



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials Safety  
Administration**

8701 South Gessner, Suite 1110  
Houston, TX 77074

## NOTICE OF AMENDMENT

### CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 13, 2009

Mr. Kevin Kosh,  
Pipeline Operations Manager  
Air Products and Chemicals, Inc.  
10207 Strang Road  
La Porte, Texas 77571

**CPF 4-2009-1009M**

Dear Mr. Kosh:

On August 6 – 10 and August 13 – 16, 2007, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code inspected your procedures for your integrity management program in La Porte, Texas.

As a result of the inspection, it appears that your written procedures are inadequate to assure safe operation of the pipeline as follows:

**1. § 192.921(b) Prioritizing segments. An operator must prioritize the covered pipeline segments for the baseline assessment according to a risk analysis that considers the potential threats to each covered segment. The risk analysis must comply with the requirements in § 192.917.**

Air Products must amend their Section 6.2 of 4PL50012A procedure to ensure that weighing and ranking of risk factors related to the purchase of pipelines do not overshadow other threats. The Air Products risk ranking of High Consequence Area (HCA) segments is suspect in that it appears to give excessive weight to purchased lines that have been converted in accordance with §192.14. Following this conversion process, it is expected that the operator's knowledge of its procured system is substantial and therefore the risk value assigned would be lowered. As it currently exists, the weight of the score for a procured line appears to mask all other threats.

**2. §192.917(a) Threat identification.** An operator must identify and evaluate all potential threats to each covered pipeline segment. Potential threats that an operator must consider include, but are not limited to, the threats listed in ASME/ANSI B31.8S (ibr, see §192.7), section 2, which are as follows:

- 1) Time dependent threats such as internal corrosion, external corrosion, and stress corrosion cracking;
- 2) Static or resident threats, such as fabrication or construction defects;
- 3) Time independent threats such as third party damage and outside force damage; and
- 4) Human error.

Air Products must amend their Sections 5.7 and 5.4 of 4PL50013A Threat identification process and procedures to ensure that there is consideration of interactive threats in its initial risk modeling. The new model to which the operator is migrating to evaluates interactive threats, but current modeling has not considered interactive threats in the risk evaluation. Additionally, the process must include documented criteria in Section 5.4 for the elimination of specific threats.

**3. §192.917(b) Data gathering and integration.** To identify and evaluate the potential threats to a covered pipeline segment, an operator must gather and integrate existing data and information on the entire pipeline that could be relevant to the covered segment. In performing this data gathering and integration, an operator must follow the requirements in ASME/ANSI B31.8S, section 4. At a minimum, an operator must gather and evaluate the set of data specified in Appendix A to ASME/ANSI B31.8S, and consider both on the covered segment and similar non-covered segments, past incident history, corrosion control records, continuing surveillance records, patrolling records, maintenance history, internal inspection records and all other conditions specific to each pipeline.

Air Products must amend their Sections 6.4 and 6.5 of 4PL50013A process and procedures to ensure that it provides a documented process for participation of Subject Matter Experts (SMEs) when data to support risk assessment is missing. The amended plan must additionally provide sufficient procedural requirements to specify the actions to take in the event that suspect or unsubstantiated data is identified. Lastly, the amended process and procedures must provide sufficient procedures to ensure that new information is examined and incorporated into the risk assessment.

**4. §192.917(c) Risk assessment.** An operator must conduct a risk assessment that follows ASME/ANSI B31.8S, section 5, and considers the identified threats for each covered segment. An operator must use the risk assessment to prioritize the covered segments for the baseline and continual reassessments (§§192.919, 192.921, 192.937), and to determine what additional preventive and mitigative measures are needed (§192.935) for the covered segment.

Air Products must amend their Section 7.0 of 4PL50013A Threat Identification, Data Integration, and Risk Assessment process and procedures to ensure that they provide adequate procedures for managing data input, weighting its risk factors, and coordinating and using risk output information. Additionally, the amended procedures must specify the date by which its risk information will be updated to reflect changes and feedback.

