



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

December 10, 2013

Mr. Connell R. Rader
President
Enmark Energy, Inc.
104 First Choice Drive, Suite A
Madison, MS 39110

CPF 2-2013-6013M

Dear Mr. Rader:

On August 12-15, 2013, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Southern Region, Office of Pipeline Safety (OPS) inspected the Enmark Energy, Inc. (Enmark) Sandhill and Air Liquide Carbon Dioxide (CO₂) pipelines in Madison, Mississippi, pursuant to Chapter 601 of 49 United States Code.

On the basis of the inspection, PHMSA has identified apparent inadequacies within Enmark's written operations and maintenance (O&M) procedures as described below:

1. §195.304 Test pressure.

The test pressure for each pressure test conducted under this subpart must be maintained throughout the part of the system being tested for at least 4 continuous hours at a pressure equal to 125 percent, or more, of the maximum operating pressure and, in the case of a pipeline that is not visually inspected for leakage during the test, for at least an additional 4 continuous hours at a pressure equal to 110 percent, or more, of the maximum operating pressure.

Enmark's written O&M procedures in *Section 11 Maximum Allowable Operating Pressures: Establishment of MAOP/MOP Table 11-1* established one-hour as the pressure test duration for exposed pipe whereas a pressure test of at least 4 continuous hours at a pressure equal to or greater than 125 percent of the maximum operating pressure (MOP) is required when the pipeline can be visually inspected for leakage during the test.

2. §195.401 General requirements.

... (b) An operator must make repairs on its pipeline system according to the following requirements:

(1) *Non Integrity management repairs.* Whenever an operator discovers any condition that could adversely affect the safe operation of its pipeline system, it must correct the condition within a reasonable time. However, if the condition is of such a nature that it presents an immediate hazard to persons or property, the operator may not operate the affected part of the system until it has corrected the unsafe condition.

Enmark's written O&M procedures in *Section 50 Pipeline Maintenance Activities: Pipeline Repair Procedures and Documentation* (page 50-2) required that a pressure reduction be made when there is a danger to life or property but the procedures did not require that the pipeline not be operated if a condition presents an immediate hazard to persons or property. The procedures also incorrectly restricted these actions to pipelines operating at or above 40% of the specified minimum yield strength (SMYS).

Additionally, Enmark's written O&M procedures in *Section 50 Pipeline Maintenance Activities: Pipeline Repair Procedures and Documentation* (page 50-1) did not require that any condition that could adversely affect the safe operation of the pipeline must be corrected within a reasonable time. That is, while Enmark's O&M procedures required that "*Each segment of pipeline that becomes unsafe must be replaced, repaired or removed from service*" the procedures did not specify that Enmark must correct such a condition within a reasonable time. Moreover, the procedures were limited by only requiring "...*leaks or damage caused by external forces, or detected during routine inspection[s]*" to be repaired promptly.

Also, Enmark's procedures under *Permanent Field Repair of Leaks, Imperfections, and Damage* (pages 50-2 and 50-3) incorrectly limited serious defects and damage only to pipelines operating at or above 40% SMYS.

- 3. §195.402 Procedural manual for operations, maintenance, and emergencies.**
... (c) **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.**

Enmark's pipelines transport CO₂, yet Enmark's written O&M procedures in *Section 53 Drainup and Linefill for Liquid Pipelines* did not address the purging and subsequent filling of CO₂ pipelines during repairs.

- 4. §195.402 Procedural manual for operations, maintenance, and emergencies.**
... (c) **The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:**
... (7) **Starting up and shutting down any part of the pipeline system in a manner designed to assure operation within the limits prescribed by paragraph §195.406, consider the hazardous liquid or carbon dioxide in transportation, variations in altitude along the pipeline, and pressure monitoring and control devices.**

Enmark relies on personnel from its CO₂ supplier Denbury Onshore, LLC, (Denbury) and its downstream customers (Sandhill and Air Liquide) to open and close valves, and to take other actions to start up and shut down its pipelines. Enmark's written O&M procedures in *Section 13 Maximum Allowable Operating Pressures: MAOP/MOP*, however, provided only the general guidance Enmark would follow to start up and shut down its pipelines.

The procedures did not describe the actions that personnel from Denbury and the downstream customers would undertake to start up and shut down Enmark's pipelines nor did the procedures describe Enmark's own required actions relating to pipeline start up and shut down.

