

Guided Wave Radar Provides Reliable Level Measurement at Remote Compressor Stations

RESULTS

- Exact and more consistent measurement for better scheduling of haulers
- Improved ease of installation requiring only one person
- Eliminated transmitter maintenance
- Eliminated environmental risk by reducing leak points



APPLICATION

Level and interface measurements of condensate and brine production tanks

Application Characteristics: 750 barrel tanks; Varying tank levels; Low dielectric gas condensate on top of water

CUSTOMER

Leading Gas Gatherer & Transmission Line Company in U.S.

CHALLENGE

Compressor stations are located every 50-100 miles (80-160 km) on gas transmission lines and sometimes at smaller distances in gathering lines. Natural gas entering the compressor stations has already been treated in the field and should contain minimal amounts of impurities such as water and solids. Normal operating pressures of transmission and gathering lines range from 600 to 1,200 psi. The pressure decreases as the gas travels downstream of each compressor station and must be recompressed to maintain the flow of the gas.

The gas enters the compressor stations through its inlet receiving facilities. Liquids drop out of the stream during the travel and are removed using scrubbers, slug catchers, or filter coalescers. The removed liquid is mostly water, but some condensate may drop out as well. The liquids are sent for temporary storage to be separated by gravity and then transported by truck as saleable hydrocarbon liquid or disposed of as waste.

Compressor stations are in remote locations and are often unmanned. To increase operational efficiency, instrumentation needs to be easy to install, low maintenance, and provide reliable information. Historically, mechanical measurements have been used. These require two-man installation and regular maintenance, yet still provide unreliable and incomplete data. Pressure measurements have also been used, but top-down measurements are preferred in order to minimize potential leaks.

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SOLUTION

The solutions implemented were a Rosemount 3301 Guided Wave Radar transmitter to measure the overall level of some storage tanks and a Rosemount 3302 to measure level and interface. The 3300 Series enabled this gas gatherer to become more efficient in their operations. A single operator was able to simply install the units. No maintenance was required and the customer received more complete and reliable data from many remote locations. Also, the top down measurement eliminated environmental risk by reducing leak points.

The Rosemount 3300 comes ready to install from the factory. Varying probe lengths can be ordered for different tank heights or a single probe length can be ordered and this probe can be easily cut on site. Rosemount radar products also come with many different flange connections for easy installation.

RESOURCES

Rosemount 3300 Series Guided Wave Radar Level and Interface Transmitter

<http://www.emersonprocess.com/rosemount/products/level/m3300.html>

Emerson Process Management Oil and Gas Industry

http://www.emersonprocess.com/rosemount/industry/oil_gas/index.html

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