



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

233 Peachtree Street Ste. 600
Atlanta, GA 30303

NOTICE OF AMENDMENT

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

January 3, 2007

Mr. Rick J. Schach
Vice President Operations
Vectren Energy Delivery
1 N. Main Street
P.O. Box 209
Evansville, Indiana 47702-0209

CPF 2-2007-1001M

Dear Mr. Schach:

On May 1-4 and May 15-18, 2006, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Ohio Public Utilities Commission and Indiana Utility Regulatory Commission, pursuant to Chapter 601 of 49 United States Code inspected Vectren Energy Delivery (VED) procedures for Gas Integrity Management Program (IMP) in Evansville, Indiana. VED has subsequently provided PHMSA Southern Region (SR) with updates on its plans and progress in improving both its IMP and related procedures. This letter documents areas which VED must address.

As a result of the May 2006 inspection, your written procedures were found to be inadequate to assure safe operation of the pipeline as follows:

1. §192.911 What are the elements of an integrity management program?

(a) An identification of all high consequence areas, in accordance with §192.905.

§192.905 (a) General. To determine which segments of an operator's transmission pipeline system are covered by this subpart, an operator must identify the high consequence areas. An operator must use method (1) or (2) from the definition in §192.903 to identify a high consequence area. An operator may apply one method for its entire pipeline system, or an operator may apply one method to individual portions of the pipeline system. An operator must describe in its integrity management program which method it is applying to each portion of the operator's pipeline system.

The description must include the potential impact radius when utilized to establish a high consequence area. (See appendix E.I. for guidance on identifying high consequence areas.)

(b)(1) Identified sites. An operator must identify an identified site, for purposes of this subpart, from information the operator has obtained from routine operation and maintenance activities and from public officials with safety or emergency response or planning responsibilities who indicate to the operator that they know of locations that meet the identified site criteria. These public officials could include officials on a local emergency planning commission or relevant Native American tribal officials.

(2) If a public official with safety or emergency response or planning responsibilities informs an operator that it does not have the information to identify an identified site, the operator must use one of the following sources, as appropriate, to identify these sites.

(i) Visible marking (e.g., a sign); or

(ii) The site is licensed or registered by a Federal, State, or local government agency; or

(iii) The site is on a list (including a list on an internet web site) or map maintained by or available from a Federal, State, or local government agency and available to the general public.

(c) Newly identified areas. When an operator has information that the area around a pipeline segment not previously identified as a high consequence area could satisfy any of the definitions in §192.903, the operator must complete the evaluation using method (1) or (2). If the segment is determined to meet the definition as a high consequence area, it must be incorporated into the operator's baseline assessment plan as a high consequence area within one year from the date the area is identified.

VED IMP did not provide sufficient detail to appropriately and consistently implement the HCA segment identification process. VED's HCA segment identification process needs to address the following:

- a. The individual responsible for implementing the HCA segment identification.
- b. A description of the goals/objectives of the HCA segment identification process.
- c. What data/information/resources are required to complete HCA segment identification?
- d. How is HCA segment identification to be completed?
- e. When or how often is HCA segment identification to be performed?
- f. Documentation of the HCA segments.
- g. The location where the HCA segment identification documentation will be maintained.
- h. The process by which identified HCA segments are communicated to key personnel, as well as the identification of these key personnel.
- i. The means for HCA segment identification process improvements. For example, a process might require reviews and feedback loops when class location changes occur.

VED needs to establish cross references within both VED's IMP and related Operating and Maintenance (O&M) procedures to ensure complete HCA segment identification by key VED personnel. For example, VED should cross-reference O&M procedure 7.20 with the HCA Segment Identification procedures in the VED IMP. A process should be established to assure class location changes are communicated to responsible VED IMP personnel.

VED stated they intend to perform field validation of HCA segments on an annual basis. VED IMP procedures need to reflect this annual HCA segment validation.

VED failed to include all HCA segments in earlier versions of the baseline assessment plans. VED's process needs to ensure that all HCA segments are appropriately and continuously identified in all class locations. VED's geographical information system (GIS) mapping system and associated procedures needs to ensure the identification and accuracy of all the HCA segments.

2. §192.911 What are the elements of an integrity management program?

(b) A baseline assessment plan meeting the requirements of §192.919 and §192.921.

VED did not require notification to applicable States of the use of "other technology" 180 days prior to assessments. This was corrected during the audit and no further action is required.

VED did not notify PHMSA and state regulatory agencies of their intent to use guided wave technology for pipe located in casings as per 192.921(a)(4). Following the inspection, VED submitted notification to PHMSA by letter dated July 17, 2006.

VED did not have cross-references in O&M procedures and IMP procedures to ensure precautions are implemented to protect workers, members of the public, and the environment from safety hazards during assessments. VED needs to include these cross-references, for example, in safety and environmental procedures that are applicable to performing integrity assessments.

3. §192.911 What are the elements of an integrity management program?

(c) An identification of threats to each covered pipeline segment, which must include data integration and a risk assessment. An operator must use the threat identification and risk assessment to prioritize covered segments for assessment (§192.917) and to evaluate the merits of additional preventive and mitigative measures (§192.935) for each covered segment.