**5. §192.925(b)(3) Direct Examination.** In addition to the requirements in ASME/ANSI B31.8S section 6.4 and NACE RP 0502-2002, section 5, the plan's procedures for direct examination of indications from the indirect examination must include -

- i. Provisions for applying more restrictive criteria when conducting ECDA for the first time on a covered segment;
- ii. Criteria for deciding what action should be taken if either: (A) corrosion defects are discovered that exceed allowable limits (Section 5.5.2.2 of NACE RP0502-2002), or (B) root cause analysis reveals conditions for which ECDA is not suitable (Section 5.6.2 of NACE RP0502-2002);
- iii. Criteria and notification procedures for any changes in the ECDA Plan, including changes that affect the severity classification, the priority of direct examination, and the time frame for direct examination of indications; and
- iv. Criteria that describe how and on what basis an operator will reclassify and reprioritize any of the provisions that are specified in section 5.9 of NACE RP0502-2002.

Air Products must amend their Sections 8.5 and 8.9 of 4PL50014A External Corrosion Direct Assessment (ECDA) process and procedures to ensure that ECDA procedures link the corporate root cause process with the ECDA process in determining areas where ECDA is not well suited, so that appropriate consideration can be given to alternative assessment methods. Additionally, the amended procedures must provide a linkage in the 4PL50014A procedure to the Management of Change (MOC) process that is used to record and implement changes to the ECDA Plan as a result of changes in severity classification, the priority of direct examination, and the time frame for direct examination of indications.

**6. §192.925(b)(4) Post assessment and continuing evaluation.** In addition to the requirements in ASME/ANSI B31.8S section 6.4 and NACE RP 0502-2002, section 6, the plan's procedures for post assessment of the effectiveness of the ECDA process must include—

- i. Measures for evaluating the long-term effectiveness of ECDA in addressing external corrosion in covered segments; and
- ii. Criteria for evaluating whether conditions discovered by direct examination of indications in each ECDA region indicate a need for reassessment of the covered segment at an interval less than that specified in §192.939. (See Appendix D of NACE RP0502-2002.)

Air Products must amend the ECDA IMP Section 9.4 of 4PL50014A procedure to ensure the procedures rigorously provides for the obtaining of feedback at the various points in the process and using this feedback to effect program improvement. The information currently provided in the plan lists example areas where feed back may be obtained, but there are no defined mechanisms for regularly obtaining and using this information.

**7. §192.937(b) Evaluation.** An operator must conduct a periodic evaluation as frequently as needed to assure the integrity of each covered segment. The periodic evaluation must be based on a data integration and risk assessment of the entire pipeline as specified in §192.917. For plastic transmission pipelines, the periodic evaluation is based on the threat analysis specified in 192.917(d). For all other transmission pipelines, the evaluation must consider the past and present integrity assessment results, data integration and risk assessment information (§192.917), and decisions about remediation (§192.933) and additional preventive and mitigative actions (§192.935). An operator must use the results from this evaluation to identify the threats specific to each covered segment and the risk represented by these threats.

Air Products must amend their Section 7.0 of 4PL50016A Continual Evaluation and Assessment process and procedures to ensure that the amended process includes procedures which require the inclusion of risk assessments and data evaluation and integration as possible activities that could shorten the expected reassessment interval. Currently, only the results of prior assessments are considered as a possible initiator of reassessment interval reduction.

**8. §192.935(b)(1) Third party damage.** An operator must enhance its damage prevention program, as required under §192.614 of this part, with respect to a covered segment to prevent and minimize the consequences of a release due to third party damage. Enhanced measures to an existing damage prevention program include, at a minimum-

- i. Using qualified personnel (see §192.915) for work an operator is conducting that could adversely affect the integrity of a covered segment, such as marking, locating, and direct supervision of known excavation work.
- ii. Collecting in a central database information that is location specific on excavation damage that occurs in covered and non covered segments in the transmission system and the root cause analysis to support identification of targeted additional preventative and mitigative measures in the high consequence areas. This information must include recognized damage that is not required to be reported as an incident under Part 191.
- iii. Participating in one-call systems in locations where covered segments are present.

