



U.S. Department
of Transportation

Pipeline and Hazardous Materials
Safety Administration

12300 W. Dakota Ave., Suite 110
Lakewood, CO 80228

NOTICE OF AMENDMENT

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

January 4, 2018

Mr. Trent Carbaugh
General Manager
Aircraft Service International Group
6000 DeHavilland Drive
Anchorage, Alaska 99502

CPF 5-2018-6002M

Dear Mr. Carbaugh:

On July 11 through 13, 2017, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code, inspected Aircraft Service International Group's (ASIG's) Integrity Management Plan (IMP), and portions of other procedures which are incorporated in the IMP, in Anchorage, Alaska.

On the basis of the inspection, PHMSA has identified apparent inadequacies found within ASIG's plans or procedures, as described below:

- 1. §49 CFR 195.452 Pipeline integrity management in high consequence areas. (f) *What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:***
 - (1) A process for identifying which pipeline segments could affect a high**

consequence area;

ASIG failed to identify in their 2015 Integrity Management Plan (IMP) all pipeline segments that could affect a high consequence area (HCA). Section 1.1 of the IMP states that the IMP covers the pipeline from the pig launcher to the pig receiver, but fails to identify other pipeline facilities that could affect an HCA, specifically the breakout tank at the Airport Facility and the pump station at the Off-Airport Facility. ASIG must amend their IMP to identify all pipeline segments that could affect an HCA.

2. **§49 CFR 195.452 Pipeline integrity management in high consequence areas. (f) *What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:***
- (8) A process for review of integrity assessment results and information analysis by a person qualified to evaluate the results and information (see paragraph (h)(2) of this section).**

ASIG's 2015 IMP lacks an adequate process for review of the integrity assessment results and information analysis in accordance with §49 CFR 195.452(f)(8). In-line inspection (ILI) results must be reviewed by personnel qualified in accordance with ANSI/ASNT ILI-PQ, Inline Inspection Personnel Qualification and Certification, as required by §49 CFR 195.591. ASIG must amend their IMP to include a process for reviewing ILI integrity assessments by personnel qualified in accordance with ANSI/ASNT ILI-PQ.

3. **§49 CFR 195.452 Pipeline integrity management in high consequence areas. (g) *What is an information analysis? In periodically evaluating the integrity of each pipeline segment (paragraph (j) of this section), an operator must analyze all available information about the integrity of the entire pipeline and the consequences of a failure. This information includes:***
- (2) Data gathered through the integrity assessment required under this section;**
- (3) Data gathered in conjunction with other inspections, tests, surveillance and patrols required by this Part, including, corrosion control monitoring and cathodic protection surveys; and**

ASIG's 2015 IMP lacks an adequate process for conducting information analysis. In Section 3 of the 2015 IMP, ASIG presents the information analysis in the form of a Quantitative Risk Assessment (QRA).

- The QRA was prepared in 2015. ASIG failed to update the QRA to reflect data gathered through assessments and other inspections conducted since 2015. ASIG must amend their IMP to include a process for integrating new assessment/evaluation

data into the QRA.

- The 2015 IMP's QRA is insufficient to support a risk-based evaluation and assessment process, as required by §49 CFR 195.452 (j)(2) and (j)(3). The QRA failed to analyze all risk factors (e.g. cracking, cyclic fatigue); failed to validate or justify each risk factor; and failed to consider both the probability and consequence of failure. ASIG must amend their information analysis process to ensure that it produces an adequate risk model to support a risk-based evaluation and assessment process.

4. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**

(h) *What actions must an operator take to address integrity issues?*

(1) General requirements. An operator must take prompt action to address all anomalous conditions the operator discovers through the integrity assessment or information analysis. In addressing all conditions, an operator must evaluate all anomalous conditions and remediate those that could reduce a pipeline's integrity. An operator must be able to demonstrate that the remediation of the condition will ensure the condition is unlikely to pose a threat to the long-term integrity of the pipeline. An operator must comply with §195.422 when making a repair.

ASIG's 2015 IMP and Operations and Maintenance (O&M) manual lack an adequate process for conducting pressure reductions per §49 CFR 195.452(h)(1)(i) and (h)(1)(ii). ASIG must amend the IMP and/or O&M manual to include a process for determining the correct reduced operation pressure and adjusting appropriate set points such as mainline Pressure Safety Valves (PSVs), thermal relief PSVs and pressure alarms.

5. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**

(h) *What actions must an operator take to address integrity issues?*

(1) General requirements. An operator must take prompt action to address all anomalous conditions the operator discovers through the integrity assessment or information analysis. In addressing all conditions, an operator must evaluate all anomalous conditions and remediate those that could reduce a pipeline's integrity. An operator must be able to demonstrate that the remediation of the condition will ensure the condition is unlikely to pose a threat to the long-term integrity of the pipeline. An operator must comply with §195.422 when making a repair.

(ii) *Long-term pressure reduction.* When a pressure reduction exceeds 365 days, the operator must notify PHMSA in accordance with paragraph (m) of this section and explain the reasons for the delay. An operator must also take further remedial action to ensure the safety of the pipeline.

ASIG's 2015 IMP does not identify the correct PHMSA contact notifications for temporary pressure reductions and long-term pressure reductions in accordance with §49 CFR 195.452(h)(1)(i) and (ii). To ensure that PHMSA is correctly notified, ASIG must amend their IMP to include the contacts specified in §49 CFR 195.452(m)(1) and (m)(2). In addition, some conditions which require IM notifications may also be Safety Related Conditions

requiring separate notification in accordance with 49 CFR 195.56. To ensure both notifications are done correctly, the IMP should clearly state when such conditions exist.

6. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**
 - (h) *What actions must an operator take to address integrity issues?*
 - (2) **Discovery of condition. Discovery of a condition occurs when an operator has adequate information about the condition to determine that the condition presents a potential threat to the integrity of the pipeline. An operator must promptly, but no later than 180 days after an integrity assessment, obtain sufficient information about a condition to make that determination, unless the operator can demonstrate that the 180-day period is impracticable.**

ASIG's 2105 IMP lacks an adequate process for collecting adequate information to determine "discovery of condition" following an integrity assessment. ASIG stated that ILI is their preferred integrity assessment method. ASIG must amend the IMP to include a process consistent with API Standard 1163, *Inline Inspection Systems Qualification Standard*, (incorporated by reference in §49 CFR 195.3) to obtain sufficient information about a condition that presents a potential threat. The process must explain, consistent with API 1163, how verification and validation will be conducted and how tool tolerances will be considered.

7. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**
 - (h) *What actions must an operator take to address integrity issues?*
 - (4) **Special requirements for scheduling remediation—**
 - (i) **Immediate repair conditions. An operator's evaluation and remediation schedule must provide for immediate repair conditions. To maintain safety, an operator must temporarily reduce the operating pressure or shut down the pipeline until the operator completes the repair of these conditions. An operator must calculate the temporary reduction in operating pressure using the formulas referenced in paragraph (h)(4)(i)(B) of this section. If no suitable remaining strength calculation method can be identified, an operator must implement a minimum 20 percent or greater operating pressure reduction, based on actual operating pressure for two months prior to the date of inspection, until the anomaly is repaired. An operator must treat the following conditions as immediate repair conditions:**
 - (B) **A calculation of the remaining strength of the pipe shows a predicted burst pressure less than the established maximum operating pressure at the location of the anomaly. Suitable remaining strength calculation methods include, but are not limited to, ASME/ANSI B31G (incorporated by reference, see §195.3) and PRCI PR-3-805 (R-STRENG) (incorporated by reference, see §195.3).**

ASIG's 2015 IMP lacks an adequate process to determine the remaining strength of the pipe. Section 5.1.1 of the IMP states that the pressure reduction will be taken in accordance with B31.4 and does not reference B31G or R-STRENG, which are the allowable methods to calculate the reduced operating pressure. ASIG must amend their IMP to specify the remaining strength calculation methods incorporated in §49 CFR 195.452(h)(4)(1)(B).

8. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**
(h) *What actions must an operator take to address integrity issues?*
(4) Special requirements for scheduling remediation—
(iii) 180-day conditions. Except for conditions listed in paragraph (h)(4)(i) or (ii) of this section, an operator must schedule evaluation and remediation of the following within 180 days of discovery of the condition:
(G) A potential crack indication that when excavated is determined to be a crack.

ASIG's 2015 IMP and repair procedures lack a process for conducting non-destructive testing to determine if a potential indication is a crack, and lacks a process for determining which repair procedures are appropriate for remediating a crack. ASIG must amend their procedures with a process to evaluate potential cracks and must specify which of the repair methods in their O&M manual are acceptable to remediate cracks.

9. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**
What preventive and mitigative measures must an operator take to protect the high consequence area?
(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:

ASIG's 2015 IMP lacks an adequate process for "conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection." The QRA in Section 3.1 of the IMP lacks sufficient details for identifying Preventative and Mitigative Measures. Specifically, the QRA failed to consider probability and consequence factors in creating a risk score; it failed to consider the breakout tank at airport facility and the pump station at off-airport facility; and failed to consider all relevant risk factors (e.g. cracking, cyclic fatigue).

10. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**
What preventive and mitigative measures must an operator take to protect the high consequence area?
(4) Emergency Flow Restricting Devices (EFRD). If an operator determines that an EFRD is needed on a pipeline segment to protect a high consequence area in the event of a hazardous liquid pipeline release, an operator must install the EFRD. In making this determination, an operator must, at least, consider the following factors—the swiftness of leak detection and pipeline shutdown capabilities, the type of commodity carried, the rate of potential leakage, the volume that can be released, topography or pipeline profile, the potential for ignition, proximity to power sources, location of nearest response personnel, specific terrain between the pipeline segment and the high consequence area, and benefits expected by reducing the spill size.

ASIG's 2015 IMP lacks a risk-based process which adequately considers all the cited factors

for determining the need for additional EFRDs and must be amended to include such a process.

11. §49 CFR 195.452 Pipeline integrity management in high consequence areas.

(j) *What is a continual process of evaluation and assessment to maintain a pipeline's integrity? —*

(2) Evaluation. An operator must conduct a periodic evaluation as frequently as needed to assure pipeline integrity. An operator must base the frequency of evaluation on risk factors specific to its pipeline, including the factors specified in paragraph (e) of this section. The evaluation must consider the results of the baseline and periodic integrity assessments, information analysis (paragraph (g) of this section), and decisions about remediation, and preventive and mitigative actions (paragraphs (h) and (i) of this section).

The 2015 IMP lacks an adequate process for conducting continuing evaluation to assure pipeline integrity. The IMP Section 6.1.3 states that evaluation of the data will be conducted “When required by this program,” but lacks an adequate process to determine how that evaluation interval will be determined. ASIG must amend their IMP to include a process to ensure that evaluation is done “as frequently as needed.” The 2015 IMP lacks a process for conducting continuing evaluation at pipeline facilities including the breakout tank at the Airport Facility and the pump station at the Off-Airport Facility. The IMP must be amended to include a process for conducting continuing evaluation to assure pipeline integrity.

12. §49 CFR 195.452 Pipeline integrity management in high consequence areas.

(j) *What is a continual process of evaluation and assessment to maintain a pipeline's integrity? —*

(3) Assessment intervals. An operator must establish five-year intervals, not to exceed 68 months, for continually assessing the line pipe's integrity. An operator must base the assessment intervals on the risk the line pipe poses to the high consequence area to determine the priority for assessing the pipeline segments. An operator must establish the assessment intervals based on the factors specified in paragraph (e) of this section, the analysis of the results from the last integrity assessment, and the information analysis required by paragraph (g) of this section.

The 2015 IMP lacks a process to determine the appropriate assessment interval. Section 6.1.2 of the IMP states “The selection of tool type and frequency will be based on the results of the previous inspection and a review of the Best-Available Technology at the time of the re-evaluation.” ASIG must amend their IMP to include a process for determining assessment intervals that is consistent with §49 CFR 195.452(j)(3).

13. §49 CFR 195.452 Pipeline integrity management in high consequence areas.

(j) *What is a continual process of evaluation and assessment to maintain a pipeline's integrity? —*

(4) Variance from the 5-year intervals in limited situations—

The IMP does not include an adequate process to notify the Office of Pipeline Safety (OPS) before variance from the 5-year inspection intervals per §49 CFR 195.452(j)(4). To ensure that PHMSA is correctly notified, ASIG must include the contacts specified in §49 CFR 195.452(m)(1) and (m)(2).

14. §49 CFR 195.452 Pipeline integrity management in high consequence areas.

(j) *What is a continual process of evaluation and assessment to maintain a pipeline's integrity? —*

(5) Assessment methods. An operator must assess the integrity of the line pipe by any of the following methods. The methods an operator selects to assess low frequency electric resistance welded pipe or lap welded pipe susceptible to longitudinal seam failure must be capable of assessing seam integrity and of detecting corrosion and deformation anomalies.

