SIEMENS

SITRANS LR250

Level measurement in extreme applications with new radar antenna

How often do you think about gasoline additives? If you're like most people, probably not that often.

Operators at Albemarle Catalysts Company BV, a producer of petrochemical catalysts, however, think about these additives each and every day.

Produced at Albemarle's facility in Amsterdam, The Netherlands, these catalysts are used for the production of high quality fuels such as gas, petrol, diesel and kerosene from crude oil.

Providing level measurement in one of the company's catalyst production vessels, Siemens SITRANS LR250 and its new antenna help Albemarle along the production process.

Steam, turbulence, and foam

In a 2.8-meter process vessel, a slurry containing aluminum pours in to 75% full. Next, steam at 200 °C (392 °F) and a pressure of 16 bar is injected, causing turbulence and dense foam. Sulphuric acid is then added to the mix. After they are mixed well, materials move on in the catalyst production process.

Amidst all of these extreme conditions, operators need to know level measurements at all times – during filling, steam injection, and emptying. Previously Albemarle tried a number of different continu-

Installing the SITRANS LR250 was easy and Albemarle now has reliable, high-performance continuous level measurements on their process vessel.

This process vessel contains an agitator – an obstruction that makes continuous level measurement a definite challenge.

ous level instruments, including ultrasonics, guided wave radar, and pressure sensors with membranes.

However, false echo profiles and the accompanying readings were frequent, due to the condensation in the tank and the fouling of the device's membranes and probes.

False readings will disturb the batch sequence of filling and emptying. As well, a false low level reading during emptying can cause an overspill in the following batch, since the tank is not truly empty when material starts flowing in.

New radar antenna to the rescue

Albemarle was interested in trying Siemens' new SITRANS LR250 with a flanged encapsulated antenna. It does not suffer from the reliability problems Albemarle found with ultrasonic technology or guided wave radar. And unlike pressure transmitters, this non-contacting radar technology's flush-mounted lens does not experience any membrane fouling.

Operators only needed to use the Quick Start Wizard to set up the transmitter – no advanced programming required. Throughout all stages of the batch process, the transmitter provides operators with a strong, accurate echo profile, making level measurement extremely reliable.

Going where no instrument has gone before

Benefits gained from this new radar transmitter?

1. **Time savings**: plug-and-play devices mean that operators can spend their time elsewhere in the busy facility, rather than tending to instrumentation's setup or maintenance.
2. **Reliable, accurate measurement**: operators know exactly how much material is contained in the process vessel, ensuring that no overspills occur from false low-level readings.
3. **Enhanced safety**: the less time operators need to spend in this aggressive application, the better. A low to no maintenance radar level transmitter with reliable measurement means increased safety for this company's operators.

Level measurements in an application where other technologies have failed: SITRANS LR250 with its new antenna has proven itself in this challenging process vessel.

In the words of Marco de Vries, Maintenance Engineer E&I at Albemarle, "This is the first instrument that has given us accurate and correct measurements on this crucial application. It has shown no false readings since it was installed. The instrument has proven itself and our process operators rely on it."

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