- iv. **Monitoring of excavations conducted on covered pipeline segments by pipeline personnel. If an operator finds physical evidence of encroachment involving excavation that the operator did not monitor near a covered segment, an operator must either excavate the area near the encroachment or conduct an above ground survey using methods defined in NACE RP-0502-2002 (ibr, see §192.7). An operator must excavate, and remediate, in accordance with ANSI/ASME B318.S and §192.933 any indication of coating holidays or discontinuity warranting direct examination.**

Air Products must amend their Section 5.5 of 4PL50016A Preventive and Mitigative Measures process and procedures to ensure that there are adequate references to other implemented processes such as one-call examination and the root cause analysis. Further, the root cause process must ensure that near misses and other potential challenges are analyzed and feedback provided to the IMP Team for implementation of preventive and mitigative measures.

**9. § 192.935 (a) General requirements. An operator must take additional measures beyond those already required by Part 192 to prevent a pipeline failure and to mitigate the consequences of a pipeline failure in a high consequence area. An operator must base the additional measures on the threats the operator has identified to each pipeline segment. (See § 192.917) An operator must conduct, in accordance with one of the risk assessment approaches in ASME/ANSI B31.8S (ibr, see § 192.7), section 5, a risk analysis of its pipeline to identify additional measures to protect the high consequence area and enhance public safety. Such additional measures include, but are not limited to, installing Automatic Shut-off Valves or Remote Control Valves, installing computerized monitoring and leak detection systems, replacing pipe segments with pipe of heavier wall thickness, providing additional training to personnel on response procedures, conducting drills with local emergency responders and implementing additional inspection and maintenance programs.**

Air Products must amend their Section 5.8 of 4PL50018A Preventive and Mitigative Measures process and procedures to ensure that they adequately address how actions to mitigate the consequences of a release are evaluated and implemented. The existing process focuses on threat prevention and not both factors of the risk product.

**10. §192.947 An operator must maintain, for the useful life of the pipeline, records that demonstrate compliance with the requirements of this subpart. At minimum, an operator must maintain the following records for review during an inspection.**

**(d) Documents to support any decision, analysis and process developed and used to implement and evaluate each element of the baseline assessment plan and integrity management program. Documents include those developed and used in support of any identification, calculation, amendment, modification, justification, deviation and determination**

**made, and any action taken to implement and evaluate any of the program elements;**

Air Products must amend their Section 5.2 of 4PL50020A Record Keeping process and procedures to ensure that record retention periods that support decision making relative to the IMP be retained for the useful life of the pipeline instead of being discarded after a certain period of time. Additional deficiencies in record keeping were found in Section 7.4 of Procedure 4PL50011A for the determination of HCAs and 4PL50014A which includes appendices associated with the performance of ECDA. The amended procedures associated with the performance of ECDA must identify specifically what is done with these documents once they are created.

**11. §192.909 (b) Notification. An operator must notify OPS, in accordance with section §192.949, of any change to the program that may substantially affect the program's implementation or may significantly modify the program or schedule for carrying out the program elements. An operator must also notify a State or local pipeline safety authority when either a covered segment is located in a State where OPS has an interstate agent agreement, or an intrastate covered segment is regulated by that State. An operator must provide the notification within 30 days after adopting this type of change into its program.**

Air Products must amend their Section 6.5.2 of 4PL50021A Management of Change process and procedures to ensure that it specifically defines what is considered to be a "significant" change in order to enable this requirement to be adequately implemented.