(i) In-Line Inspection tool or tools capable of detecting corrosion and deformation anomalies, including dents, gouges, and grooves. For pipeline segments that are susceptible to cracks (pipe body and weld seams), an operator must use an in-line inspection tool or tools capable of detecting crack anomalies. When performing an assessment using an In-Line Inspection tool, an operator must comply with §195.591;

The 2015 IMP lacks an adequate process for selecting an assessment method (per §49 CFR 195.452(j)(5)) based on the integrity threats identified in the risk assessment and information analysis. The IMP indicates that in-line inspection is the preferred assessment method, but does not include a process for selecting an appropriate ILI tool type with adequate performance specifications. ASIG must amend their IMP to include a process that is consistent with NACE SP0102-2010, and API 1163 (incorporated by reference in §49 CFR 195.3) to select an appropriate ILI tool(s), determining appropriate tool specifications, and conducting the ILI assessment.

15. §49 CFR 195.452 Pipeline integrity management in high consequence areas.

(j) *What is a continual process of evaluation and assessment to maintain a pipeline's integrity? —*

(5) Assessment methods. An operator must assess the integrity of the line pipe by any of the following methods. The methods an operator selects to assess low frequency electric resistance welded pipe or lap welded pipe susceptible to longitudinal seam failure must be capable of assessing seam integrity and of detecting corrosion and deformation anomalies.

(iv) Other technology that the operator demonstrates can provide an equivalent understanding of the condition of the line pipe. An operator choosing this option must notify OPS 90 days before conducting the assessment, by sending a notice to the address or facsimile number specified in paragraph (m) of this section.

The IMP does not include an adequate process to notify OPS before conducting assessments with other technologies. To ensure that PHMSA is correctly notified, ASIG must include the contacts specified in §49 CFR 195.452(m)(1) and (m)(2).

16. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**
(k) *What methods to measure program effectiveness must be used?* An operator's program must include methods to measure whether the program is effective in assessing and evaluating the integrity of each pipeline segment and in protecting the high consequence areas. See Appendix C of this part for guidance on methods that can be used to evaluate a program's effectiveness.

ASIG's IMP lacks an adequate process for measuring the program's effectiveness. Section 8.1 of the IMP states that certain criteria can be used for measuring the program's effectiveness and lists three categories of performance measures, but the categories are overly broad and do not provide sufficient metrics of the program's performance. ASIG must amend their IMP to select metrics that are appropriate for their system, and specify how often these performance metrics will be evaluated and how the results will be used.

17. **§49 CFR 195.452 Pipeline integrity management in high consequence areas.**
(l) *What records must an operator keep to demonstrate compliance?*
(ii) Documents to support the decisions and analyses, including any modifications, justifications, deviations and determinations made, variances, and actions taken, to implement and evaluate each element of the integrity management program listed in paragraph (f) of this section.

ASIG's 2015 IMP lacks a process to create and retain documentation consistent with §49 CFR 195.452(l)(ii). Section 9.0 of the IMP lacks most of the elements of this code section. ASIG must amend their IMP to include a process for creating and retaining the required documents.

18. **§49 CFR 195.505 Qualification program.**
Each operator shall have and follow a written qualification program. The program shall include provisions to:
(a) Identify covered tasks

ASIG's Operator Qualification (OQ) task for "JFP Pigging Procedures" (Task JFP 04) is specific to launching and receiving a cleaning pig, but does not include the additional tasks associated with the launching and receiving in-line inspection (ILI) tools that are described in their "Inspection Pig Procedures." ASIG's must amend their written OQ program to include tasks associated with the ILI process.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. 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).

Following the receipt of this Notice, you have 30 days to submit written comments, revised procedures, or a request for a hearing under §190.211. 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 an Order Directing Amendment. If your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.206). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 180 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 your amended procedures, this enforcement action will be closed.

It is requested (not mandated) that ASIG maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to Kim West, Acting Director, Western Region, Pipeline and Hazardous Materials Safety Administration. In correspondence concerning this matter, please refer to **CPF 5-2018-6002M** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,



Kim West
Acting Director, Western Region
Pipeline and Hazardous Materials Safety Administration

cc: PHP-60 Compliance Registry
PHP-500 J. Gano (# 155057)

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