VED IMP did not provide sufficient detail to appropriately, consistently and continuously implement the risk analysis process. The complete risk analysis process should, at a minimum, require the following:

- a. Identify the personnel responsible for implementing the risk analysis process.
- b. Identify the goals/objectives of the risk analysis process.
- c. Describe the data/information/resources required to complete the risk analysis process.
- d. Describe how the risk analysis process will be accomplished.
- e. Identify when or how often the risk analysis process is to be performed.
- f. Identify the nature of the documentation required of the risk analysis.
- g. Identify the location where the risk analysis documentation will be maintained.
- h. Describe how the results of the risk analysis will be communicated to key personnel and identify these key personnel.
- i. Describe the means by which the risk analysis process will be reviewed for improvements, for example, periodic IMP process reviews and feedback loops.

Cross references in both the Operating and Maintenance (O&M) Procedures and the IMP procedures need to be included to ensure appropriate data integration is occurring for accurate risk analysis of each HCA segment.

VED IMP did not have the details on how it intends to manage the risk analysis process as well as its data management and integration. VED needs to include details on how it intends to upgrade the quality and quantity of data used in the risk analysis process. VED should describe how data is received by the IMP, manipulated and validated, entered into the pipeline data base, evaluated and factored into the risk analysis updates.

VED should describe how data collected during bell hole examinations are incorporated into the VED IMP, validated, integrated with other data, entered into the pipeline data base, and factored into the risk analysis updates.

At the time of the inspection, VED had a significant amount of unknown data used in the risk analysis process. This included fairly new lines (i.e. 2004 installations) which did not have basic data such as seam type, pressure test information, manufacturer, etc. PHMSA understands that VED has, since the inspection, spent a great deal of effort to address its data quality and data management efforts. VED needs to continue to reduce the amount of unknown data and provide additional guidance on how unknowns are to be treated so that the impact on the variability and accuracy of assessment results are to be considered in the risk analysis process. The simple unavailability of identified data elements is insufficient justification for the exclusion of a threat.

VED's IMP did not provide adequate details regarding the incorporation of new information in the risk analysis process. VED needs to establish timeframes and improve process details for receiving, reviewing work orders and extracting new information in VED's IMP procedure IMP-4-001.

VED's IMP did not provide details for validating the risk analysis process. For example, VED needs to provide additional details in the VED IMP procedure IMP-6-003 for validating the risk analysis process. VED should develop guidance that can be used by the subject matter experts (SME's) when performing the validation process to ensure risk results are logical and consistent with VED's and industry experience.

VED Risk Assessment procedures did not describe how interactive threats are to be addressed. Additionally, the VED Risk Assessment procedure did not require more conservative risk scores for segments exposed to the risk of interactive threats. VED needs to amend its Risk Assessment procedures to describe how interactive threats are addressed.

VED did not have a comprehensive plan for collecting, reviewing, and analyzing data. For example, VED IMP procedures did not provide a checklist of data sources to SMEs to ensure that all pipeline data records for the entire pipeline relevant to covered segments would be appropriately assembled and integrated.

VED did not provide adequate details on how the risk model would be continuously validated and improved as new information is obtained or conditions change on the pipeline segments. VED needs to provide additional details in the VED risk analysis procedure IMP-6-003 to ensure the risk model is subject to continuous validation and improvement.

4. §192.911 What are the elements of an integrity management program?

(d) A direct assessment plan, if applicable, meeting the requirements of § 192.923, and depending on the threat assessed, of §§ 192.925, 192.927, or 192.929.

VED IMP did not provide sufficient detail to appropriately, consistently and continuously implement the direct assessment process. The complete direct assessment process should at a minimum require the following:

- a. Identify the personnel responsible for implementing the direct assessment process.
- b. Identify the goals/objectives of the direct assessment process.
- c. Describe the data/information/resources required to determine feasibility of applying as well as completing the direct assessment process.
- d. Describe how the direct assessment process is to be accomplished.
- e. Identify at what intervals the direct assessment process is to be performed?
- f. Identify the nature of the documentation required of the direct assessment processes.
- g. Identify the location where the direct assessment process documentation is to be stored?
- h. Describe how the results of the direct assessments will be communicated to key personnel, and identify these key personnel.
- i. Describe the means for direct assessment process improvements including process reviews and feedback loops.
- j. Since direct assessment (DA) is VED's primary assessment method, VED's IMP and DA procedures and processes need to ensure that all potential threats for which

DA is not well suited are being addressed. If all potential threats are not being addressed, VED needs to identify assessment methods other than DA to address these potential threats.

A. External Corrosion Direct Assessment (ECDA) - PHMSA expects VED to complete revisions to its ECDA Plan and related Standard Operating Procedures (SOP) and submit to PHMSA-SR for review by March 1, 2007.

VED did not perform an acceptable ECDA feasibility study, nor did VED specify critical data collection and data integration requirements.

VED's External Corrosion Direct Assessment Plan (ECDA) procedures do not identify regions to enable appropriate implementation of ECDA process. Region identification is needed to determine required excavations performed during direct examination.

