

Guided Wave Radar Successfully Measures Level and Oil/Water Interface in a Pump Sump Pit

RESULTS

- Convenient installation and configuration
- Accurate and reliable level and interface information
- Eliminates level upsets and oil overflows



APPLICATION

Level and interface control in a pump sump pit

Application Characteristics: Low dielectric oil on top of high dielectric water

CUSTOMER

Preem Refinery, Gothenburg, Sweden

CHALLENGE

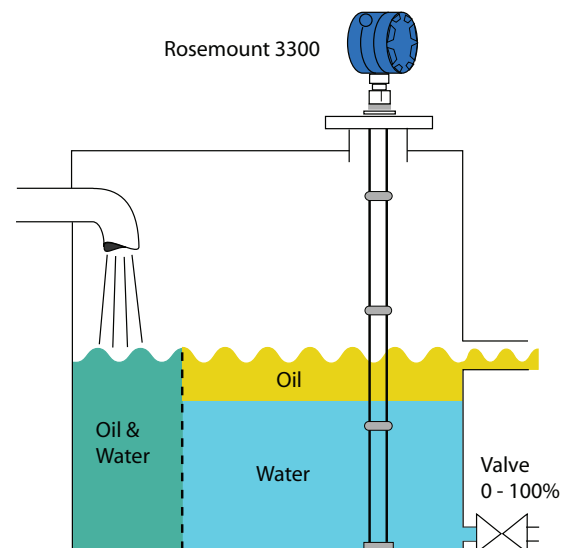
The level in the pump sump pit is measured for control purposes. The oily water separates in the sump pit, forming a top and an interface level. It is important to measure the overall level in order to prevent overflow of the sump. Knowing the interface level prevents the accidental removal of oil in the water outlet. It is of primary importance that the level measurement provides consistent and reliable information to avoid level upsets and subsequent overflow.

SOLUTION

Preem Refinery in Gothenburg installed the Rosemount 3300 Guided Wave Radar transmitter for this application. The 3300 is the first two-wire guided wave radar transmitter that simultaneously measures both level and interface.

The transmitter not only gives a correct reading of the upper surface, it also measures the thickness of the oil layer. This gives the opportunity to reliably separate the oil from the water. The probe used in this application is a rigid twin lead probe which is suitable for a viscous media like oil.

According to the customer, the installation of the transmitter was very convenient and the transmitter was configured with the user-friendly Radar Configuration Tool. Since the exact upper product dielectric constant was not known, the dielectric calculator (included in the software) was used. This feature enables the customer to calculate the upper product dielectric



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constant in a convenient and reliable manner which results in correct interface readings.

Preem Refinery is very pleased with the performance of the 3300. Since the installation in March 2002, it has provided accurate and reliable level and interface information for level control in the sump. The previous level upsets and oil overflows have been eliminated.

RESOURCES

Rosemount 3300

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



The Rosemount 3300 reliably measures level and interface in pump sump pits.



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