



BBA Aviation

AIRCRAFT SERVICE INTERNATIONAL GROUP®

November 27, 2012

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

Re: CPF 5-2012-6018M

Dr. Mr. Hoidal:

Your letter dated October 31, 2012 was a Notice of Amendment indicating that on March 20 through 23, 2011, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code, inspected Aircraft Service International Group Honolulu's (ASIG) procedures used for the Operations and Maintenance (O&M) of pipeline facilities in Honolulu, Hawaii. The representative also conducted a field inspection of the pipeline facilities and reviewed the adequacy of the O&M records. On the basis of the inspection, PHMSA identified apparent inadequacies within ASIG's Operation and Maintenance (O&M) procedures and outlined them in the letter.

This response is to advise PHMSA of the corrective actions taken to rectify these deficiencies:

1. §195.214(a) Welding procedures

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified under Section 5 of API 1104 or Section IX of the ASME Boiler and Pressure Vessel Code (ibr, see §195.3) . The quality of the test welds used to qualify the welding procedure shall be determined by destructive testing.

ASIG's welding procedures with respect to the qualification of welders as prescribed by paragraph §195.222(a) is inadequate. At the time of inspection, it was noted that the References Section of your O&M manual did not specify which edition of API 1104 must be used by the operator to complete the qualification of welders. Therefore, ASIG must amend their procedure to include specific standards that are applicable to the unique characteristics of their facilities as required by §195.222(a).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) to include language identifying the correct edition of API 1104. Specifically, paragraph 195.222 of the manual was revised to identify API 1104, 19th Edition 1991 (including October 31, 2001 errata) identified in 49 CFR, Part 195 – Incorporated by Reference.

2. §195.222(b) Welders: Qualification of welders See Item 1 above) (b) No welder may weld with a welding process unless, within the preceding 6 calendar months, the welder has—

ASIG's welding procedure with respect to the qualification of welders as prescribed by paragraph §195.222(b) is inadequate. Furthermore, regulation 195.222(b) Qualification of welders requires, *"No welder may weld with a welding process unless, within the preceding 6 calendar months, the welder has engaged in welding with that process, and had one weld tested and found acceptable under section 9 of API 1104 (ibr, see § 195.3)."* At the time of inspection, ASIG's welding procedure did not include a requirement for the qualification of welders in entirety as required by Part 195.222(1)). Therefore, ASIG must amend their procedure to include specific requirements for qualifying the welders as required by §195.222(b).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) paragraph 195.222 (b) to include language requiring no welder may weld with a welding process unless, within the preceding 6 calendar months, the welder has engaged in welding with that process, and had one weld tested and found acceptable under section 9 of API 1104.

3. §195.234(a) Welds: Nondestructive testing

(a) A weld may be nondestructively tested by any process that will clearly indicate any defects that may affect the integrity of the weld.

ASIG's testing procedure with respect to nondestructive testing of welds is inadequate. At the time of inspection, ASIG's Nondestructive testing (NDT) procedure did not include a requirement for performing NDT or a process appropriate for finding defects in the weld. Therefore, ASIG must amend their procedure to include specific requirements for performing NDT to ensure the defects in the weld are identified as required by §195.234(a).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.234 to include language identifying a requirement for performing NDT or a process appropriate for finding defects in the weld.

4. §195.234(b)(1) Welds: Nondestructive testing

(b) Any nondestructive testing of welds must be performed-

(1) In accordance with a written set of procedures for nondestructive testing;

ASIG's nondestructive testing procedure required by §195.234(d)(1) is inadequate with respect to repair of Arc Burns as prescribed by paragraph §195.226(b). §195.226(b) requires that, *"An arc burn may be repaired by completely removing the notch by grinding, if the grinding does not reduce the remaining wall thickness to less than the minimum thickness required by the tolerances in the specification to which the pipe is manufactured. If a notch is not repairable by grinding, a cylinder of the pipe containing the entire notch must be removed,"* At the time of inspection. ASIG's NDT procedure for arc burn repairs did not include the type of nondestructive testing methods, e.g. ammonium persulfate that will be used to ensure arc burn has been remediated. Therefore ASIG must amend their procedure to include specific requirements for nondestructive testing of arc burn as required by §195.226(b).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.226 to include language identifying a requirement for performing NDT using magnetic particle testing or a dilute solution of ammonium persulfate to verify the entire arc burn has been removed.

5. §195.234(b)(2) Welds: Nondestructive testing

(b) Any nondestructive testing of welds must be performed-

(2) With personnel that have been trained in the established procedures and in the use of the equipment employed in the testing.

ASIG's procedures for the nondestructive testing of welds by trained personnel are inadequate. Regulation §195.234(b)(2) requires testing of welds be performed *"With personnel that have been trained in the established procedures and in the use of the equipment employed in the testing."* At the time of inspection, ASIG's Nondestructive testing procedure did not include a requirement for training NDT personnel to establish procedures and use of the equipment employed in the testing. Therefore, ASIG must amend their procedure to include specific requirements for training their NDT personnel as required by Part §195.234(b)(2).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.234 to include the following language: "All testing will meet the following requirements: (2) be performed with personnel that have been trained in the established procedures and in the use of the equipment employed in the testing".

