

Semiconductor Manufacturer Reduces Safety Risk and Risk of Lost Production with Rosemount 3300 Guided Wave Radar Level

RESULTS

- Reduced risk of lost production
- Reduced safety risk to operators
- Reduced risk of environmental spills



APPLICATION

Scrubbing, neutralization and disposal of acid waste streams

APPLICATION CHARACTERISTICS

Corrosive fluids with condensing vapors

CUSTOMER

A Large Semiconductor manufacturer in North America

CHALLENGE

A neutralization system neutralized acid used in semiconductor manufacturing prior to disposal. The semiconductor manufacturer was not able to accurately and reliably measure liquid level in their day tank, acid receiving, acid neutralization, and brine storage tanks.

Competitive ultrasonic level transmitters were installed on the OEM supplied neutralization system. Level measurement was highly variable from startup. Level errors up to 70% were experienced due to condensation buildup on the sensor of the ultrasonic transmitters. In an attempt to obtain usable readings, operators would knock on the side of the tank to dislodge condensation from the transmitter, and to determine by sound the approximate tank level. Due to measurement variability the acid neutralization system would often shutdown due to high level. The process had to be run in manual to recover from the high level trips.

There were three significant negative business consequences. The first was a risk to safety. The tanks were inside a building. In the event of a tank overflow, operators could be exposed to acid. There is a risk of environmental contamination and cleanup costs if an acid spill occurs. There was also a safety risk associated with operators needing to knock on the tanks to try to get a level reading. Finally, if a tank was too full to accommodate a batch of acid, it would stop production. This could take 2 to 6 hours to recover and resulted in lost production time. Production is completely sold out so lost production represented a permanent revenue loss.

The 3300 produces reliable level readings that are unaffected by condensation.



Rosemount 3300 Guided Wave Radar

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SOLUTION

The manufacturer installed Rosemount 3300 Guided Wave Radar level transmitters on all the tanks in the acid neutralization process stream. Operators no longer need to knock on the side of the tanks to obtain level readings or estimates. This allowed the process to be placed back in automatic control and there was no more lost production.

RESOURCES

Emerson Process Management Chemical Industry

<http://www2.emersonprocess.com/en-US/industries/Chemical/Pages/index.aspx>

Rosemount Guided Wave Radar

<http://www2.emersonprocess.com/en-US/brands/rosemount/Level/Guided-Wave-Radar/Pages/index.aspx>

Rosemount 3300 Series

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

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