5. §195.402 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;

... (7) Notifying fire, police, and other appropriate public officials of hazardous liquid or carbon dioxide pipeline emergencies and coordinating with them preplanned and actual responses during an emergency, including additional precautions necessary for an emergency involving a pipeline system transporting a highly volatile liquid.

Enmark's written emergency procedures did not require the notification of fire departments or other emergency response agencies in case of an emergency.

6. §195.402 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;

... (9) Providing for a post accident review of employee activities to determine whether the procedures were effective in each emergency and taking corrective action where deficiencies are found.

Enmark's written O&M procedures in *Section 6 Incident/Accident Analysis* for the post accident investigation addressed reviewing the cause of an accident but did not provide for a post accident review of employee activities to determine whether the procedures were effective in the emergency and for taking corrective actions where deficiencies are found.

7. §195.406 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:

(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:

Enmark's written O&M procedures in *Section 11 Maximum Allowable Operating Pressures: Establishment of MAOP/MOP* did not include the internal design pressure of the pipe when determining the MOP for its pipelines.

8. §195.410 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:

(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.

Enmark's written O&M procedures in *Section 49 Pipeline Maintenance Activities: Line Markers for Transmission and Gathering Lines* required "Pipeline markers ... to be installed over all Company pipelines at each crossing of a public road, railroad, and water crossing." However, Enmark's procedures did not require that line markers be located in sufficient number along the remainder of its buried pipelines so that the location of these pipelines is accurately known.

9. §195. 555 What are the qualifications for supervisors?

You must require and verify that supervisors maintain a thorough knowledge of that portion of the corrosion control procedures established under §195.402(c)(3) for which they are responsible for insuring compliance.

Enmark's written O&M procedures in *Section 75 Corrosion Control: Requirements: General* required that "These procedures, including those for the design, installation, operation, and maintenance of cathodic protection systems, must be carried out or directed by qualified personnel who have demonstrated their knowledge in pipeline corrosion control methods through applicable training and experience." Enmark's procedures, however, did not address how Enmark requires and verifies that supervisors maintain a thorough knowledge of that portion of the corrosion control procedures established under §195.402(c)(3) for which they are responsible for insuring compliance.

10. §195. 569 Do I have to examine exposed portions of buried pipelines?

Whenever you have knowledge that any portion of a buried pipeline is exposed, you must examine the exposed portion for evidence of external corrosion if the pipe is bare, or if the coating is deteriorated. If you find external corrosion requiring corrective action under §195.585, you must investigate circumferentially and longitudinally beyond the exposed portion (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the exposed portion.

Enmark's written O&M procedures in *Section 76 Corrosion Control: External Corrosion Control* did not require Enmark to investigate circumferentially and longitudinally beyond the exposed portion of a pipeline (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the exposed portion when external corrosion requiring corrective action under §195.585 was found on an exposed buried pipeline.

11. §195. 571 What criteria must I use to determine the adequacy of cathodic protection?

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).

Enmark's written O&M procedures in *Section 76 Corrosion Control: External Corrosion Control* stated in *Levels of Cathodic Protection and Monitoring* (192.463, 192.465, 195.571) that "While the 300 mV shift criteria and the Tafel slope of the E log I curve criteria are not currently being used by the Company, the Company reserves the right to reconsider the application of these criteria should the need arise." This procedure did not make it clear that these two criteria (i.e. the 300 mV shift criteria and the Tafel slope of

the E log I curve) are not acceptable for use on hazardous liquid pipelines regulated under Part 195 because they are not included in the criteria in paragraphs 6.2 and 6.3 of NACE SP 0169 (incorporated by reference, see §195.3).

Additionally, Enmark's written O&M procedures in *Section 76 Corrosion Control: External Corrosion Control* required that all voltage drops be considered in evaluating the cathodic protection (CP) with the protective current applied; however, the procedure did not address how Enmark would specifically consider or determine voltage drop.

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 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.

It is requested (not mandated) that Enmark Energy, Inc. maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to Wayne T. Lemoi, Director, Southern Region, Pipeline and Hazardous Materials Safety Administration. In correspondence concerning this matter, please refer to **CPF 2-2013-6013M** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,



Wayne T. Lemoi
Director, Office of Pipeline Safety
PHMSA Southern Region

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