6. § 195.234(c) Nondestructive testing

(c) Procedures for the proper interpretation of each weld inspection must be established to ensure the acceptability of the weld under §195.228.

ASIG's procedures required by §195.234(c) and regarding the nondestructive testing of welds as prescribed by paragraph §195.228(b) are inadequate. Regulation §195.228(b) acceptability standards states, *"The acceptability of a weld is determined according to the standards in Section 9 of API 1104. However, if a girth weld is unacceptable under those standards for a reason other than a crack, and if Appendix A to API 1104 (ibr, see § 195.3) applies to the weld, the acceptability of the weld may be determined under that appendix."* At the time of inspection, ASIG's procedures referenced Section 6 of API 1104 (20th Edition) for nondestructive testing requirements; however, the proper section for nondestructive testing requirements is Section 9 of API 1104 (20th Edition). Therefore, ASIG must amend their procedure to include the corrective section of API 1104 for nondestructive testing of welds as required by Part §195.228(b).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.228 to reference Section 9, rather than Section 6 of API 1104.

7. §195.402(a) 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 system commence, and appropriate parts shall be kept at locations where operations and maintenance activities are conducted.

ASIG's procedure manual for the operations, maintenance, and emergencies is inadequate with respect to pressure testing procedure prescribed by paragraph §195.302(b)(3). Regulation §195.302(b)(3) Pressure testing for low-stress pipeline requires, *"Except for pipelines converted under §195.5, the following pipelines may be operated without pressure testing under this subpart: Any low-stress pipeline constructed before August 11, 1994, that does not transport HVL."* At the time of inspection, it was noted that ASIG's 6 and 8 inch low-stress pipeline segment was constructed before August 11, 1994. Therefore, ASIG may operate this low stress, non-HVL pipeline without pressure testing under Subpart E. That said, ASIG's pressure testing procedure did not address the pressure testing requirement with respect to the low-stress pipeline segment that will be replaced or constructed after August 11, 1994. Therefore, ASIG must amend their procedure to include pressure testing procedures for low stress pipeline as required by Part §195.302(b)(3).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.302 to include the following language: "Any future pipelines constructed will be hydrostatic tested as prescribed by 49 CFR §195.302(b)(3)."

8. §195.402(e)(3) Procedural manual for operations, maintenance, and emergencies (e) Emergencies. The manual required by paragraph (a) of this section must include procedures for the following to provide safety when an emergency condition occurs;
(3) Having personnel, equipment, instruments, tools, and material available as needed at the scene of an emergency.

ASIG's O&M manual with respect to emergency personnel, equipment, instruments, tools, and material procedure prescribed by paragraph §195.402(e)(3) is inadequate. §195.402(e)(3) states, *"Having personnel, equipment, instruments, tools, and material available as needed at the scene of an emergency."* At the time of inspection, ASIG's Emergency procedure did not specify in detail as to the location of equipment, instruments, tools, and material that would be used for initial response at the scene of an emergency. Therefore, ASIG must amend their operating procedure to include specific procedures for having personnel, equipment, instruments, tools, and material available at the scene of an emergency as required by Part §195.402(e) (3).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.402 to include several tables of available emergency equipment and personnel (pages 49-51):

9. §195.402(c)(8) 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:

(8) In the case of pipeline that is not equipped to fail safe, monitoring from an attended location pipeline pressure during startup until steady state pressure and flow conditions are reached and during shut-in to assure operation within limits prescribed by §195.406.

ASIG's O&M manual is inadequate with respect to the pipeline that is not equipped to fail safe prescribed by paragraph §195.402(c)(8). §195.402(c)(8) states, *"In the case of a pipeline that is not equipped to fail safe, monitoring from an attended location pipeline pressure during startup until steady state pressure and flow conditions are reached and during shut-in to assure operation within limits prescribed by §195.406."* At the time of inspection, it was noted that an abnormal event occurred on August 11, 2010 and it appears that the system did not meet the requirement of fail-safe as prescribed in their O&M manual. Interviews with ASIG personnel revealed that while ASIG requires attendance during the startup and shut down through transfer operation, that requirement is not reflected in their procedure. Therefore, ASIG must amend their operating procedure to include specific procedures that are applicable to the unique characteristics of their facilities as required by Part §195.402(c)(8).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.402(c)8 to include language indicating although HFFC transfer systems are equipped to failsafe, for added safety, the Sand Island operator will monitor from an attended location during start up. The Sand Island operator will monitor the pipeline pressure and flow at start-up until the system reaches steady state to ensure that the pipeline is operating at its normal operating pressure and that it does not exceed the maximum allowable operating pressure.

**10. §195.402(c)(13) Procedural manual for operations, maintenance, and emergencies
(See Item 7 above)**

(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:

(13) Periodically reviewing the work done by operator to determine the effectiveness of the procedures used in normal operation and maintenance and taking corrective action where deficiencies are found.