VED's ECDA procedure did not address all "shall and should" statements from the NACE RPO502-2002 standard. VED needs to address all "shall and should" statements in all relevant standards.

VED's ECDA did not address how encroachments, foreign line crossings, pipeline coating damage and third party damage data are integrated for evaluating the potential for third party damage.

VED did not document requirements for more restrictive criteria for first-time use of the ECDA process.

VED did not specify data collection requirements during the ECDA direct examination process.

VED did not identify the criteria that would prompt a root cause analysis when evaluating anomalies found on pipelines.

VED's IMP did not have a requirement to consider alternative assessment methods when conditions are discovered for which the ECDA process is not suitable.

From 2004 thru May 2006, VED conducted direct assessments on over 50 miles of pipeline, but has not completed the post assessment step. This step must be completed to validate the ECDA process, define reassessment intervals and to complete the ECDA assessments conducted to date.

B. Internal Corrosion Direct Assessment (ICDA) -- PHMSA expects VED to complete its revisions to its ICDA and related SOP's and submit to PHMSA-SR for review by March 31, 2007.

As of May 2006, VED had not assessed its pipelines for the threat of internal corrosion nor implemented the ICDA process. Before VED implements the ICDA process, VED needs to review all available records to determine if VED's pipeline system actually operates as a dry gas system with no water and or electrolytes.

VED's ICDA process did not identify who is responsible for implementing the process steps. The procedure lacks details throughout as to how the process steps will be accomplished.

VED's ICDA needs to demonstrate that its ICDA model is valid for actual flow rates within VED's pipelines.

VED indicated that its ICDA program will consider critical angles at high, intermediate and low flow conditions. VED is using this approach as a more restrictive criterion when determining the number of direct examinations. VED's ICDA procedures need to include these provisions.

VED's ICDA procedures did not contain details on its methods for examination of the pipeline at critical angles.

C. Stress Corrosion Cracking Direct Assessment (SCCDA) – PHMSA expects VED to complete revisions to its SCCDA Plan and related SOP's and submit to PHMSA-SR for review by May 1, 2007.

As of May 2006, VED had not assessed its pipelines for the threat of stress corrosion cracking nor implemented its SCCDA process.

VED's SCCDA process is in a framework status. VED needs to fully develop its SCCDA Plan and procedures before implementation, should the conditions of the SCC screening criteria be met. VED needs to differentiate its approach for high pH and near neutral pH SCC. At this time, use of DA for near-neutral SCC is considered "other technology" and operators must notify PHMSA at least 180 days before conducting an assessment using such a method.

VED's SCC procedures did not require appropriate data collection to identify whether SCC is present when pipelines meeting SCC screening criteria are exposed.

5. §192.911 What are the elements of an integrity management program?

(e) Provisions meeting the requirements of § 192.933 for remediating conditions found during an integrity assessment.

VED's IMP procedure IMP-6-018 did not have cross references to appropriate O&M procedures for repairing dents.

VED's ECDA procedure IMP-6-014 did not specify that all immediate indications and one scheduled indication be excavated for each ECDA region.

VED's ECDA procedure IMP-6-014 did not require pipeline pressure reduction when conditions are discovered that require immediate remediation.

6. §192.911 What are the elements of an integrity management program?

(h) Provisions meeting the requirements of § 192.935 for adding preventive and mitigative measures to protect the high consequence area.

VED implemented several damage prevention enhancements but had no documented risk-based decision making process for consideration and implementation of preventive and mitigative measures for covered pipeline segments. For example, an analysis of automatic shut-off or remote control valves had not been performed at the time of the inspection.

7. §192.911 What are the elements of an integrity management program?

(j) Record keeping provisions meeting the requirements of § 192.947.

VED did not have adequate record documentation to support integrity management decisions and analysis. VED's record keeping process needs to be improved to facilitate the evaluation of each element of the integrity management program.

8. §192.911 What are the elements of an integrity management program?

(k) A management of change process as outlined in ASME/ANSI B31.8S, section 11.

VED's management of change (MOC) process is currently a framework and did not provide the procedural details necessary to support a management of change process. The MOC procedures did not consider impacts of changes to pipeline systems and pipeline integrity as per ASME B31.8S-2001, Section 11(a).

VED needs to ensure the MOC process requires the documentation of its the basis for rejecting or approving proposed changes.

VED's MOC procedures need to include an organizational review of proposed changes affecting pipeline integrity.

9. §192.911 What are the elements of an integrity management program?

(l) A quality assurance process as outlined in ASME/ANSI B31.8S, section 12.

VED quality assurance procedures did not specifically identify the IM Oversight Group which was required to be established in Section 3.0, "Accountability and Responsibility" Section of the VED IMP.

Response to this Notice

If, after notice and opportunity for a hearing, your procedures are found to be inadequate, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.237).

This letter serves as your notice of inadequate plans or procedures. Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to the Notice of Amendment portion of this document and note the response options. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue an Order Directing Amendment.

If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 60 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 2-2007-1001M** and for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,



Linda Daugherty
Director, Southern Region
Pipeline and Hazardous Materials Safety Administration

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