

Crude Oil Transfer Line Leak Protection and Monitoring Plan

Liquids Handling HUB



CRESTONE PEAK
RESOURCES

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This plan has been prepared in accordance with COGCC Rule 1104.g.(1)

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Introduction

Crestone Peak Resources, LLC (CPR) operates a crude oil transfer system in Weld County, Colorado and is committed to the most efficient, safe and environmentally responsible transportation of oil and produced water.

The Crude Oil Transfer Pipeline Leak Protection and Monitoring Plan advances CPR's safety policies and provides accountability and transparency to our operations. This plan outlines CPR's procedures for leak detection, leak response, preventative maintenance and procedures that are followed on all Crude Oil Transfer Lines that CPR operates.

Regulatory Background

This plan complies with COGCC Rule 1104.g.(1)

All crude oil transfer line operators must prepare and file with the Director a leak protection and monitoring plan with their registration.

COGCC Rule 1104.g.(2)

All crude oil transfer line operators must develop and maintain a plan to coordinate the assessment of all inflow and outflow data. The plan must provide for the assessment of inflow and outflow data between the production facility operator, the crude oil transfer line operator, and the operator at the point or points of disposal, storage, or sale. Upon discovery of a material data discrepancy, the discovering party is to notify all other appropriate parties and take action to determine the cause. The crude oil transfer line operator is to retain a record of all material data discrepancies.

Crude Oil Transfer Line (COTL) is defined as:

"...a piping system or pipeline segment that is not regulated or subject to regulation by the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to 49 C.F.R. § 195 Subpart A, and that transfers crude oil, crude oil emulsion or condensate from more than one well site or production facility to a production facility with permanent storage capacity greater than 25,000 barrels of crude oil or condensate or a PHMSA gathering system."



Prevention

CPRs prevention structure covers many parts of the crude oil transfer system, including steps in the design, construction, and operation, including the following:

- Engineering Design
- Technical Standards
- One Call Participation
- Marking
- Integrity Management
- Cathodic Protection
- Corrosion Control
- Risk Mitigation
- Training

Monitoring

A variety of programs are used to ensure pipelines are monitored for integrity, including:

- Pressure Monitoring
- Security
- Training
- Liquids Handling HUB Control Room

CPR's Liquid Handling Hub (HUB) lease operators are trained specifically to monitor and identify any abnormalities. With 24 hours a day, 365 days a year staffed control room, trained operators quickly and effectively respond to any anomalies identified through routine field inspections or pressure monitoring.

Pressure monitoring is used to monitor all pipeline sections for any irregularities. A computer system called Supervisory Control and Data Acquisition (SCADA) allows for HUB Operators to monitor the whole pipeline system from a single point, improving response times and improving the ability to respond to abnormal operating conditions.



Maintenance

Pressure transmitters are calibrated in accordance with manufacturer's specifications quarterly (4 times per year, not to exceed 4 months). In the event a pressure transmitter is identified as showing an incorrect reading, operators notify the automation department who evaluates the sensor for replacement or if it can be recalibrated.

Pressure testing is conducted annually on COTLs to the maximum operating pressure per COGCC Rule 1104.f.(1). If a COTL is found to lack integrity, CPR operators will immediately investigate, report, and remediate any spills in accordance with the 900 series rules.

Detection

CPR operates a control room and all operators are trained to manage this system and the associated facilities. All personnel are trained in using the SCADA system to identify abnormalities and communicate with field personnel to resolve any issues. Controllers and field personnel are trained on the operating specifications of the pipelines and are well situated to react in the event of an upset event.

CPR's HUB utilizes various pressure transmitters and other SCADA information to notify controllers of any out-of-threshold values. While pressure transmitters and other SCADA data do not immediately indicate that there is a leak, it requires a response from operators in which the discrepancy can be identified and corrected.

In the event there is an abnormal condition, an operator communicates with other operators to respond to the indicated abnormal operating condition. If a leak or anomaly is detected by the system and cannot be identified, controllers are trained and qualified to remotely shut-in the pipeline and associated facilities if the circumstances call for additional investigation into the event.



Response

In the unlikely event of a leak, quick and effective response is critical to ensure the safety of all personnel, neighboring communities, and first responders. As well as mitigating any environmental impacts and resolving the leak as soon as possible. CPR has an Emergency Response Plan (ERP) that outlines response actions based on the circumstances of incident. In the event of a COTL leak, the response is expected to follow the guidelines set forth in the ERP.

CPR maintains a 24 hour a day, 7 days a week, 365 days a year on-call program. In the event of a leak, the manager on-call is trained to escalate the incident to the appropriate incident management team members as identified in the ERP.

CPR personnel are trained to take prompt actions and ensure that all employees, appropriate local authorities, and applicable regulatory agencies are notified when an incident response is necessary.

Training

Training is an extensive part of the leak protection, detection, and response program. All operators are trained in the specific operations of the COTL and associated facilities.

HUB operators regularly receive specialized training in system operation, abnormal operating conditions, and Environmental Health and Safety Procedures and all local, state, and federal regulations pertaining to the facilities they operator.

Training also includes drills and exercises to simulate events of an abnormal operating condition. HUB operators participate in table-top exercises that identify potential abnormal operating conditions and proper procedure to resolve the issue quickly and safely.

