

Petroleum Industry Operator Reduces Nuisance False Alarms with Rosemount™ Incus

RESULTS

- Increased personnel safety
- Eliminated costly nuisance false alarms and failure signals
- Fast, easy, cost-efficient installation
- Reduced risk of environmental incidents
- Compliance with industry guidelines

APPLICATION

Gas compressor stations.

CUSTOMER

Major petroleum industry operator in Asia.

CHALLENGE

Finding a balance between safety and efficiency at gas compressor stations is a challenge for most major operators. For one company in Asia, this balance had reached critical proportions. This operation has 51 stations consisting of compressor and distribution stations with pressure release valves of various sizes supporting the pipeline. The open-air process area is comprised of the filter separator, metering skid, and regulator skid. The gas from the main pipeline is transported after being metered and regulated by these gas stations.

Compressor stations are usually placed at 40 and 100 mile intervals along the pipeline and operate continuously to ensure two main processes typically take place: gas compression to ensure the natural gas flowing through the pipeline remains pressurized and gas chilling and cooling, which reduces the gas temperature.

These processes subject gas compressor equipment to high stresses and therefore have significant hazard potential. The major hazards are related to a gas that can be released if there is an equipment failure. Vibration and heat from nearby machinery, for example, can produce cracks on seals and flanges. Over time, prolonged exposure to these elements invariably leads to component failure and possibly to leaks of combustible material.

Since such leaks are both dangerous and against industry regulations, they need to be prevented.

The operator has been utilizing traditional open path gas detection technology to monitor these outdoor areas. The compressor station locations often experience vibration issues, which cause the detector to go into a misalignment, generating a failure signal reported back to



Specifically designed to detect gas leaks at the speed of sound while providing wide area coverage, the Rosemount Incus is unaffected by inclement weather, wind, leak direction, or gas dilution.



Rosemount ultrasonic gas leak detector

the main control center. False alarm and failure signals occurred almost daily, forcing an on-site inspection, resulting in finding no leaks and a normal gas levels. Costly personnel time was needed to assure safety was maintained. Because the control center is required to file a report each time a false alarm was received, this also added a serious "nuisance" factor, requiring additional personnel time to address the situation.

SOLUTION

The operator settled on Rosemount Incus ultrasonic gas leak detectors as a solution to their problem, and the ultrasonic units were installed at 51 different compressor sites across a 1,000-kilometer area. Ultrasonic technology is particularly well suited for fast, reliable, early detection of escaping gas in compressor stations and complements conventional gas detection methods by providing early leak detection capabilities to the whole fire and gas system. The sensor and electronics are able to detect these ultrasound frequencies (25 to 100 KHz), while excluding audible frequencies (0 to 25 KHz). Unlike traditional gas detectors that measure the accumulated gas, ultrasonic gas detectors "hear" the leak, triggering an early warning system. Therefore, they respond instantly to the source of the leak, and they are unaffected by weather, gas dilution, leak direction, and wind speed. Ultrasonic detectors can respond to leaks in real time in areas where point gas detection will be disrupted and problematic.

The Rosemount Incus ultrasonic gas leak detectors were installed in:

- Chilling and cooling areas
- Gas compressor areas
- Pig launcher/receiver areas
- HP inlet/outlet areas and discharge vessels

The ultrasonic detectors were installed quickly, went into operation immediately, and best of all, significantly reduced false alarms. The company has now restored a cost-effective balance between safety and efficiency.




Quick and easy installation with minimal infrastructure cost and no calibration


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