to be in the "isolate configuration" during all pig runs.

PHMSA believes that if the pig bars had been properly installed in 2005 and the procedures for raising the clapper on check valve and isolating the pumps had been in place for the pig run the incident would not have occurred. Alyeska must amend its pigging procedures to adequately address the risks presented by changes in the pipeline environment that could affect safety during pig runs

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.237. Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. 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 respond within 30 days of receipt of this Notice will waive Alyeska's right to contest the allegations in this Notice and authorize the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to Alyeska and to issue a Final Order.

If, after opportunity for a hearing, Alyeska's plans or procedures are found inadequate as alleged in this Notice, Alyeska may be ordered to amend its plans or procedures to correct the inadequacies (49 C.F.R. § 190.237). If Alyeska is not contesting this Notice, we propose that you submit Alyeska's amended procedures to my office within 30 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in Alyeska's amended procedures, this enforcement action will be closed.

In correspondence concerning this matter, please refer to **CPF 5-2007-5042M**, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,



Chris Hoidal
Director, Western Region
Pipeline and Hazardous Materials Safety Administration

Enclosure: *Response Options for Pipeline Operators in Compliance Proceedings*



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Hazardous Materials Safety
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12300 W Dakota Ave., Suite 110
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VIA FEDEX AND FACSIMILE to (907) 787-8330

November 27, 2007

Mr. Jim Johnson
Pipeline Vice President
Alyeska Pipeline Service Company
900 East Benson Blvd.
P.O. Box 196660
Anchorage, AK 99519-6660

**CPF 5-2007-5041
CPF 5-2007-5042M**

Dear Mr. Johnson.

This letter transmits notices of two enforcement actions brought by the Pipeline and Hazardous Materials Safety Administration (PHMSA) against Alyeska Pipeline Service Company, as operator of the Trans Alaska Pipeline System (TAPS). The enclosed Notice of Proposed Violation and Notice of Amendment recite proposed findings based on inspections and incident investigations conducted by PHMSA in 2006 and 2007. On the basis of these findings, PHMSA alleges specified violations of the Federal Pipeline Safety Regulations, 49 C.F.R. Part 195, and proposes to assess civil penalties and require specific corrective actions, including development and implementation of revised safety procedures.

Without prejudice to Alyeska's right to a hearing, this will acknowledge the parties' ongoing discussions concerning actions Alyeska has taken to correct certain deficiencies cited by PHMSA and prevent future violations. Beginning last spring, PHMSA also has been working with Alyeska on development of broader risk-management procedures and controls. With an eye to future conditions and challenges, we expect this "Unified Plan" to address management processes, in addition to engineering and maintenance, and to prescribe standards in excess of

PHMSA's minimum regulatory requirements. We are encouraged by Alyeska's most recent progress and look forward to working with you to advance development and implementation of the Unified Plan.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Hoidal". The signature is fluid and cursive, with a large initial "C" and a long, sweeping tail.

Chris Hoidal
Director, Western Region
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Notice of Probable Violation and Proposed Civil Penalty CPF 5-2007-5041*
Proposed Compliance Order CPF 5-2007-5041
Notice of Amendment CPF 5-2007-5042M
Response Options for Pipeline Operators in Compliance Proceedings