ASIG's O&M manual is inadequate with respect to the review of the work done by operator to determine the effectiveness of the procedures prescribed by paragraph §195.402(c)(13). §195.402(c)(13) states, *"Periodically reviewing the work done by operator to determine the effectiveness of the procedures used in normal operation and maintenance and taking corrective action where deficiencies are found "* At the time of inspection, ASIG's O&M manual was written to ensure that the work is done in accordance with the procedures in lieu of periodically reviewing the work done by operator to determine the effectiveness of the procedures. Therefore, ASIG must amend their operating procedure to include specific procedures for reviewing the work done by operator to determine the effectiveness of the procedures as required by Part §195.402(c) (13).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.402 to include the following language. "In addition, these documented periodic reviews will be used to determine the adequacy and effectiveness of the procedures used in normal operation and maintenance and take

corrective action where deficiencies are found. Corrective action will include the initiation of a Management of Change (MOC) form (Appendix B) detailing any required procedural changes. Supervisors will be trained and this policy modified by Dec 1, 2012.”

11. §195.402(c)(14) 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:

(14) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line.

ASIG's O&M manual pertaining to taking adequate precautions in excavated trenches to protect their personnel prescribed by paragraph §195.402(c)(14) is inadequate. §195.402(c)(14) states, *"Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line."* At the time of inspection, ASIG's O&M procedure requires their personnel to test for oxygen deficiencies in an excavated trench. However, it did not discuss how an employee could determine if the hazards of unsafe accumulations of vapor or gas may be existed in an excavated trench. Therefore, ASIG must amend their operating procedure to include specific procedures for taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas as required by Part §195.402(c) (14).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.402 to include the following language. “Where oxygen deficiency of hazardous atmospheres are present, or could reasonably be expected to exist, the atmosphere of the excavation shall be tested before employees enter excavations greater than 4 feet in depth. Testing using the TMX 412, Industrial Scientific Multi Gas Meter will be conducted to ensure the protection of personnel from the hazards of unsafe accumulations of vapor or gas.”

“Emergency Rescue Equipment Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available where hazardous atmospheric conditions exist, or could be reasonably expected to exist. Personnel must be trained in the use of this equipment.”

12. See Item 7 above and §195.310(b)(10) Records

(b) The record required by paragraph (a) of this section must include:

(10) Temperature of the test medium or pipe during the test period

ASIG's O&M manual required by §195.402(a) is inadequate with respect to the pressure testing procedures prescribed by paragraph §195.310(b)(10). Regulation §195.310(b) (10) Pressure testing requires, *"The record required by paragraph (a) of this section must include Temperature of the test medium or pipe during the test period"* At the time of inspection, it was noted that ASIG's pressure testing procedure did not include the requirement to maintain the record for the temperature of the test medium or pipe during the test period. Therefore, ASIG must amend their pressure testing

procedure to include the record keeping requirements for pressure testing temperature as required by Part §195.310(b)(10).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.310 to include language requiring temperature of the test medium be recorded during pressure testing.

13. See Item 7 above and §195.403(a)(4) Emergency Response Training

(a) Each operator shall establish and conduct a continuing training program to instruct emergency response personnel to(4) Take steps necessary to control any accidental release of hazardous liquid or carbon dioxide and to minimize the potential for fire, explosion, toxicity, or environmental damage; and

ASIG's O&M manual procedures required by §195.402(a) are inadequate regarding emergency response training for controlling accidental releases as prescribed by paragraph §195.403(a)(4). §195.403 (a)(4) states, "*Each operator shall establish and conduct a continuing training program to instruct emergency response personnel to: Take steps necessary to control any accidental release of hazardous liquid or carbon dioxide and to minimize the potential for fire, explosion, toxicity, or environmental damage.*" At the time of inspection, ASIG's Emergency procedure for their response training program did not include the requirement for instructing employees how to take steps necessary to control any accidental release of hazardous liquid and minimize the potential for fire, explosion, toxicity, or environmental damage. Therefore, ASIG must amend their procedures to include specific procedures for training their emergency response personnel as required by Part §195.403(a)(4).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.403 to include language identifying a continuing program to instruct emergency response personnel to: take steps necessary to control any accidental release of hazardous liquid or carbon dioxide and to minimize the potential for fire, explosion, toxicity, or environmental damage.

14. See Item 7 above and §195.404(a)(1) Maps and Records

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

(1) Location and identification of the following pipeline facilities;

(i) Breakout tanks;

(ii) Pump stations;

(iii) Scraper and sphere facilities;

(iv) Pipeline valves;

(v) Facilities to which §195.402(c)(9) applies;

(vi) Rights-of-way; and

(vii) Safety devices to which §195.428 applies.

ASIG's O&M manual with respect to the maps and records procedure required by §195.402(a) and as prescribed by paragraph §195.404(a) (1) is inadequate. §195.404 (a)(1) states, "*Each -operator*

shall maintain current maps and records of its pipeline systems that include at least the following information;

Location and identification of the following pipeline facilities;

(i) Breakout tanks;

(ii) Pump stations;

(iii) Scraper and sphere facilities;

(iv) Pipeline valves;

(v) Facilities to which § 195.402(c)(9) applies;

(vi) Rights-of-way; and

(vii) Safety devices to which §195.428 applies. "

At the time of inspection, ASIG's O&M procedure for maintaining current maps and records of their pipeline system is inadequate. Therefore, ASIG must amend their operating procedure to include specific procedures for maintaining maps and records of their facilities as required by Part §195.404(a) (1).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.404 to include language indicating ASIG will maintain current maps and records of its pipeline systems that include at least the following information:

(1) Location and identification of the following pipeline facilities:

(i) Breakout tanks;

(ii) Pump stations;

(iii) Scraper and sphere facilities;

(iv) Pipeline valves;

(v) Facilities to which 49 CFR § 195.402(c)(9) applies;

(vi) Rights-of-way; and

(vii) Safety devices to which 49 CFR § 195.428 applies.

