

Keene Oil Gathering Pipeline Conversion- Leak Detection

Public Service Commission Certification of Corridor Compatibility and Route Permit Application

The Keene Oil Gathering Trunk Line (the Pipeline) consists of approximately 15.5 miles of 10" pipe and 3.5 miles of 16" pipe that will be converted to a transmission line, as defined by the North Dakota Public Service Commission, with the installation of booster pump stations.

As part of the Pipeline and Hazardous Material Safety Administration (PHMSA) document *Pipeline Safety Stakeholder Communications – “Fact Sheet: Leak Detection Systems”*¹, PHMSA lists several examples of electronic and non-electronic leak detection systems. In accordance with PHMSA guidance and good industry practice, Hess will employ multiple leak detection methods that are overlapping in nature and complimentary in their approach to allow identification of a potential leaks, including the following:

- The Pipeline will be monitored 24 hours per day, 365 days per year (continuous, real-time monitoring) using a sophisticated Supervisory Control and Data Acquisition (SCADA) system based in Tioga, North Dakota.
- The Pipeline will be operated as a pressurized system to help reduce slack and improve the performance of general leak detection methods.
- Pressure and flow measurements from various points along the pipeline system will continuously feed into the SCADA system. The system will be configured in a manner capable of alarming field operators to potential leaks and providing data to more precisely locate the origin of a potential leak. The affected portion of the Pipeline line may then be isolated by field operators. Anticipated field response from notification is thirty to sixty minutes.
- Accumulated gain/loss trending (monthly material balancing) will be performed to identify very low rate releases. As PHMSA noted, “Small leaks may fall below the threshold of leak detection systems, due to pipeline hydraulics, accuracy of the detectors, and alarm thresholds. Volume or mass balance systems are typically employed to detect these smaller leaks.”¹
- Direct observation methods, which may include aerial patrols, ground patrols, and public and landowner programs, will be employed to encourage and facilitate the reporting of suspected leaks and any event that may suggest a threat to the integrity of the pipeline.

¹ <https://primis.phmsa.dot.gov/comm/factsheets/fsleakdetectionsystems.htm>