

# Power Station Improved Bulk Sulfuric Acid Tank Storage Measurement Reliability

## RESULTS

- Improved accuracy and reliability of tank level readings
- Improved safety by eliminating manual reading of tank level
- Prevented equipment damage caused by inadequate water treatment
- Decreased acid spillage and associated costs

## APPLICATION

Bulk sulfuric acid tank storage

## APPLICATION CHARACTERISTICS:

9.0 ft. (2.7 m) tall tank; heavy vapors and fumes

## CHALLENGE

A power station requires a sufficient supply of sulfuric acid as part of the water treatment regimen for the cooling towers. If the sulfuric acid supply is inadequate, fouling of the cooling system is possible. They had previously tried to measure the level with ultrasonic technology, but the fumes created by the acid caused errors in the reading. The ultrasonic device gave accurate readings at startup, but the readings would change as the sun warmed the sulfuric acid tank, increasing the amount of fumes. Because the ultrasonic readings were unreliable, they would sometimes schedule delivery of acid while the tank was partially filled. This created a potential for acid spills. To avoid this, they often manually checked on the level with a wooden dipstick, exposing personnel to the acid and creating a safety risk. To add to the challenge, they wanted to maximize the storage capacity of the tank, so they needed a technology that would have a minimum amount of dead space.

## SOLUTION

The plant chose the Rosemount 3301 Guided Wave Radar (GWR) Level transmitter for a number of reasons. The overall height of the tank was only 9.0 ft. (2.7 m) and they wanted to take the measurement close to the top of the tank. Since this vessel only had a small connection, the choice of antennas for non-contacting radar was limited. GWR was chosen because it can handle heavy fumes, fits in a small connection, is able to measure close to the top of the probe, and is simple and quick to set up.



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## POWER

The 3300 GWR provided more reliable and accurate level readings despite any changes in the vapor space which eliminated the need to do manual checks. This maximized the capacity of the tank, and increased the safety of personnel. Because the level of the acid was more reliable, the cooling equipment could be treated more effectively reducing its risk of damage. This also eliminated the threat of overfilling the tank due to the delivery of too much acid.

### Rosemount 3300 Series Product Data Sheet

<http://www.emersonprocess.com/rosemount/document/pds/4811b00n.pdf>



*Rosemount 3300 Guided Wave Radar Installed*

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