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

(3) The maximum operating pressure of each pipeline.

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

These maps and records will be maintained in either the Pipeline Maintenance or Operations Manager's office.

15. See Item 7 above and §195.404(b)(1) Maps and Records

(b) Each operator shall maintain for at least 3 years daily operating records that indicate-

(1) The discharge pressure at each pump station;

ASIG's O&M manual maps and records procedure required by §195.402(a) for keeping records for their discharge pressure at each pump station and as prescribed by paragraph §195.404(b)(1) is inadequate. §195.404 (b)(1) states, "Each operator shall maintain for at least 3 years daily operating records that indicate the discharge pressure at each pump station " At the time of inspection, ASIG's O&M procedure with respect to pressure recorder indicated that the discharge pressure of their pipeline system will be recorded every half-hour. Unfortunately, the daily operating records that indicate the discharge pressure for every half-hour will not adequately capture pressure spikes during shut down or startup operation and some abnormal operation events. ASIG must amend their

operating procedure to include specific procedures for maintaining discharge pressure records at each pump station as required by Part §195.404(b) (1).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.404 to include language indicating:

- (b) ASIG shall maintain for at least 3 years daily operating records that indicate—
- (1) The discharge pressure at each pump station; and
 - (2) Any emergency or abnormal operation to which the procedures under 49 CFR §195.402 apply.

These maps and records will be maintained in either the Pipeline Maintenance or Operations Manager's office

16. See Item 7 above and §195.406(a) 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:

ASIG's O&M manual's procedure as required by §195.402(a) for establishing their maximum operating pressure procedure of their pipeline system and as prescribed by paragraph §195.406(a) is inadequate. §195.406 (a) states, *"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. However, for steel pipe in pipelines being converted under §195.5, if one or more factors of the design formula (§195.106) are unknown, one of the following pressures is to be used as design pressure:*
 - (i) Eighty percent of the first test pressure that produces yield under section N5.0 of Appendix N of ASME B31.8, reduced by the appropriate factors in §§195.106(a) and (e); or*
 - (ii) If the pipe is 323.8 mm (12 ¾ in) or less outside diameter and is not tested to yield under this paragraph, 1379 kPa (200 psig).*
- (2) The design pressure of any other component of the pipeline.*
- (3) Eighty percent of the test pressure for any part of the pipeline which has been pressure tested under Subpart E of this part.*
- (4) Eighty percent of the factory test pressure or of the prototype test pressure for any individually installed component which is accepted from testing under §195.305.*
- (5) For pipelines under §§195.302(b) (1) and (b) (2) (i), that have not been pressure tested under Subpart E of this part, 80 percent of the test pressure or highest operating pressure to which the pipeline was subjected for 4 or more continuous hours that can be demonstrated by recording charts or logs made at the time the test or operations were conducted. "*

At the time of inspection, ASIG's O&M procedure did not include a methodology for determining the maximum operating pressure of their pipeline system. ASIG must amend their operating procedure to include specific procedures for determining maximum operating pressure of their pipeline facilities as required by Part §195.406(a).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.406 to include the specific methodology for determining maximum operating pressures.

17. See Item 7 above and §195.408(a) Communications

(a) Each operator must have a communication system to provide for the transmission of information needed for the safe operation of its pipeline system

ASIG's O&M as required by §195.402(a) communications procedure, e.g. SCADA system their pipeline system and as prescribed by paragraph §195.408(a) is inadequate. §195.408 (a) states, "Each operator must have a communication system to provide for the transmission of information needed for the safe operation of its pipeline system." At the time of inspection, ASIG's O&M procedure with respect to communication system did not address the utilization of SCADA system to monitor the operating pressure of their pipeline system. In addition, ASIG's procedure allowed the system to continue the operation for at least 10-minutes even though their communication system is out-of-service. Unfortunately, it appears that ASIG's procedure did not address their communication system to provide for the transmission of information needed for the safe operations of their pipeline system. ASIG must amend their operating procedure to include specific procedures for maintaining a communication system of their pipeline system as required by Part §195.408(a).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraphs 195.402 and 195.408 to include reference to the SCADA system and eliminating the reference to shut down after loss of communication for 10-minutes. Shutdown is now mandatory with any loss of communication. All operators will be trained and this policy modification will take place by Dec 1, 2012.

