



Mary McDaniel
Director, Southwest Region
Pipeline and Hazardous Material Safety Administration

Re: CPF 4-2020-5006: NOPV and Proposed Compliance Order from Cajun/Sibon
Inspection

Dear Ms. McDaniel:

EnLink Midstream received your letter dated February 18, 2020, pertaining to a NOPV and Proposed Compliance Order for an inspection done by PHMSA on the EnLink IP-1000 pipeline system. With this letter we would like to provide an "EXPLANATION" for the findings and submit more documentation.

PHMSA's Analysis:

Your letter includes the following description of PHMSA's analysis:

EnLink's integrity management program failed to include an element required in § 195.452(0)(6) of identifying preventative and mitigative measures necessary to protect high consequence areas (HCAs). Enlink failed to identify preventative and mitigative measures for its Cajun Sibon NGL Pipeline System to determine if Emergency Flow Restricting Devices (EFRDs) were needed on its pipeline segments to protect high consequence areas in event of hazardous liquid pipeline release. Section 195.452(i)(4) requires operators to take measures to prevent and mitigate the consequences of a pipeline failure in HCAs, including determine whether EFRDs are needed.

EnLink's written Liquid Integrity Management Plan (IMP) states:

7.11 EFRD Need Evaluation Factors

Outputs from both the HCA and risk analysis and other factors as described in 49 CFR §195.452(i)(4) are reviewed by EnLink to determine the feasibility of risk reductions by the relocation or addition of emergency flow restriction devices (EFRDs). ENLINK LIMP Form 108, EFRD Evaluation, provides a more detailed discussion of the EFRD evaluation process.

In accordance with PHMSA guidance, when EnLink 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, the PHMSA inspector learned that EnLink failed to perform its initial EFRD evaluation on its IP-1000 pipeline to 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.

EnLink failed to implement a process for the evaluation, identification, and implementation of preventive and mitigative measures to protect the HCAs of its pipeline system as required by §195.452(0)(6) and §195.452(i)(4).

EnLink's Response:

Introduction

According to our EnLink IMP plan, the triggering events for EFRD evaluations include follow-up to P&M evaluation or other event that in the judgment of the IMP Team Chairman necessitates additional EFRD analysis. EnLink's robust Risk model has built-in attributes which considers all the required factors, including 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, and specific terrain between the pipeline segment, in determining the need for EFRD analysis. EnLink performed the necessary study by reviewing the results of the Risk model and the P&M evaluation which did not warrant a need for additional EFRD analysis. Accordingly, EnLink has complied with the rule requirements of CFR 195.452(6)(i)(4) in making the determination and objects to any finding that EnLink failed to determine if EFRDs were needed on pipeline segment. EnLink further objects to the issuance of any Compliance Order requiring any additional study because, as demonstrated herein, EnLink has already performed sufficient analysis of relevant information and the factors listed in CFR 195.452(i)(4).

49 CFR 195.452 (i)(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.”

EnLink LIMP 7.11 EFRD Need Evaluation Factors

“Outputs from both the HCA and risk analysis and other factors as described in 49 CFR §195.452(i)(4) are reviewed by EnLink to determine the feasibility of risk reductions by the relocation or addition of emergency flow restriction devices (EFRDs). ENLINK LIMP Form 108, EFRD Evaluation, provides a more detailed discussion of the EFRD evaluation process.

In accordance with PHMSA guidance, when EnLink 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.”

EFRD and Liquid Volume Release (LVR) Reports

As demonstrated in the attached documents, EnLink specifically considered each of the required factors. Specifically, EnLink considered the following factors when determining the need for EFRDs on the relevant pipeline to mitigate the effects of a liquid pipeline Release:

1. The swiftness of leak detection and pipeline shutdown capabilities and location of nearest response personnel.

This entire pipeline system is equipped with a state-of-the-art leak detection system (Energy Solutions International (ESI) by Emerson). It is capable of real time hydraulic monitoring via the Computational Pipeline Monitoring (CPM) method as described in API 1130 and has the capability of detecting a full-bore rupture and major leaks and initiating the response protocol within 15min.

