



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials Safety  
Administration**

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## WARNING LETTER

### CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 19, 2009

Mr. Dan Rea  
Sr. Vice President of Midstream  
Anadarko Petroleum Corporation  
1201 Lake Robbins Drive  
Woodlands, TX 77380

CPF 5-2009-5005W

Dear Mr. Rea:

On September 24, 2008, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code, conducted an inspection of the Anadarko Petroleum Corporation's (APC) Integrity Management Program (IMP) in Green River, Wyoming.

As a result of the inspection, it appears that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations. The items inspected and the probable violations are:

1. **§195.452 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:**

(2) A baseline assessment plan meeting the requirements of paragraph (c) of this section;

(c) What must be in the baseline assessment plan? (1) An operator must include each of the following elements in its written baseline assessment plan:

(i) The methods selected to assess the integrity of the line pipe. 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.

(A) Internal inspection tool or tools capable of detecting corrosion and deformation anomalies including dents, gouges and grooves;

(B) Pressure test conducted in accordance with subpart E of this part;

(C) External corrosion direct assessment in accordance with §195.588; or

(D) 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 the Office of Pipeline Safety (OPS) 90 days before conducting the assessment, by sending a notice to the address or facsimile number specified in paragraph (m) of this section.;

(ii) A schedule for completing the integrity assessment;

(iii) An explanation of the assessment methods selected and evaluation of risk factors considered in establishing the assessment schedule.

(2) An operator must document, prior to implementing any changes to the plan, any modification to the plan, and reasons for the modification.

The operator's Baseline Assessment Plan is inadequate with respect to the Crude Oil Pipeline system is not designed to accommodate in-line inspection (ILI) tool. The hydrotest method was selected to assess the integrity of the line pipe. However, an adequate technical justification was not provided during the audit to indicate that pre-1970 LFERW or lap-welded pipe is not susceptible to the seam integrity issues.

## 2. §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:

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

(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:

- (1) Information critical to determining the potential for, and preventing, damage due to excavation, including current and planned damage prevention activities, and development or planned development along the pipeline segment;
- (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
- (4) Information about how a failure would affect the high consequence area, such as location of the water intake.

The risk results need to be applied in a more comprehensive manner to ensure the risk reduction efforts are prioritized on the overall highest risk areas, i.e. general or default values were inappropriately used where the data have not been collected. In addition, there is no documentation to indicate that their subject matter expert evaluated and integrated various risk factors to characterize the risk of their crude oil pipeline.

3. **§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:

(6) Identification of preventive and mitigative measures to protect the high consequence area (see paragraph (i) of this section);

(i) What preventive and mitigative measures must an operator take to protect the high consequence area?

(1) General requirements. An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls.

(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:

- (i) Terrain surrounding the pipeline segment, including drainage systems such as small streams and other smaller waterways that could act as a conduit to the high consequence area;
- (ii) Elevation profile;
- (iii) Characteristics of the product transported;
- (iv) Amount of product that could be released;
- (v) Possibility of a spillage in a farm field following the drain tile into a waterway;
- (vi) Ditches along side a roadway the pipeline crosses;
- (vii) Physical support of the pipeline segment such as by a cable suspension bridge;
- (viii) Exposure of the pipeline to operating pressure exceeding established maximum operating pressure.

3. A. There is no documentation to indicate that the timely evaluation of preventive and mitigative measures (P&MM) was adequately performed. In addition, the Anadarko did not adequately document additional candidates for P&MM.

3. B. There is no documentation to indicate that all the required risk factors were adequately considered in the P&MM evaluation process.

3. C. There is no documentation to indicate that their EFRD and leak detection were evaluated.

4. **§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:**

**(5) A continual process of assessment and evaluation to maintain a pipeline's integrity (see paragraph (j) of this section);**

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

**(1) General. After completing the baseline integrity assessment, an operator must continue to assess the line pipe at specified intervals and periodically evaluate the integrity of each pipeline segment that could affect a high consequence area.**

**(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).

(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.

4. A. Anadarko must ensure that a continual evaluation of their pipeline integrity is being pursued. This means that all information (for instance the coating condition) regarding a pipeline's integrity is being continually evaluated to determine impacts on reassessment schedules, assessment methods, and other aspects of Anadarko's Integrity Management Program.

4. B. Anadarko did not follow their reassessment interval procedures. Anadarko did not complete their reassessment within the five (5) year intervals. In addition, the Anadarko procedures did specify that it will reassess their pipeline every five (5) years; however, the Anadarko did not consider all the relevant information, e.g. paraffin, coating conditions, and etc...to establish the reassessment interval.

4. C. There is no documentation to indicate that the periodic evaluations were adequately followed and/or the results were adequately documented to assure the condition of their pipeline is not changed, e.g. the internal corrosion control program.

**5. §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:**

**(4) Criteria for remedial actions to address integrity issues raised by the assessment methods and information analysis (see paragraph (h) of this section);**

**(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.

(i) **Temporary pressure reduction.** An operator must notify PHMSA, in accordance with paragraph (m) of this section, if the operator cannot meet the schedule for evaluation and remediation required under paragraph (h)(3) of this section and cannot provide safety through a temporary reduction in operating pressure.

(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.

Anadarko did not notify the PHMSA that it cannot meet the reassessment schedule and it cannot provide safety through a temporary reduction in operating pressure.

6. **§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:**

(7) **Methods to measure the program's effectiveness (see paragraph (k) of this section);**

(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.**

6. A. The results of their IM program evaluation were not adequately communicated in the timely manner to the company personnel who need to make use of that information, for example: the July 15, 2008 Wamsutter Pipeline Mechanical Integrity Program Review and Assessment

6. B. Anadarko's root cause analysis was not adequately integrated into their IM program. The analysis currently used by the Anadarko is not referenced in its IMP to ensure a process for an effective root cause analysis and lessons learned.

Under 49 United States Code, § 60122, you are subject to a civil penalty not to exceed \$100,000 for each violation for each day the violation persists up to a maximum of \$1,000,000 for any related series of violations. We have reviewed the circumstances and supporting documents involved in this case, and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to correct the items identified in this letter. Failure to do so will result in Anadarko Petroleum Corporation being subject to additional enforcement action.

No reply to this letter is required. If you choose to reply, in your correspondence please refer to **CPF 5-2009-5005W**. 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).

Sincerely,

A handwritten signature in cursive script, appearing to read "Chris Hoidal".

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

cc: PHP-60 Compliance Registry  
PHP-500 H. Nguyen (#122216)