18. See Item 7 above and §195.410(a) Line markers

(a) Except as provided in paragraph (b) of this section, each operator shall place and maintain line markers over each buried pipeline in accordance with the following:

ASIG O&M manual's line markers procedure required by §195.402(a) and as prescribed by paragraph §195.410 (a) is inadequate. §195 .410 (a) states, "Except as provided in paragraph (b) of this section, each operator shall place and maintain line markers over each buried pipeline in accordance with the following:

- (1) Markers must be located at each public road crossing, at each railroad crossing, and in sufficient number along the remainder of each buried line so that its location is accurately known.
- (2) The marker must state at least the following on a background of sharply contrasting color:
 - (i) The word "Warning," "Caution," or "Danger" followed by the words —Petroleum (or the name of the hazardous liquid transported) Pipeline", or —Carbon Dioxide Pipeline," all of which, except for markers in heavily developed urban areas, must be in letters at least 1 inch (25 millimeters) high with an approximate stroke of 11/41 inch (6.4 millimeters).
 - (ii) The name of the operator and a telephone number (including area code) where the operator can be reached at all times." At the time of inspection, ASIG's O&M procedure with respect to line markers procedure did not include the specific requirement for line markers. Therefore, ASIG must amend their operating procedure to include specific procedures for maintaining line markers of their pipeline system as required by Part §195.410(a).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.410 to read as follows:

- (a) Except as provided in paragraph (b) below, ASIG shall place and maintain line markers over each buried pipeline in accordance with the following:
- (1) Markers will be located at each public road crossing, at each railroad crossing, and in sufficient number along the remainder of each buried line so that its location is accurately known.
 - (2) The marker will state the following on a background of sharply contrasting color:
 - (i) The words “Warning,” and “ Underground Petroleum Pipelines Pipeline”, all of which, must be in letters at least 1 inch (25 millimeters) high with an approximate stroke of ¼ inch (6.4 millimeters).
 - (ii) Aircraft Service International Group and Control Room telephone number (including area code).
 - (b) Line markers are not required for buried pipelines located—
 - (1) Offshore or at crossings of or under waterways and other bodies of water; or
 - (2) In heavily developed urban areas such as downtown business centers where—
 - (i) The placement of markers is impractical and would not serve the purpose for which markers are intended; and
 - (ii) The local government maintains current substructure records.
 - (c) There are currently no ASIG pipelines at locations where the line is above ground in areas that are accessible to the public.
 - (d) During scheduled pipeline patrols, if damage to markers is detected, the markers shall be replaced or repaired as soon as possible.

19. See Item 7 above and §195.420(a) Valve maintenance

(a) Each operator shall maintain each valve that is necessary for the safe operation of its pipeline systems in good working order at all times.

ASIG's O&M manual required by §195.402(a) and regarding valve maintenance procedures of their pipeline system, as prescribed by paragraph §195.420(a), is inadequate. §195.420 (a) states, *"Each operator shall maintain each valve that is necessary for the safe operation of its pipeline systems in good working order at all times."* At the time of inspection, ASIG's O&M procedure with respect to valve maintenance procedure did not include the specific requirement for maintaining each valve that is necessary for the safe operation of their pipeline system. In addition, ASIG's pipeline inspection form does not show a method on how to record and document the findings during the valve inspection within their pipeline system. Therefore, ASIG must amend their operating procedure to include specific procedures for maintaining each valve in good working order at all times as required by Part §195.420(a).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.420 with the following language “(a) ASIG will maintain each valve that is necessary for the safe operation of the pipeline systems in good working order at all times. All system valves will be maintained, repaired, and documented in accordance with manufacturer instructions and recommendations.

(b) Applicable (pipeline isolation) valves (listed below) will be inspected and tested at intervals not exceeding 7½ months, but at least twice each calendar year. Results will be recorded on Pipeline (Mainline) Valve Maintenance/Inspection Form (Appendix B). Testing will include opening or closing the valve (stroking) at least until it is one quarter of its normal (static) open or closed position. Valves inspected identified as not in good working order will be identified on the

inspection form and a Pipeline Work Order will be generated. The following valves require inspection/testing under this paragraph:

Valve	Location
10" mainline gate valve exiting Sand Island	Lot 2
10" mainline gate valve entering the Airport	Plant 2
6" globe valve	Lot 3
6" gate valve	Plant 3
10" isolation valve	Gray Line
10" isolation valve	La Mariana
18" pier line MOV	Lot 2
10" TESORO Bonded valve	Lot 2
12" TESORO Domestic valve (back door)	Lot 3.5
18" isolation gate valve (USCG)	Marine School
18" isolation gate valve (USCG)	Makai Kalihi Channel
18" valve (USCG—33CFR)	Pier 51A

c) Each valve is protected from vandalism and unauthorized operation by either containment in a locked vault or being within the confines of a controlled facility." In addition, the Valve Inspection Form has been revised to better record and document the inspection.

20. See Item 7 above and §195.422(a) Pipeline Repairs

a) Each operator shall, in repairing its pipeline systems, insure that the repairs are made in a safe manner and are made so as to prevent damage to persons or property

ASIG's O&M procedures as required by §195.402(a) are inadequate with respect to pipeline repairs procedure of their pipeline system as prescribed by paragraph §195.422(a) is inadequate. §195.422 (a) states, *"Each operator shall, in repairing its pipeline systems, insure that the repairs are made in a safe manner and are made so as to prevent damage to persons or property."* At the time of inspection, ASIG's O&M procedure with respect to pipeline repairs procedure did not include specific instruction on type of repairs can be used. More importantly, certain types of repairs should be precluded from use, e.g. use of a patch on the pipeline. Therefore, ASIG must amend their operating procedure to include specific procedures for repairing their pipeline system as required by Part §195.422(a).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.422 to include removing patch repairs as an option for pipeline system repairs.