**12. §192.911 An operator's initial integrity management program begins with a framework (see CFR: 192.907) and evolves into a more detailed and comprehensive integrity management program, as information is gained and incorporated into the program. An operator must make continual improvements to its program. The initial program framework and subsequent program must, at minimum, contain the following elements. (When indicated, refer to ASME/ANSI B31.8S for more detailed information on the listed element.)**

**k. A management of change process as outlined in ASME/ANSI B31.8S, Section 11.**

Air Products must amend their Section 6.0 of 4PL50021A Management of Change process and procedures to ensure that adequate interfacing between the MOC process which controls changes to the IMP and the corporate electronic-Management of Change software application (e-MOC) process which controls physical changes to the pipeline system. The amended plan must address the following inadequacies:

- The eMOC process does not require that the Pipeline Engineer (IMP manager) review all physical changes to the pipeline to determine impacts on the IMP.
- Procedure 4PL50021A does not refer to the e-MOC process as the control mechanism for physical changes.

- Procedure 4PL50021A does not address the process for initiating an IMP MOC change as a companion document to any e-MOC change to ensure that the attributes of B31.8S, Section 11 are fully addressed for e-MOC changes.
- There are no procedural requirements to ensure that IMP changes are evaluated and tracked in the e-MOC process for physical changes and that e-MOC changes are tracked in the MOC (IMP changes) process.
- There are no program requirements to ensure that physical changes to the pipeline system are adequately reviewed in a comprehensive manner by all affected parties before implementation.

**13. §192.911 An operator's initial integrity management program begins with a framework (see CFR: 192.907) and evolves into a more detailed and comprehensive integrity management program, as information is gained and incorporated into the program. An operator must make continual improvements to its program. The initial program framework and subsequent program must, at minimum, contain the following elements. (When indicated, refer to ASME/ANSI B31.8S for more detailed information on the listed element.)**

- I. **A quality assurance process as outlined in ASME/ANSI B31.8S, Section 12.**

Air Products must amend their Sections 9.2.3 and 5.4 of 4PL50022A Quality Assurance process and procedures to ensure that a corrective action process to identify, evaluate, correct, track to closure, and monitor issues of quality concern. A corporate nonconformance process exists, but it is not integrated into the IMP. Additionally, the amended quality assurance plan shall specify the quality assurance requirements for contractors and how this is to be documented.

**14. §192.915(a) Supervisory personnel. The integrity management program must provide that each supervisor whose responsibilities relate to the integrity management program possesses and maintains a thorough knowledge of the integrity management program and of the elements for which the supervisor is responsible. The program must provide that any person who qualifies as a supervisor for the integrity management program has appropriate training or experience in the area for which the person is responsible.**

Air Products must amend their Section 5.2 4PL50022A Quality Assurance process and procedures to ensure that appropriate qualification requirements for personnel involved in management of the IMP are established and that personnel assigned tasks within the program are qualified to perform their responsibilities.

**15. §192.915(b) Persons who carry out assessments and evaluate assessment results. The integrity management program must provide criteria for the qualification of any person –**

- 1) **Who conducts an integrity assessment allowed under this subpart; or**

- 2) **Who reviews and analyzes the results from an integrity assessment and evaluation; or**
- 3) **Who makes decisions on actions to be taken based on these assessments.**

Air Products must amend their Section 5.2 4PL50022A Quality Assurance process and procedures to ensure that adequate qualification requirements for the Pipeline Engineer, who is responsible for carrying out assessments and evaluating assessment results, are established.

**16. §192.915(c) Persons responsible for preventive and mitigative measures. The integrity management program must provide criteria for the qualification of any person -**

- 1) **Who implements preventive and mitigative measures to carry out this subpart, including the marking and locating of buried structures; or**
- 2) **Who directly supervises excavation work carried out in conjunction with an integrity assessment.**

Air Products must amend their Section 5.2 of 4PL50022A Quality Assurance process and procedures to ensure that adequate qualification requirements for personnel involved in implementing preventive and mitigative measures are established or referenced.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.237. Enclosed as part of this Notice is a document entitled Response Options for Pipeline Operators in Compliance Proceedings. Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b). If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order.

If, after opportunity for a hearing, 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. § 190.237). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 30 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

In your correspondence on this matter, please refer to **CPF 4-2009-1009M** and for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,



R. M. Seeley  
Director, Southwest Region  
Pipeline and Hazardous  
Materials Safety Administration

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