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APSC File No. 2.11

Dennis Hinnah
Deputy Director, Western Region
U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
188 W. Northern Lights Blvd., Suite 520
Anchorage, Alaska 99503

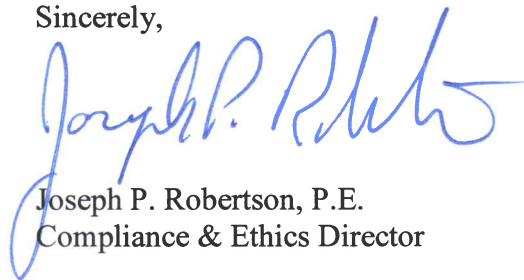
Subject: **CPF 5-2010-5030W**
Response to Warning Letter

Dear Mr. Hinnah,

Alyeska Pipeline Service Company (Alyeska) provides this letter in response to the Pipeline and Hazardous Materials Safety Administration's (PHMSA) warning letter, CPF 5-2010-5030W dated November 5, 2010. The warning letter addressed PHMSA's 2009 Standard Inspections of Alyeska's Pump Station 4 through Pump Station 6, and Pump Station 9 through Pump Station 10 segments.

Please contact me at 907-787-8061 if you need additional information or have any questions.

Sincerely,



Joseph P. Robertson, P.E.
Compliance & Ethics Director

cc: Chris Hoidal, Director, PHMSA Western Region
Nolan Heath – BLM
Mike Thompson – State Pipeline Coordinator

**Warning Letter Finding 1:
Maps and Records**

PHMSA POSITION

Pertinent Regulation:

§ 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;
- (4) The diameter, grade, type and nominal wall thickness of all pipe.

Findings:

Alyeska failed to maintain current maps and records of certain pressure relief piping at Pump Station 5 (PS05). During the inspection, PHMSA asked Alyeska to provide maps and records for the PS05 manifold building relief piping. In response, Alyeska provided "Pump Station 05, Drawing D35 M102." This drawing does not reflect the modifications made to the relief piping in the mid-1990s, and therefore does not reflect the current configuration of the pipeline system.

In addition, Alyeska failed to maintain current maps and records for 48 inch diameter fittings installed on the mainline pipe at RGV 39, (approximate stationing 11475+89-11477+54). During the inspection, PHMSA asked to see the pipeline as-built records that would show these fittings. Alyeska informed PHMSA that the as built records had not been updated to reflect the fittings.

The probable violation is based on photographs and Drawing D35 M102.

Warning:

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to correct the items identified in this letter. Failure to do so will result in Alyeska Pipeline Service Company being subject to additional enforcement action.

ALYESKA PIPELINE SERVICE COMPANY'S RESPONSE

Alyeska Pipeline Service Company (Alyeska) states that PS05 relief piping drawings are in the process of being updated to accurately reflect modifications made to this system. The updates to the PS05 relief piping drawings were initiated upon Alyeska's discovery earlier this year that the project updates had not been timely completed following project implementation.

The as built records for RGV 39 were updated to reflect installed fittings in November 2009.

Warning Letter Finding 2: Internal Corrosion

PHMSA POSITION

Pertinent Regulation:

§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.

Findings:

Alyeska does not investigate the corrosive effect of the hazardous liquid on all portions of the pipeline. Specifically, Alyeska has not included known bottom-of-pipe fittings or appurtenances at Mile Post 200 in its internal corrosion program. Alyeska did not provide any record that they had investigated corrosive effects on these appurtenances. During the inspection, PHMSA observed the bottom-of-pipe appurtenances at Mile Post 200. PHMSA requested that Alyeska provide a list of all bottom-of-pipe fittings on the mainline. In response, Alyeska informed PHMSA that its In-Line Inspection (ILI) contractor does not report such appurtenances.

Bottom-of-pipe appurtenances must be investigated for corrosion. These appurtenances present a corrosion risk because water and solids may accumulate inside of them. Such water and solids may contribute to internal corrosion, particularly, because they may not be removed during maintenance pigging operations. In addition, ILI tools cannot typically detect corrosion damage inside appurtenances. Given the corrosion risks, Alyeska should include all appurtenances in their internal corrosion control program.

The probable violation is based on photographs and conversation with Alyeska's corrosion control personnel.

Warning:

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to correct the items identified in this letter. Failure to do so will result in Alyeska Pipeline Service Company being subject to additional enforcement action.