2. The rate of potential leakage, volume that can be released, topography or pipeline profile, the specific terrain between pipeline and HCA and the potential benefit of adding EFRDs.

In the Liquid Volume Release (LVR) model located inside the RIPL risk analysis program, both an “Initial Loss” and a “Stabilization Loss” are calculated and are combined for the “Total Loss” during a worst-case scenario of a full-bore rupture. The Initial Loss is the product of the maximum flow rate for that pipeline and the time to recognize the rupture and shutdown the pumps. The stabilization loss is the additional volume that is spilled after the leak has been isolated due to variations in head pressure caused by the topography. The elevation profile is inversely correlated to the “Stabilization Loss” during a rupture. Because of the impact elevation has on the total spill during a rupture event, an elevation graph is included

in the LVR reports to show the relationship between the topography and the potential loss of product.

3. The type of commodity carried and the potential for ignition.

The type of commodity carried is Y-Grade NGL and is a Highly Volatile Liquid that will vaporize upon release to atmosphere, meaning that the highest risk will be in populated areas. The potential for ignition is correlated to the HCA type with populated areas representing a higher potential for ignition. Therefore, priority is taken to protect the High Populated Areas (HPA) and Other Populated Areas (OPA) followed by Commercially Navigable Waterways (CNW) and finally Drinking Water (DW) and Ecological (ECO) Zones.

4. Proximity to power sources

This pipeline system traverses some very remote terrain and in some cases is not feasible to have a remote-control valve due to access to power. EnLink considered HPA and OPA as the source in evaluating additional valve requirements.

5. EFRD Summary of line segments:

a. IP-1000 Liberty to Eunice 12in

This pipeline was installed and put into service in 2014 with careful consideration taken to protect the HCAs as evidenced in the report in *Appendix A: IP-1000 EFRD and LVR Report*. EFRDs have been strategically placed to reduce the amount of liquid spilled in an HCA. The pipeline traverses a multitude of terrain types, ranging from heavy swamp to populated areas around Beaumont, TX. Appendix A shows that the potential liquid volume release has been minimized to an acceptable level and is constant over the course of the whole pipeline which is evidence that adding additional EFRDs would have little effect on further reducing potential spill volumes.

EnLink's robust ESI leak detection model and ability to deploy emergency personnel in a timely manner would reduce the risk for any potential spills significantly. EnLink will continue to look for ways to improve the EFRDs and minimize risk on all its pipeline.

All of the attributes in Appendix B are included when calculating the risk of the pipeline. When the risk scores (Appendix C) are evaluated in the P&M process, the largest contributing threats are assessed, and appropriate responses and actions are identified. The P&M process includes analyzing the threats and prompts to determine whether an EFRD analysis is a recommended P&M. This option can be recommended if it properly addresses the threats. The need for additional EFRD analysis was evaluated but was not recommended since these lines

were identified to be most affected by the Third Party threat, which is shown in Appendix C. Through the RIPL risk program, a 'tornado diagram' was used to determine the risk drivers for the identified Third Party threat. These diagrams were analyzed, and corresponding P&M actions were taken to mitigate that threat. The P&M form in Appendix D documents the consideration for additional EFRD and the appropriate actions to mitigate the Third Party threat.

Attachments:

Appendix A: IP-1000 EFRD and LVR Report

Appendix B: LVR Report Description

Appendix C: IP-1000 Risk Data

Appendix D: IP-1000 Form 106 P&M

Conclusion

EnLink is committed to comply with all applicable regulations and safety is a number one priority. EnLink believes that all the factors referenced in CFR 195.452 (i)(4) were properly considered and, as a result, EnLink determined the existing EFRDs are adequate. Accordingly, EnLink contends that no additional EFRD analysis is warranted at this time.

Sincerely,

Cordell Theriot
Sr. DOT Compliance Specialist

Cc: Mike LeBlanc, Aaron Wimberley, Stan Byrd and PINDOT.