Natural gas leak detection and quantification in the gas industry

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Searching for leaks during transmission and gas distribution is an important diagnostic activity. The purpose is not only to minimize loss of gas but also to prevent dangerous situations and incidents that may occur under certain conditions. Diagnostic methods and devices for gas detection are key factors, and the purpose of this paper is to provide information on the use of thermography systems for finding leaks.

Based on the results of our investigation (detection and quantification), we introduced a priority of maintenance activities for the elimination of identified defects. In this way, we wanted to increase the safety of gas facilities as well as to decrease the losses caused by leakages.

Large areas can be scanned rapidly and leaks pinpointed in real time with an optical gas imaging system. An infrared camera can also deliver additional information about the inspected area. There are a large number of diagnostic methods for the detection of gas leakages. However, the leakage visualization is a very fast and effective way to detect leakages in equipment in plants.

The task of increasing the safety of operation is key in all industrial operations, and by implementing the gas leakage detection and quantification project, eustream is meeting its mission: to secure the safe and effective operation of its transmission network.

Different diagnostic methods and tools have been used for the detection of natural gas. The aim of this contribution is to present a system and a developed procedure for the detection and elimination of leakages in gas facilities in Slovakia.

Keywords

Leak detection, natural gas, non-destructive inspection, OGI, optical gas imaging, quantification, safety, transmissions system

