



U.S. Department of Transportation
**Pipeline and Hazardous Materials
Safety Administration**

8701 S. Gessner, Suite 630
Houston TX 77074

**NOTICE OF PROBABLE VIOLATION
and
PROPOSED COMPLIANCE ORDER**

ELECTRONIC MAIL - RETURN RECEIPT REQUESTED

August 5, 2022

David Sheppard
Executive Vice President – Chief Operating Officer
Denbury Onshore, LLC
5320 Legacy Drive
Plano, Texas 75024

CPF 4-2022-041-NOPV

Dear Mr. Sheppard:

From February 23 to August 19, 2021, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code (U.S.C.), inspected Denbury Onshore, LLC's (Denbury) carbon dioxide (CO₂) transmission pipeline system in Louisiana and Mississippi.

As a result of the inspection, it is alleged that Denbury has committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (C.F.R.). The items inspected and the probable violations are:

1. **§ 195.452 Pipeline integrity management in high consequence areas.**
 - (a) ...
 - (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.

Denbury failed to conduct a risk analysis in 2019 for its Brandon Pump Station, Lockhart Meter Station, Jordan Meter Station, Industrial Park Lateral Meter Station, and South Gluckstadt Extension Temporary Pig Receiver to identify preventive and mitigative measures (P&MM) that may enhance public safety or environmental protection. Denbury identified these facilities as “Could Affect” facilities subject to its integrity management program.

Denbury’s *Integrity Management Program, IMP0100, 3.10 Integrity Management for Facilities Other than Line Pipe, 3.10.1 Process* (Revised: 2021-02-15) states:

“Facility risk analysis and Preventive and Mitigative Measures (P&MM) evaluations are completed on an interval not to exceed five years for ‘Could Affect’ facilities. The primary goals of the Facility Risk Analysis Review are to identify the facility threats, select P&MMs for implementation, and determine whether the facility increases line pipe risk.”

Denbury failed to perform a risk analysis in calendar year 2019 as required by its procedures. Following PHMSA’s inspection, on January 7, 2022, Denbury submitted Form IMP0900-01: Facility Risk Assessment and P&MM Evaluation. This form documented the P&MM evaluation conducted on November 2, 2021, and its “Could Affect” facilities risk analysis for Brandon Pump Station, Lockhart Meter Station, Jordan Meter Station, Industrial Park Lateral Meter Station, and South Gluckstadt Extension Temporary Pig Receiver. However, this evaluation was inadequate because it failed to identify additional P&MM for the next five years. Denbury’s risk analysis results identified “Pipe – Outside Force Related Failure” category as the highest risk which would require more timely implementation of P&MMs.

Therefore, Denbury failed to conduct a risk analysis in accordance with § 195.452(i)(1).

2. § 195.452 Pipeline integrity management in high consequence areas.

(a) ...

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

(1) ...

(4) *Emergency Flow Restricting Devices (EFRD).* If an operator determines that an EFRD is needed on a pipeline segment to protect a high consequence area in the event of a hazardous liquid pipeline release, an operator must install the EFRD. In making this determination, an operator must, at least, consider the following factors

- the swiftness of leak detection and pipeline shutdown capabilities, the type of commodity carried, the rate of potential leakage, the volume that can be released, topography or pipeline profile, the potential for ignition, proximity to power sources, location of nearest response personnel, specific terrain between the pipeline segment and the high consequence area, and benefits expected by reducing the spill size.

Denbury failed to perform a risk assessment to determine whether Emergency Flow Restricting Devices (EFRDs) are needed on its pipeline segments to protect high consequence areas (HCAs) in the event of a release. Specifically, Denbury failed to perform an EFRD risk assessment using all of the factors in § 195.452(i)(4) in accordance with its written integrity management program.

Denbury's *Integrity Management Program, IMP0100, 3.9 Process for Identification of Preventive and Mitigative Measures, 3.9.2 EFRDs & Leak Detection Review* (Revised: 2021-02-15) states:

“EFRDs and leak detection capabilities are critical components of the P&MM review process, as the speed at which pipeline leaks can be detected and the pipeline isolated is directly related to release volumes and potential impacts to HCAs. During the P&MM evaluation, Denbury SMEs determine whether further evaluation of leak detection and EFRDs is needed.”

3.9.2.2 EFRDs

“The Denbury risk model is employed to evaluate the anticipated potential impact on HCAs. This information and other factors as described in 49 CFR 195.452(i)(4) are reviewed by Denbury to determine the feasibility of risk reductions by changes to the SCADA system and/or the relocation or addition of EFRDs. IMP Form IMP0800-03 - EFRD Evaluation, provides a more detailed discussion of the EFRD evaluation process.

In accordance with PHMSA guidance, when Denbury determines that EFRDs are needed on a pipeline segment to mitigate the effects of a hazardous liquid pipeline release in an HCA, they are installed.”

