



# Oil and Gas Division

Lynn D. Helms - Director      Bruce E. Hicks - Assistant Director  
**Department of Mineral Resources**  
 Lynn D. Helms - Director  
**North Dakota Industrial Commission**  
[www.dmr.nd.gov/oilgas/](http://www.dmr.nd.gov/oilgas/)

## ADMINISTRATIVE RULES COMMITTEE HEARING

### TESTIMONY OF KEVIN C. CONNORS

September 13, 2016

Chairman Devlin and Committee Members:

Issue: Leak Protection, Detection, and Monitoring

#### **NDAC Sec. 43-02-03-29.1 (Leak Detection, Protection and Monitoring)—Justification of changes**

Since April 1, 2014 operators have been required to submit to the Commission the methods of “leak detection and monitoring” that will be utilized after the in-service date of the pipeline.

Current Requirement: NDAC Section 43-02-03-29 (1)h

Leak detection and monitoring methods that will be utilized after in-service date.

Note: The underground gathering pipeline requirements were removed from NDAC Section 43-02-03-29 and moved to the newly created NDAC Section 43-02-03-29.1

Originally Proposed Language: NDAC Section 43-02-03-29.1 (8)a(9)

Leak detection and monitoring methods that will be utilized after in-service date.

Originally Proposed Language: NDAC Section 43-02-03-29.1 (10)

All crude oil and produced water underground gathering pipeline owners must file with the commission any leak detection and monitoring plan prepared by the owner or required by the director.

Sixteen parties submitted comments, fourteen of which were from industry (see Consideration of Comments pages 18-19). After fully considering the comments, the Commission modified the original language (note yellow-highlighted text):

NDAC Section 43-02-03-29.1 (8)a(9):

Leak protection, detection, and monitoring methods that will be utilized after in-service date.

NDAC Section 43-02-03-29.1 (10)

All crude oil and produced water underground gathering pipeline owners must file with the commission any leak protection, detection, and monitoring plan prepared by the owner or required by the director, pursuant to North Dakota Century Code section 38-08-27.

Industry Comments:

- Leak detection – Commenters stated concerns with the use of the terms “leak detection” because there is no leak detection technology available that can detect leaks 100% of the time.
- Leak Protection – Industry recommends the use of the term “leak protection”

“Protection” was added pursuant to HB 1358 (green highlight)

**HB 1358 SECTION 2.** A new section to NDCC Chapter 38-08 was created and enacted as follows:

**Controls, inspections, and engineering design on crude oil and produced water underground gathering pipelines.**

The application of this section is limited to an underground gathering pipeline that is designed or intended to transfer crude oil or produced water from a production facility for disposal, storage, or sale purposes and which was placed into service after August 1, 2015. Upon request, the operator shall provide the commission the underground gathering pipeline engineering construction design drawings and specifications, list of independent inspectors, and a plan for leak protection and monitoring for the underground gathering pipeline. Within sixty days of an underground gathering pipeline being placed into service, the operator of that pipeline shall file with the commission an independent inspector's certificate of hydrostatic or pneumatic testing of the underground gathering pipeline.

“Detection” is also referenced in HB 1358 (green highlight)

**HB 1358 SECTION 8. TRANSFER - ABANDONED OIL AND GAS WELL PLUGGING AND SITE RECLAMATION FUND TO OIL AND GAS RESEARCH FUND - PRODUCED WATER PIPELINE STUDY - REPORT TO LEGISLATIVE MANAGEMENT.** The director of the office of management and budget shall transfer the sum of \$1,500,000 from the abandoned oil and gas well plugging and site reclamation fund to the oil and gas research fund for the purpose of funding a special project through the energy and environmental research center at the university of North Dakota during the biennium beginning July 1, 2015, and ending June 30, 2017. The special project must focus on conducting an analysis of crude oil and produced water pipelines including the construction standards, depths, pressures, monitoring systems, maintenance, types of materials used in the pipeline including backfill, and an analysis of the ratio of spills and leaks occurring in this state in comparison to other large oil and gas-producing states with substantial volumes of produced water. The industrial commission shall contract with the energy and environmental research center to compile the information and the center shall work with the department of mineral resources to analyze the existing regulations on construction and monitoring of crude oil and produced water pipelines, determine the feasibility and cost effectiveness of requiring leak detection and monitoring technology on new and existing pipeline systems, and provide a report with recommendations to the industrial commission and the energy development and transmission committee by December 1, 2015. The industrial commission shall adopt the necessary

administrative rules necessary to improve produced water and crude oil pipeline safety and integrity. In addition, the industrial commission shall contract for a pilot project to evaluate a pipeline leak detection and monitoring system.

#### Protection

- The pipeline design, tests or maintenance performed to ensure pipeline integrity and prolong the operating life of the pipeline.
- Pipelines can be designed with high pressure and low pressure shutoff valves, protective fittings, and cathodic protection systems.
- Corrosion protection is a protective maintenance that includes in-line integrity inspection, periodic line cleaning and other methods of mechanical or chemical maintenance to prevent or detect corrosion of the pipe.

#### Detection

- Internal or external method of monitoring for a loss of fluid.
- Can be achieved through physical inspections and/or periodic (daily) comparisons of volumes pumped into and flowing from a gathering system.
- Flow balancing can be done manually by technicians visiting wellsites and recording data in a log book or entering it into a computer.
- Computer-based leak detection systems are typically added to the gathering system during design and construction or retrofitted during the operational phase of a pipeline.
- Computer-based leak detection are automated systems that continuously monitor and learn how the gathering pipelines operate and adjust based on historical operating conditions.
- Leak Detection is an automated technology used to detect anomalies in the operation of the pipeline.

The Commission has been very careful to not prescribe specific methods or types of technology to be utilized as leak detection systems for underground gathering pipelines.