21. See Item 7 above and §195.424(a) Pipe movement

(a) No operator may move any line pipe, unless the pressure in the line section involved is reduced to not more than 50 percent of the maximum operating pressure

ASIG's O&M procedures as required by §195.402(a) are inadequate for pipe movement of their pipeline system as prescribed by paragraph §195.424(a). §195.424 (a) states, *"No operator may move any line pipe, unless the pressure in the line section involved is reduced to not more than 50 percent of the maximum operating pressure."* At the time of inspection, ASIG's O&M procedure

with respect to pipe movement procedure specified their maximum operating pressure to be reduced by 50-percent in lieu of the pressure in line section involved is reduced to not more than 50-percent of the maximum operating pressures. Therefore, ASIG must amend their operating procedure to include specific procedures for reducing maximum operating pressure with respect to pipe movement as required by Part §195.424(a).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.424 to include language indicating in the event any pipeline sections are moved or re-positioned; the pressure will be reduced in the line section involved to not more than 50 percent of maximum operating pressures.

22. See Item 7 above and §195.426 Scraper and sphere facilities

ASIG's O&M manual procedures as required by §195.402(a) are inadequate for the maintenance of the scraper and sphere facilities procedure of their pipeline system as prescribed by paragraph §195.426. §195.426 states, *"No operator may use a launcher or receiver that is not equipped with a relief device capable of safely relieving pressure in the barrel before insertion or removal of scrapers or spheres. The operator must use a suitable device to indicate that pressure has been relieved in the barrel or must provide a means to prevent insertion or removal of scrapers or spheres if pressure has not been relieved in the barrel."* At the time of inspection, ASIG's O&M procedure with respect to scraper and sphere facilities procedure did not include a requirement to ensure a launcher or receiver that is equipped with a relief device capable of safely relieving pressure. ASIG must amend their operating procedure to include specific procedures for using a relief device capable of safely relieving pressure in the barrel before insertion or removal of scrapers or spheres as required by Part §195.426.

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.426 to include language indicating ASIG personnel will not use a launcher or receiver that is not equipped with a relief device capable of safely relieving pressure in the barrel before insertion or removal of scrapers or spheres. A suitable device will be used to indicate that pressure has been relieved in the barrel or a means to prevent insertion or removal of scrapers or spheres if pressure in the barrel will be provided.

23. See Item 7 above and §195.430(b) Firefighting equipment (b) Plainly marked so that its identity as firefighting equipment is clear

ASIG O&M manual's firefighting equipment procedure as required by §195.402(a) for their pipeline system is inadequate. §195.430(b) states, *"Each operator shall maintain adequate firefighting equipment at each pump station and breakout tank area. The equipment must be plainly marked so that its identity as firefighting equipment is clear."* At the time of inspection, ASIG's O&M procedure with respect to firefighting procedure did not include a requirement to ensure the firefighting equipment must be plainly marked so that its identity as firefighting equipment is clear. ASIG must amend their operating procedure to include specific procedures for marking the firefighting equipment as required by Part §195.430(b).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.430 to include language indicating All firefighting is plainly marked in red to clearly identify it as firefighting equipment.

24. See Item 7 above and §195.432(b) Inspection of in-service breakout tanks

(a) Except for breakout tanks inspected under paragraphs (b) and (c) of this section, each operator shall, at intervals not exceeding 15 months, but at least once each calendar year, inspect each in-service breakout tank.

ASIG's O&M manual procedures with respect to inspection of in-service breakout tanks as prescribed by paragraph §195.432(b) are inadequate. §195.432(b) states, *"Each operator must inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to API Standard 653 (incorporated by reference, see § 195.3). 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)."* At the time of inspection, ASIG's O&M procedure with respect to inspection of in-service breakout tanks procedure referenced Section 4 of API 653 for tank in-service and out-of-service inspections. However, the correct section for guidance material pertaining to inspection of breakout tanks is Section 6 of API 653, third edition. ASIG must amend their operating procedure to include specific procedures for inspecting in-service breakout tanks as required by Part §195.432(b).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.432 to include reference to the correct Section of API 653 regarding breakout tank inspections.

25. See Item 7 above and §195.438 Smoking or open flames

ASIG O&M manual procedures required by §195.402(a) and regarding smoking or open flames in the vicinity of their pipeline system are inadequate. §195.438 states, *"Each operator shall prohibit smoking and open flames in each pump station area and each breakout tank area where there is a possibility of the leakage of a flammable hazardous liquid or of the presence of flammable vapors."* At the time of inspection, ASIG's O&M procedure with respect to smoking or open flames procedure did not include hot work permit because it's critical element to any operator's open flame policies or procedures. Therefore, ASIG must amend their operating procedure to include specific procedures for prohibiting smoking or open flames within their pipeline facilities as required by Part §195.438.

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.438 with language to include A Hot work permit will be required before commencing any welding/cutting or other task that could introduce a source of ignition in a hazardous area. A hazardous area is considered any area within fifty feet of hydrocarbon fuels, service or storage facility(s).