During the inspection, Denbury failed to provide an EFRD risk assessment for its system to evaluate the potential impact on HCAs. Denbury asserted that it did not need to conduct an EFRD assessment because a sister company, Denbury Green Pipeline, conducted an EFRD analysis in 2019. Denbury claimed that it and Denbury Green Pipeline maintain the same characteristics in terms of product, 15-minute valve closure timing, 2-hour physical response time, 24-inch diameter or less of pipelines, and average flow rates. However, as stated in § 195.452(i), each operator must determine whether EFRDs are necessary on its system. Denbury must conduct its own EFRD risk assessment.

Therefore, Denbury failed to perform a risk assessment to determine whether EFRDs are needed on its pipeline segments to protect HCAs in the event of a release in accordance with § 195.452(i)(4) and its written integrity management program.

3. § 195.452 Pipeline integrity management in high consequence areas.

(a) ...

(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.

Denbury failed to measure the effectiveness of its integrity management program in assessing and evaluating the integrity of each pipeline segment and in protecting HCAs in accordance with § 195.452(k).

Denbury’s *Integrity Management Program, IMP0100, 3.11 Program Evaluation Measures, 3.11.2 Performance Measures* (Revised: 2021-02-15) states:

“Denbury collects and analyzes performance measures annually. Performance measures are reviewed during the annual IMP review to identify modifications and establish goals. Performance measures are used to evaluate the effectiveness of the IMP and are broken into three categories: leading, lagging, and deterioration...”

During the inspection, Denbury stated that its last integrity management program performance measure was conducted in 2014 and that it failed to conduct the annual integrity management program performance measure from 2015 to 2020.

Therefore, Denbury failed to measure the effectiveness of its integrity management program in accordance with § 195.452(k).

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 C.F.R. § 190.223, you are subject to a civil penalty not to exceed \$239,142 per violation per day the violation persists, up to a maximum of \$2,391,142 for a related series of violations. For violations occurring on or after May 3, 2021 and before March 21, 2022, the maximum penalty may not exceed \$225,134 per violation per day the violation persists, up to a maximum of \$2,251,334 for a related series of violations. For violations occurring on or after January 11, 2021 and before May 3, 2021, the maximum penalty may not exceed \$222,504 per violation per day the violation persists, up to a maximum of \$2,225,034 for a related series of violations. For violations occurring on or after July 31, 2019 and before January 11, 2021, the maximum penalty may not exceed \$218,647 per violation per day the violation persists, up to a maximum of \$2,186,465 for a related series of violations. For violations occurring on or after November 27, 2018 and before July 31, 2019, the maximum penalty may not exceed \$213,268 per violation per day, with a maximum penalty not to exceed \$2,132,679. For violations occurring on or after November 2, 2015 and before November 27, 2018, the maximum penalty may not exceed \$209,002 per violation per day, with a maximum penalty not to exceed \$2,090,022.

We have reviewed the circumstances and supporting documents involved in this case and have decided not to propose a civil penalty assessment at this time.

Proposed Compliance Order

With respect to Items 1, 2, and 3, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Denbury Onshore, LLC. Please refer to the *Proposed Compliance Order*, which is attached and made a part of this Notice.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Enforcement 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).

Following the receipt of this Notice, you have 30 days to submit written comments, or request a hearing under 49 C.F.R. § 190.211. 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 you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. This period may be extended by written request for good cause.

In your correspondence on this matter, please refer to **CPF 4-2022-041-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

Mary L. McDaniel, P.E.
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Enforcement Proceedings

PROPOSED COMPLIANCE ORDER

Pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Denbury Onshore, LLC (Denbury) a Compliance Order incorporating the following remedial requirements to ensure the compliance of Denbury with the pipeline safety regulations:

- A. With regard to Item 1 of the Notice concerning Denbury's failure to conduct a comprehensive facility risk analysis, Denbury must conduct a comprehensive facility risk analysis for all "Could Affect" facilities to identify preventive and mitigative measures to enhance public safety or environmental protection. Denbury must submit the comprehensive facility risk analysis report to the Director, Southwest Region, PHMSA within **90** days of the issuance of the Final Order.
- B. With regard to Item 2 of the Notice concerning Denbury's failure to perform a risk assessment, Denbury must perform a risk assessment to determine whether Emergency Flow Restriction Devices (EFRDs) are needed on its pipeline segments to protect high consequence areas in the event of a release. Denbury must consider the factors in § 195.452(i)(4) in its risk assessment. If Denbury determines an EFRD is necessary, it must be installed. Denbury must submit the EFRD risk assessment to the Director, Southwest Region, PHMSA within **90** days of the issuance of the Final Order.
- C. With regard to Item 3 of the Notice concerning Denbury's failure to measure the effectiveness of its Integrity Management Program (IMP), Denbury must measure whether its IMP is effective in assessing and evaluating the integrity of each pipeline segment and in protecting high consequence areas. Denbury must submit the IMP effectiveness review to the Director, Southwest Region, PHMSA within **60** days of the issuance of the Final Order.

It is requested (not mandated) that Denbury maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Mary L. McDaniel, Director, Southwest Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.