



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials Safety  
Administration**

12300 W Dakota Ave , Suite 110  
Lakewood, CO 80228

**NOTICE OF PROBABLE VIOLATION  
PROPOSED CIVIL PENALTY  
and  
PROPOSED COMPLIANCE ORDER**

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

April 1, 2008

Mr. Jim Johnson  
Pipeline Vice President  
Alyeska Pipeline Service Company  
900 East Benson Blvd  
P.O. Box 196606  
Anchorage, AK 99519

**CPF 5-2008-5008**

Dear Mr. Johnson:

Between June 18 and 21, 2007, a representative 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) facilities and records for the Trans Alaska Pipeline System (TAPS) between Mile Posts 367 and 469. Operational reviews of Pump Stations 7 and 8 were also included in this inspection.

As a result of the above referenced inspection, and an additional inspection that took place on Alyeska facilities between Pump Station 1 and Mile Post 126 on July 8-13, 2007, it appears that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations. The items inspected and the probable violations are:

1. **§195.573 What must I do to monitor external corrosion control?**

**(a) Protected pipelines. You must do the following to determine whether cathodic protection required by this subpart complies with Sec. 195.571:**

**(1) Conduct tests on the protected pipeline at least once each calendar year, but with intervals not exceeding 15 months.**

**(e) Corrective action. You must correct any identified deficiency in corrosion control as required by Sec. 195.401(b). However, if the deficiency involves a pipeline in an integrity management program under Sec. 195.452, you must correct the deficiency as required by Sec. 195.452(h).**

Alyeska failed to conduct pipe-to-soil tests on the mainline pipe at several road crossings on TAPS at least once each calendar year, but with intervals not exceeding 15 months, as required by §195.573(a)(1), to determine whether cathodic protection (CP) complied with §195.571. Further, Alyeska failed to correct CP deficiencies as required by §195.573(e) after eventually conducting tests at some road crossings and discovering CP deficiencies. It is inappropriate for more than one (1) year to pass before areas of low CP are remediated. However, in instances of aggressive corrosion, remediation must occur in less than one (1) year. The records indicate that Alyeska failed to conduct pipe-to-soil tests and failed to remediate inadequate CP at the locations listed below:

- Pipe-to-soil tests on the mainline pipe at road casings at Mile Posts 18.69, 177.24, 300.31, 308.01, 340.46 and 367.06 were not conducted for the years 2004 and 2005.
- Pipe-to-soil tests of the mainline pipe at the road crossing at Mile Post 579.48 were not conducted in years 2003 and 2004. The mainline pipe at this location did not meet NACE criteria for the years 2005 and 2006.
- Pipe-to-soil tests of the mainline pipe at the road crossing at Mile Post 246.18 were not conducted for 2004. The mainline pipe at this location did not meet NACE criteria for the years 2003, 2005 and 2006.
- Pipe-to-soil tests of the mainline pipe at the road crossing at Mile Post 765.24 were not conducted for the years 2003 and 2004. The mainline pipe at this location did not meet NACE criteria for the years 2005 and 2006.

**Evidence:**

1. TAPS mainline road crossing surveys, '06, '05, '04, and '03.
2. MP-166-3.22, Rev 1, Section 5.2.5.1, dated 7/27/06.

2. **§195.571 What criteria must I use to determine the adequacy of cathodic protection?**

**Cathodic protection required by this subpart must comply with one or more of the applicable criteria and other considerations for cathodic protection contained in paragraphs 6.2 and 6.3 of NACE Standard RP 0169 (incorporated by reference, *see* § 195.3).**

**§195.573 What must I do to monitor external corrosion control?**

**(e) Corrective action. You must correct any identified deficiency in corrosion control as required by Sec. 195.401(b). However, if the deficiency involves a pipeline in an integrity management program under Sec. 195.452, you must correct the deficiency as required by Sec. 195.452(h).**

Alyeska's pipe-to-soil potentials at certain CP coupon test stations on TAPS failed to meet the criteria in NACE Standard RP 0169 as required by §195.571. Records show that CP coupons failed to meet the NACE Standard at Mile Posts 449.26, 474.03, and 477.48 on TAPS for the years 2004, 2005 and 2006.