26. §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:

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

ASIG's O&M procedures for inspecting pipeline coating used for their external corrosion control program are inadequate. §195.561 states, *"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 and you must repair any coating damage discovered"* At the time of inspection, ASIG's O&M procedure with respect to external corrosion control procedure did not include the requirement to inspect and/or repair all external pipe coating prior to lowering the pipe into the ditch. Therefore, ASIG must amend their external corrosion control procedure to include specific procedures for inspecting all external pipe coating of their facilities as required by Part §195.561.

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.561 with language indicating any coating damage discovered will be repaired prior to installation.

27. See Item 26 above and §195.567(b)(5) Which pipelines must have test leads and what must I do to install and maintain the leads?

(b) Installation. You must install test leads as follows:

(5) At the connection to the pipeline, coat each bared test lead wire and bared metallic area with an electrical insulating material compatible with the pipe coating and the insulation on the wire.

ASIG O&M procedures as required by §195.402(c)(3) for installing test lead connections for the corrosion control program are inadequate. §195.567(b)(5) states, *"You must install test leads as follows: At the connection to the pipeline, coat each bared test lead wire and bared metallic area with an electrical insulating material compatible with the pipe coating and the insulation on the wire."* At the time of inspection, ASIG's O&M procedure with respect to corrosion control procedure did not include the requirement to coat the test lead wire at the connection to the pipeline. ASIG must amend their external corrosion control procedure to include specific procedures for installing test leads of their facilities as required by Part §195.567(b) (5).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.567 with the following language

“Test leads will be installed as follows:

(1) Electrical test leads used for corrosion control or electrolysis testing will be installed on all piping system at intervals frequent enough to obtain electrical measurements indicating the adequacy of the cathodic protection system. A licensed corrosion-engineering firm will be consulted before the commencement of repair, replacement, or new construction to determine where the test leads should be positioned.

- (2) Provide enough looping or slack so backfilling will not unduly stress or break the lead and the lead will otherwise remain mechanically secure and electrically conductive.
- (3) Prevent lead attachments from causing stress concentrations on pipe.
- (4) For leads installed in conduits, suitably insulate the lead from the conduit.
- (5) At the connection to the pipeline, coat each bared test lead wire and bared metallic area with an electrical insulating material compatible with the pipe coating and the insulation on the wire."

28. See Item 26 above and §195.571 What criteria must I use to determine the adequacy of cathodic protection?

ASIG's O&M manual procedures as required by §195.204(c)(3) with respect to cathodic protection corrosion control criteria program are inadequate. §195.571 states, "*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 SP 0169 (incorporated by reference, see § 195.3).*" At the time of inspection, ASIG's O&M procedure with respect to cathodic protection corrosion control procedure did not specify the cathodic protection criteria correctly. NACE SP 0169 states that adequate levels are more negative than -850mV with IR drop taken into consideration in lieu of less than 850mV. In addition, ASIG did not reference a correct edition of NACE Standard, e.g. NACE SP0169-2007. ASIG must amend their cathodic protection corrosion control program procedure to include specific procedures that are applicable to the unique characteristics of their facilities as required by Part §195.571.

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.571 with the following language

1. All measured potential along the pipeline shall meet one of the following NACE criteria:
 - i. The first criterion - often called an "on" potential measurement - requires that a negative potential of at least 850 mV vs a Cu/CuSO₄ electrode (CSE) is achieved with cathodic protection system "on". To interpret this measurement, voltage drops other than those across structure-to-electrolyte boundary must be considered.
 - ii. The second criterion requires achievement of a negative polarized potential that is potential across the structure/electrolyte interface, of at least 850 mV vs CSE. This criterion is often called "off" potential measurement because the potential measurement is taken immediately after the cathodic protection current interruption.
 - iii. The third criterion requires achieving a minimum of 100 mV of cathodic polarization or potential decay from the "off" potential measurement.

29. See Item 26 above and §195.573(a)(2) 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:

(2) Identify not more than 2 years after cathodic protection is installed, the circumstances in which a close-interval survey or comparable technology is practicable and necessary to accomplish the objectives of paragraph 10.1.1.3 of NACE SP 0169 (incorporated by reference, see § 195.3).

ASIG's O&M procedures for the external corrosion control program are inadequate. §195.573(a) (2) states, "You must do the following to determine whether cathodic protection required by this subpart complies with Sec. 195.571: Identify not more than 2 years after cathodic protection is installed, the circumstances in which a close-interval survey or comparable technology is practicable and necessary to accomplish the objectives of paragraph 10.1.1.3 of NACE SP 0169 (incorporated by reference, see § 195.3)." At the time of inspection, ASIG's O&M procedure with respect to cathodic protection corrosion control procedure did not consider the circumstance in which a close-interval survey is practicable and necessary for their pipeline system. Therefore, ASIG must amend their cathodic protection corrosion control procedure to include specific procedures for identifying the circumstances in which a close-interval survey is practicable and necessary as required by Part §195.573(a) (2).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.573 with the following language:

- (2) When a CIS will be practicable and determined necessary by sound engineering practice, a detailed (close-interval) potential survey should be conducted to:
- i. assess the effectiveness of the CP system;
 - ii. provide base line operating data;
 - iii. locate areas of inadequate protection levels;
 - iv. identify locations likely to be adversely affected by construction, stray currents, or other unusual environmental conditions; or
 - v. select areas to be monitored periodically.