ALYESKA PIPELINE SERVICE COMPANY'S RESPONSE

Alyeska Pipeline Service Company (Alyeska) has conducted a line wide review of potential small connections of the mainline that could be the site of a future leak. This review identified about 400 small diameter penetrations in the pipe that have been installed for a variety of reasons, and many have not been accessed since they were installed. These penetrations include DRA injection ports, DRA test beds, and vents and drains installed during pipeline construction. Alyeska Engineering has recommended that each of the 400 penetrations be field evaluated, cataloged and modified as needed to insure that they are properly terminated to prevent future leaks.

Seven high point penetrations (TORs) in the mainline were investigated during 2009. This assessment revealed that five of these had no plug, had an incompletely set plug or were improperly capped as specified in API RP-2201. These require remediation to insure the continued integrity of the pipe and are being addressed.

The 2011 project (F673 "Mainline High Point Vent and Drain Investigation/Remediation's") will expose, evaluate and remediate as needed 63 belowground top-of-pipe construction era hydrotest vents; and eight belowground drains (and two other vents adjacent to a drain). These construction era vents and bottom of pipe drains present the highest risk for failure of the 400 identified penetrations. The remaining connections will be investigated and remediated (if needed) in 2012, 2013 and 2014.

Warning Letter Finding 3: Internal Corrosion

PHMSA POSITION

Pertinent Regulation:

§ 195.579 What must I do to mitigate internal corrosion?

(a) ...
(b) Inhibitors. If you use corrosion inhibitors to mitigate internal corrosion, you must-

- (1) Use inhibitors in sufficient quantity to protect the entire part of the pipeline system that the inhibitors are designed to protect;
- (2) Use coupons or other monitoring equipment to determine the effectiveness of the inhibitors in mitigating internal corrosion and
- (3) ...

Findings:

Alyeska uses corrosion inhibitors in the 36-inch diameter relief piping at Pump Stations 06 and 10. These sections of crude piping are known as a "dead legs," because they are part of the pipeline system that experiences low or no flow. Dead legs may be susceptible to internal corrosion. Alyeska's 2008 inhibitor injection records indicate that inhibitor is injected into these dead legs. However, during the inspection, PHMSA observed that coupons used to monitor corrosion were only installed on high points in the relief piping. The coupons installed at the high points of the relief piping are not exposed to conditions which are representative of the below ground segments because of gravity segregation of fluids and accumulation of wax and solid on the bottom of the pipe. The amount of corrosion inhibitor required to adequately protect the high points is substantially different from the amount and type of corrosion inhibitor required to protect the below ground segments. Alyeska has no coupons for determining the effectiveness of the inhibitor in the belowground segment.

Alyeska presented information on June 24, 2010 that Alyeska would take the following steps to mitigate internal corrosion in the dead legs:

- Change inhibitor
- Flush dead legs and treat annually
- Install coupon in the lower portion of the dead legs by the end of 2011
- Remove dead legs at Pump Stations 6, 10 and 11 by 2013

Warning:

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to correct the items identified in this letter. Failure to do so will result in Alyeska Pipeline Service Company being subject to additional enforcement action.

ALYESKA PIPELINE SERVICE COMPANY'S RESPONSE

As discussed during the June 24, 2010 meeting with PHMSA and JPO, Alyeska is in the process of initiating its new inhibitor injection program for mitigation of internal corrosion. The new program and chemicals include a biocide and corrosion inhibitor for treatment of corrosive conditions, including bacteria detected in the water phase of the oil and water that Alyeska transports. The new inhibitor treatment program was developed to include inhibitor injection in low flow and dead leg piping (including 36 inch diameter relief piping) within the Alyeska Pump Stations 6, 10 and 11. In order to adequately treat dead leg piping, it is necessary to flush and displace dead leg piping with corrosion inhibitor and biocide. A previous risk analysis completed on the process of treating relief lines determined that there is risk involved in pressurizing the dead leg piping in order to complete the inhibitor injection process. After review of the risk analysis, it was determined that there is less risk in not treating the relief piping since the buried relief piping is scheduled for removal in 2011, 2012 and 2013 (Pump Stations 11, 6 and 10 respectively). Corrosion coupons are not planned to be installed in the low section of the relief piping at Pump Stations 6, 10 and 11 since this piping is scheduled for removal in the near future. This is consistent with our June 24, 2010 update meeting referenced above.