Further, Alyeska failed to correct those deficiencies in corrosion control at those locations as required by §195.401(b). It is inappropriate for more than one (1) year to pass before areas of low CP are remediated. However, in some instances remediation must occur in less than one (1) year.

**Evidence:**

TAPS Mainline CP Coupon Surveys, '04, '05, '06.

3. **§195.571 What criteria must I use to determine the adequacy of cathodic protection?**

**Cathodic protection required by this subpart must comply with one or more of the applicable criteria and other considerations for cathodic protection contained in paragraphs 6.2 and 6.3 of NACE Standard RP 0169 (incorporated by reference, *see* § 195.3).**

**§195.573 What must I do to monitor external corrosion control?**

**(e) Corrective action. You must correct any identified deficiency in corrosion control as required by Sec. 195.401(b). However, if the deficiency involves a pipeline in an integrity management program under Sec. 195.452, you must correct the deficiency as required by Sec. 195.452(h).**

Alyeska's pipe-to-soil potentials based on recurring Close Interval Surveys failed to meet the criteria in NACE Standard RP 0169 as required by §195.571. Records show Close Interval surveys failed to meet the NACE Standard at Mile Posts 449.22 to 449.27, Mile Posts 468.28 to 468.37, Mile Posts 477.15 to 477.62 and Mile Post 477.41 on TAPS for the years 2004, 2005, 2006.

Further, Alyeska failed to correct those deficiencies in corrosion control at those locations as required by §195.401(b). It is inappropriate for more than one (1) year to pass before areas of low CP are remediated. However, in some instances remediation must occur in less than one (1) year.

**Evidence:**

TAPS mainline Close Interval Survey data, '04, '05, '06.

**4. §195.573 What must I do to monitor external corrosion control?**

**(a) Protected pipelines. You must do the following to determine whether cathodic protection required by this subpart complies with Sec. 195.571:**

**(1) Conduct tests on the protected pipeline at least once each calendar year, but with intervals not exceeding 15 months.**

**(e) Corrective action. You must correct any identified deficiency in corrosion control as required by Sec. 195.401(b). However, if the deficiency involves a pipeline in an integrity management program under Sec. 195.452, you must correct the deficiency as required by Sec. 195.452(h).**

Alyeska failed to provide cathodic protection records that would indicate whether it had conducted the tests required by §195.573(a)(1) on the 16" crude incoming line and 14" residual line at the North Pole metering facility on TAPS for the years 2004 and 2005. This lateral piping was installed in 1997 and 1998.

**5. §195.579 What must I do to mitigate internal corrosion?**

**(a) General. If you transport any hazardous liquid or carbon dioxide that would corrode the pipeline, you must investigate the corrosive effect of the hazardous liquid or carbon dioxide on the pipeline and take adequate steps to mitigate internal corrosion.**

Alyeska failed to provide any records to show that it investigates the corrosive effects of the hazardous liquid transported in TAPS. Alyeska as required by §195.579 (a) to investigate the corrosive effects of the hazardous liquid in the TAPS pipeline. Alyeska's 2004 In-line Inspection (ILI) records indicate that internal corrosion exists on the TAPS

mainline. Corrosive effects investigation is critical for determining the corrosive nature of the crude oil transported by TAPS and how the pipeline is affected. The hazardous liquids delivered to TAPS contain materials that are known to be potentially corrosive.

**Evidence:**

Internal corrosion pig calls from the 2001 UT pig and the 2004 MFL pig.

**6. §195.579 What must I do to mitigate internal corrosion?**

**(a) General. If you transport any hazardous liquid or carbon dioxide that would corrode the pipeline, you must investigate the corrosive effect of the hazardous liquid or carbon dioxide on the pipeline and take adequate steps to mitigate internal corrosion.**

Alyeska failed to provide any records that indicate it takes adequate steps to mitigate internal corrosion on the TAPS mainline. Alyeska's 2004 In-line Inspection (ILI) records indicate that internal corrosion exists on the TAPS mainline. Alyeska is required by §195.579 (b) to take adequate steps to mitigate internal corrosion.