NOTE: The need for a CIS will be evaluated annually by a NACE certified Cathodic Protection Engineer and a recommendation will be included in the survey report. A close interval survey was conducted on the 10-inch transfer line on October 15-17, 2012.

30. See Item 26 above and §195.573(d) What must I do to monitor external corrosion control?

(d) Breakout tanks. You must inspect each cathodic protection system used to control corrosion on the bottom of an aboveground breakout tank to ensure that operation and maintenance of the system are in accordance with API Recommended Practice 651. However, this inspection is not required if you note in the corrosion control procedures established under Sec. 195.402(c)(3) why compliance with all or certain operation and maintenance provisions of API Recommended Practice 651 is not necessary for the safety of the tank.

ASIG's O&M manual regarding your external corrosion control program procedure of their breakout tanks as prescribed by paragraph §195.573(d) is inadequate. §195.573(d) states, "You must inspect each cathodic protection system used to control corrosion on the bottom of an aboveground breakout tank to ensure that operation and maintenance of the system are in accordance with API

Recommended Practice 651. However, this inspection is not required if you note in the corrosion control procedures established under Sec. 195.402(c)(3) why compliance with all or certain operation and maintenance provisions of API Recommended Practice 651 is not necessary for the safety of the tank" At the time of inspection, ASIG's O&M procedure did not list the criteria which such testing will be evaluated. Therefore, ASIG must amend their cathodic protection corrosion control procedure to include specific procedures for inspecting each cathodic protection system used to control corrosion of their breakout tanks as required by Part §195.573(d).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.573 with language indicating ASIG will inspect each cathodic protection system used to control corrosion on the bottom of an aboveground breakout tank to ensure that operation and maintenance of the system are in accordance with API Recommended Practice 651.

31. See Item 26 above and §195.579(c) What must I do to mitigate internal corrosion?

(c) Removing pipe. Whenever you remove pipe from a pipeline, you must inspect the internal surface of the pipe for evidence of corrosion. If you find internal corrosion requiring corrective action under Sec. 195.585, you must investigate circumferentially and longitudinally beyond the removed pipe (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the removed pipe.

ASIG's O&M manual regarding your internal corrosion for corrosion control program procedure is inadequate. §195.579(c) states, *"Whenever you remove pipe from a pipeline, you must inspect the internal surface of the pipe for evidence of corrosion. If you find internal corrosion requiring corrective action under Sec. 195.585, you must investigate circumferentially and longitudinally beyond the removed pipe (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the removed pipe. "At the time of inspection, ASIG's O&M procedure with respect to internal corrosion control procedures did not include a specific requirement to inspect the internal surface for corrosion. In addition, ASIG's pipeline inspection form does not show a method on how to document or record the findings of internal corrosion condition. ASIG must amend their internal corrosion control procedure to include specific procedures for inspecting internal surface of the pipe for evidence of corrosion as required by Part §195.579(c).*

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.579 with language indicating whenever pipe is removed from a pipeline, the internal surface of the pipe for will be inspected for evidence of corrosion. If internal corrosion requiring corrective action under 49 CFR § 195.585 is found, it will be investigated circumferentially and longitudinally beyond the removed pipe (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the removed pipe. The Pipe Inspection Form at Appendix B should be annotated and supplemental UT, X-ray, photographs and any other additional attachments should be added to the Form as appropriate.

32. See Item 29 above and §195.583(c) What must I do to monitor atmospheric corrosion control?

(c) If you find atmospheric corrosion during an inspection, you must provide protection against the corrosion as required by Sec. 195.581.

ASIG's O&M manual procedures for atmospheric corrosion control are inadequate. §195.583(c) states, "*If you find atmospheric corrosion during an inspection, you must provide protection against the corrosion as required by Sec. 195.581.*" At the time of inspection, ASIG's O&M procedure with respect to atmospheric corrosion control procedures did not address remediation of coating deficiencies when found during inspections. In addition, ASIG's atmospheric inspection form had minimal detail to show what had been inspected and what has been found deficient. ASIG must amend their atmospheric corrosion control procedure to include specific procedures for remediating the coating deficiencies when found during inspections as required by Part §195.583(c).

Corrective Action: ASIG – Honolulu has amended the Pipeline Operations, Maintenance, and Emergency Procedures manual (Revision November 15, 2012) in paragraph 195.583 with language indicating if atmospheric corrosion is found during an inspection, protection against the corrosion as required by 49 CFR§ 195.581 must be provided. The Atmospheric Corrosion Inspection Form at Appendix B should be supplemented with photos, UT, and X-ray reports and Pipeline Work Orders Forms to identify, as specifically as possible, the deficiencies discovered.

The amended manual has been attached with any applicable forms addressed in the responses above.

If you require any further clarification on these responses, please contact Jason Maga, General Manager or Don Grimes Operations Manager at the ASIG – Honolulu offices, (808) 833-3291 or Fax (808) 833-3295.

Sincerely,



Lawrence McMahon
Vice President – Fuel Consortiums
Aircraft Service International Group