CASE STUDY • TERMINAL & STORAGE

PIPELINE COMPANY REDUCES ENVIRONMENTAL RISK AND SAVES ON PROJECT COST WITH SMART WIRELESS

Customer

A pipeline company in the US

Application

Pipeline leak detection

Characteristics

The pipeline is located under a river

Challenge

This pipeline company has two terminals, one on each side of a major river system. These terminals were set up to receive liquids from natural gas wells and transfer liquids via pipelines that extended under the river. Maintaining the river's water quality is very important. The pipeline company needed a cost effective solution to eliminate the risk of undetected catastrophic pipeline leaks.

To detect a catastrophic leak, the line pressure on both sides of the river needed to be measured and compared. If the measured pressures deviate from an expected value, there is evidence of a pipeline leak and the operators can immediately shut down the pipeline. The river is 1 ½ miles wide at this point making wired solutions very expensive.

The leak detection system was vital to the terminal operation due to the risk of liquids leaking into the river. A leak could lead to various negative impacts such as fines, clean up costs, product lost and others. Moreover, wiring the pressure readings would increase the cost of the project and lead to implementation delays.

Results

- Save labor and purchase of running wired communication lines to the transmitter, resulting in significant cost savings.
- Detect leaks early to protect the planet form catastrophic events.
- Easily integrate and access pressure readings in challenging environments.

Rosemount™ 3051S Wireless Pressure Transmitter

EMERSON

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Solution

A total of four Rosemount™ 3051S Wireless Pressure Transmitters were needed to create the leak detection system for the user. The application consisted of two pipelines that each had a pump located on both sides of the river. Wireless pressure transmitters were installed to measure the pressure on both sides of the river for each pipeline. The measurement was then transmitted wirelessly to two wireless gateways located on each side of the river. This made the pressure readings accessible to both terminals. Shutdown systems were configured to stop the pumps if a user defined deviation in pressure was detected.

The system is currently online and operating as expected. No oil leaks have occurred to date. Emerson's wireless solution eliminated the need to run communication lines to the transmitter resulting in significant cost savings over traditional installation practices. Finally, the system was implemented several weeks ahead of schedule, bringing timely environmental protection to a major river system.

An estimated 30,000 USD in project cost was saved and in addition, with two gateways already installed the company is well positioned to add wireless measurement devices at a low incremental cost.

For more information,visit
Emersonprocess.com/solutions/oilgas/

Emersonprocess.com/en-US/brands/rosemount/Pressure/Pressure-Transmitters/3015S-Wireless/Pages

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