**Evidence:**

Internal corrosion pig calls from the 2001 UT pig and the 2004 MFL pig.

**7. §195.583 What must I do to monitor atmospheric corrosion control?**

**(a) You must inspect each pipeline or portion of pipeline that is exposed to the atmosphere for evidence of atmospheric corrosion, as follows:**

**If the pipeline is located:      Then the frequency of inspection is:**

<b><u>Onshore</u></b>	<b>At least once every 3 calendar years, but with intervals not exceeding 39 months</b>
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**(b) During inspections you must give particular attention to pipe at soil-to-air interfaces, under thermal insulation, under disbonded coatings, and at pipe supports.**

**(e) Corrective action. You must correct any identified deficiency in corrosion control as required by Sec. 195.401(b). However, if the deficiency involves a pipeline in an integrity management program under Sec. 195.452, you must correct the deficiency as required by Sec. 195.452(h).**

Alyeska failed to provide atmospheric corrosion control records for TAPS to PHMSA personnel. Alyeska is required by §195.583 (a) to monitor atmospheric corrosion at least every three (3) years and give particular attention to pipe at soil-to-air interfaces, under thermal insulation, under disbonded coatings, and at pipe supports.

For example, Alyeska has belowground check valves in vaults, belowground mainline fittings in vaults, belowground mainline piping corridors, and belowground header piping. All of these were found to contain water during a recent inspection of PS 1 through Milepost 126 of TAPS. Alyeska failed to produce records for required atmospheric corrosion inspections at these locations.

**Evidence:**

1. Photographs of check valves 8, 10, 11, 12, 13, 15, 16, Manual Gate Valve 10A, split tee, DRA injection ring.
2. OM-1 section 12.12, Atmospheric Corrosion.
3. Letter for specific information and Alyeska's response.
4. Alyeska as built database, indicating that a sleeve was placed over corrosion at the soil/air interface on a transition.

Proposed Civil Penalty

Under 49 United States Code, § 60122, you are subject to a civil penalty not to exceed \$100,000 for each violation for each day the violation persists up to a maximum of \$1,000,000 for any related series of violations. The Compliance Officer has reviewed the circumstances and supporting documentation involved in the above probable violation(s) and has recommended that you be preliminarily assessed a civil penalty of \$ 170,000 as follows:

<u>Item number</u>	<u>PENALTY</u>
1	\$ 37,000
2	\$ 37,000
3	\$ 24,000
4	\$ 11,000
5	\$ 11,000
6	\$ 39,000
7	<u>\$ 11,000</u>
Total	\$170,000

Proposed Compliance Order

With respect to Items 1, 2, 3, 4, 5, 6, and 7, pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Alyeska Pipeline Service Company. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

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). If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order.

In your correspondence on this matter, please refer to **CPF 5-2008-5008** and 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

cc: PHP-60 Compliance Registry  
PHP-500 J. Strawn (#118838)

Encl: *Proposed Compliance Order*  
*Response Options for Pipeline Operators in Compliance Proceedings*

## PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Alyeska Pipeline Service Company a Compliance Order incorporating the following remedial requirements to ensure the compliance of Alyeska Pipeline Service Company with the pipeline safety regulations:

