



REFLECT™ Provides Accurate Level Measurement for Oil Storage Tanks

In the process of oil and gas storage and transportation, level measurement is crucial to correctly calculate oil storage, determine inventory, prevent overfilling, and to calculate transportation. Often in the oil and gas industry, oil, natural gas, and associated sewage must be separated, stored, and processed in various production equipment and tanks. Level measurement and control of tank level is essential to ensure normal production and equipment safety to prevent potential accidents from occurring – such as overflowing from the level being too high.

Ultrasonic Technology and Oil Level Measurement

A problem with using ultrasonic technology on applications involving oil tank level measurement is that a lot of gas and vapor can build up within the tank. The speed of

sound will change if the composition of gas above the measurement level changes. Ultrasonic transducers usually cannot ordinarily compensate for this. You can set the speed of sound to a different value to compensate, but this is only helpful if the gas composition remains at a constant. Radar level sensors are suitable for use with chemicals that produce vapor or outgas because they use radio waves to measure the level of a substance, and those radio waves are not affected by vapor or gas. Because of this, radar level sensors are widely used in the chemical processing, and oil and gas industries.

Out with the Old, In with the New

The end user had a lot of older and end-of-life products in use, some of which had even stopped working. This meant that some of their oil storage tanks had no accurate level measurement functionality at all, and some were being measured manually. This was making day-to-day operations more difficult with inefficient use of depot staff members' time.



"The arduous conditions within the tanks were not a problem and the sensors were setup very easily using the Bluetooth® connectivity."

REFLECT™ to the Rescue

As a result of the need to contend with closed tanks that were prone to vapor build up, the sensor of choice for this application was Pulsar Measurement's brand-new REFLECT™ 2-Wire Radar sensor. After conducting a successful onsite trial to prove the sensor's effectiveness, the sensor received a strong signal and reliable measurement, thanks to built in DATEM Technology (Digital Adaptive Tracking of Echo Movement), the sensor was able to ignore competing noise in the measurement path of the sensor. The customer was happy to proceed with purchasing sensors for all their tanks.

The REFLECT™ 2-wire radar sensor provides accurate level or volume monitoring of all liquids and solids in critical measurement applications, ensuring complete peace of mind with a product that requires minimal skills and human intervention, thereby minimizing lifetime cost of ownership. The hermetically sealed Pulsar Measurement REFLECT™ level sensors require no routine servicing, and can withstand the harshest environments while maintaining accuracy in the presence of extreme dust, temperature, moisture, pressure, and chemicals. The narrow 6° beam angle and unique built-in DATEM echo tracing capabilities allow the sensor to focus on the true level, giving you the accurate data you need to make decisions about your operations.

The REFLECT™ uses a web-based app to provide an easy and convenient way for you to change parameters and view echo traces. The web-based app is accessible through any Bluetooth® device (PC, Android, or iOS). Once the control app has loaded on your device, you won't need to worry about the signal. Using a web-based app also means there are no regularly updated apps to install – just scan the QR code and you're ready to go!

Commenting on the application, Craig Leakey, Regional Sales Manager for Pulsar Measurement said "We have a long-standing relationship with this customer and regularly supply equipment for their clients. This was another example where we were able to meet the needs of the application, supplying a new radar product which is proving to be very popular. The arduous conditions within the tanks were not a problem and the sensors were setup very easily using the Bluetooth® connectivity. We were very happy with the outcome of this project and have continued to supply further radars to the customer for similar processes since."



More Information

REFLECT™ 2-Wire Radar Sensor: <https://pulsarmeasurement.com/en/reflect>



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