Reducing False Alarms in Upstream Oil & Gas for Saltwater Pipeline Leak Detection

RESULTS

■ Rapid detection of saltwater pipeline leaks and other anomalies with upwards of 50 anomalies detected shortly after implementation

■ Reduced false alarms using Zedi Alarm Management Services

■ Quick implementation to supplement pipeline detection systems

APPLICATIONS

■ Zedi Pipeline Leak Detection
■ Zedi Alarm Management Services

CUSTOMER

Large independent North American crude oil and natural gas producer

CHALLENGE

Upstream pipeline leaks can be challenging to identify. When they develop, leaks can quickly cost hundreds of thousands of dollars' worth of damage in repairs, remediation fees, fines, and lost production during the mandated shutdown time.

A North American producer was looking for a pipeline leak detection system for their saltwater disposal pipeline from an injection facility with five disposal wells.

They needed to supplement an existing pipeline system after dealing with too many false alarms with another provider. Their objective was to source a system that can quickly mitigate risk to avoid the time-wasting, potentially damaging, ever-annoying alarm fatigue.

"Our current pipeline leak system was not enough, and often detected false alarms, but we still wanted to keep it in place, but add additional capabilities to it to remove the many, always growing downsides of saltwater leaks."

Large independent crude oil and natural gas producer
VP of Operations

For more information:
www.Emerson.com/ZediCloudSCADA

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SOLUTION

Emerson's experts proposed adding Zedi Pipeline Leak Detection to the customer's existing Zedi Cloud SCADA upstream pipeline monitoring system that was already in place.

Zedi Pipeline Leak Detection makes use of statistical approaches to profile the normal behavior of the pipeline to identify anomalies. In doing so, we helped our customer meet regulatory compliance and environmental requirements.

The system learns the normal operating parameters to diagnose when a potential incident is occurring, including system anomalies and other maintenance issues. While our system cannot eliminate leaks, it will be an essential and complimentary component to the customer's pipeline asset management program they already had in place.

We installed our FG-600 Field Gateway at the injection facility to tie to the flow meter and the discharge pump as well as the wireless sensors, enabling flow meter data to be brought back to the FG-600 panel on the injection wells.

Once Zedi Pipeline Leak Detection was set-up, the data collected from the devices was accessible through Zedi Access, our scalable, cloud-based IIoT platform for remote SCADA monitoring, control, and optimization.

After collecting historical data, the operators set parameters, allowing the system to alarm when abnormal patterns are found. However, since all anomalies do not indicate a leak, they can also indicate other types of actionable situations.

The customer also utilized Zedi Alarm Management Services to help with alarm management. Our service will help the producer remotely monitor, control, and adequately alarm their pipelines by assisting with alarm management for the operator. Now, they will only be contacted when anomalies are detected and action is required.

Upon implementing the system, our customer rapidly detected upwards of 50 anomalies on their saltwater pipeline. Anomalies include water injection issues, meter maintenance, and valve changes.

Our leak detection solution now aids the existing systems to manage risk and false alarms associated with the customer's saltwater pipelines.

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