1. In regard to Item 1 of the Notice pertaining to Alyeska's failure to conduct pipe-to-soil tests of the mainline pipe on road crossings on TAPS, Alyeska must meet the requirements of §195.573 (a) (1) by conducting tests of the mainline pipe at road crossings on TAPS once each calendar year, but with intervals not exceeding 15 months to determine whether cathodic protection required by this subpart complies with § 195.571 Alyeska must conduct pipe-to-soil tests at the locations indicated in the Notice and provide documentation of such tests within 60 days of receipt of the Final Order. Alyeska shall take such corrective actions as are necessary to raise cathodic protection levels at the specified locations to meet one or more of the criteria within 1 year of receipt of the Final Order, and in the case of newly discovered inadequate cathodic protection, within 1 year of discovery of such inadequacy.
2. In regard to Item 2 of the Notice pertaining to Alyeska's failure to meet the criteria in NACE Standard RPO-169, based on cathodic protection coupon test data taken at the locations specified in the Notice on TAPS, for the years 2004, 2005 and 2006, Alyeska shall evaluate the cathodic protection levels at the locations specified in the Notice and take appropriate action to bring the cathodic protection into compliance with one or more of the applicable criteria and other considerations for cathodic protection contained in paragraphs 6.2 and 6.3 of NACE Standard RP0169-96 (incorporated by reference, see Sec. 195.3). Alyeska shall conduct cathodic protection coupon testing at the locations indicated in the Notice and provide documentation of the testing within 60 days of receipt of the Final Order. Alyeska shall take such corrective actions as are necessary to raise cathodic protection levels at the specified locations to meet one or more of the criteria within 1 year of testing.
3. In regard to Item 3 of the Notice pertaining to Alyeska's failure to meet the criteria in NACE Standard RPO-169, based on close interval survey data taken at the locations specified in the Notice on TAPS, for the years 2004, 2005 and 2006, Alyeska shall evaluate the cathodic protection levels at the locations specified in the Notice and take appropriate action to bring the level of cathodic protection at the specified locations into compliance with one or more of the applicable criteria and other considerations for cathodic protection contained in paragraphs 6.2 and 6.3 of NACE Standard RP0169-96 (incorporated by reference, see Sec. 195.3).

Alyeska shall evaluate the cathodic protection at the locations indicated in the Notice and provide documentation of the testing within 60 days of receipt of the Final Order. Alyeska shall take such corrective actions as are necessary to raise cathodic protection levels at the specified locations to meet one or more of the criteria within 1 year of testing.



4. In regard to Item 4 of the Notice pertaining to Alyeska's failure to provide cathodic protection records for the incoming and residual lines at the North Pole metering facility, Alyeska shall provide cathodic protection records, or shall conduct testing of the cathodic protection at this location and provide documentation of the testing within 60 days of receipt of the Final Order. Within 1 year of testing, Alyeska shall take such corrective actions as are necessary to raise cathodic protection levels at the specified location to achieve compliance with one or more of the applicable criteria and other considerations for cathodic protection contained in paragraphs 6.2 and 6.3 of NACE Standard RP0169-96 (incorporated by reference, see Sec. 195.3).
5. In regard to Item 5 of the Notice pertaining to Alyeska's failure to provide corrosion effects records for TAPS, Alyeska shall develop and implement a program to investigate the corrosive effect of the hazardous liquids transported in TAPS according to the requirements of §195.579. This program shall include a chemical analysis of the hazardous liquid being transported on TAPS. Such analysis shall include, at a minimum, an analysis of the water, organic/inorganic, calcium carbonate and iron sulfide composition. Alyeska shall conduct any additional analyses of the corrosive effects of the hazardous liquids transported in TAPS, as are necessary to characterize and understand such corrosive effects. Alyeska shall develop and implement the program, conduct the analyses, and provide documentation of these activities within 180 days of receipt of the Final order.
6. In regard to Item 6 of the Notice pertaining to Alyeska's failure to provide records to show that it has taken adequate steps to mitigate internal corrosion on the TAPS mainline, Alyeska shall develop and implement an internal corrosion mitigation program. The program shall include a provision for testing to demonstrate the effectiveness of all mitigative actions. Alyeska shall develop and submit the program for review within 180 days of receipt of the Final Order. Alyeska shall implement the program, and provide documentation of implementation, within 180 days of approval or modification by the Director, Western Region.
7. In regard to Item 7 of the Notice pertaining to Alyeska's failure to provide atmospheric corrosion control records for TAPS to PHMSA personnel, Alyeska shall develop and implement a program to monitor atmospheric corrosion on TAPS according to the requirements of §195.583. Alyeska shall develop and implement the program and submit documentation of this activity within 180 days of receipt of the Final Order.
8. APSC must maintain documentation of the safety improvement costs associated with fulfilling this Proposed Compliance Order and submit the total to Chris Hoidal, Director, Western Region, Pipeline and Hazardous Materials Safety Administration. Alyeska shall report costs in two general categories: 1) total cost associated with preparation of studies, analyses, plans and procedures, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure