

## Copper mine chooses Siemens for critical flow monitoring

### Process Instrumentation



SITRANS FUS1010  
Clamp-on Flowmeter

A copper mine in the Southwest United States has multiple processes that require instrumentation and flow monitoring. One example involves measuring the flow of an acidic solution from the ponds where the Pregnant Leach Solution (PLS) is being monitored.

PLS is acidic, metal-laden water generated from stockpile leaching and heap leaching. PLS is used in the solvent extraction and electrowinning (SX/EW) process. SX/EW is a two-stage metallurgy process that first extracts and upgrades copper ions from low-grade leach solutions into a solvent containing a chemical that selectively reacts with the copper in the solvent. The copper is extracted from the solvent with a strong aqueous (sulfuric) acid which then deposits pure copper onto cathodes using an electrolytic procedure called electrowinning.

#### Challenge

The customer has a requirement to measure sulfuric acid flow in a fiberglass pipe. They had tried several other competitors' clamp-on flowmeters, but could not get the flow accuracy required with those meters. Because of the acids used in the process, the customer had chosen not to consider inline meters.

They had decided on another competitor's meter, but the meters cost \$18,000 each. Although those meters are very accurate, they are expensive and require a higher degree of ongoing maintenance, due to repositioning from outside process influences, i.e. wind, pipe expansion/contraction, snow, etc.

#### Solution

The local Siemens representative presented the Siemens ultrasonic FUS1010 clamp-on flowmeter to the customer and they requested an on-site demonstration. Using the Siemens portable clamp-on meter, the representative proved that the Siemens meter would give the customer the good solid readings they required, and at a lower cost.

Various other competitors had tried to perform the measurements but were not successful. The Siemens representative applied the portable meter to an 8" steel pipeline coming off the pond where the competition had previously attempted to get readings. The instrument showed legitimate flow readings that were consistent with the pump ratings. The customer was convinced. Since October, 2011, they have purchased six permanent meters.

## Benefits

### ■ Cost Savings:

- A savings of about \$12,000 per flowmeter
- Reliable instrument performance means the customer is no longer constantly tuning or replacing instruments, saving time and money.
- No need to cut into pipe or shut down plant during installation

### ■ Time savings:

Installation done at a time convenient to the customer; no need to shut down flow.

### ■ Customer Service:

Siemens local representatives provide expert service and support, including: consultation, startup and calibration support. Siemens extensive global coverage means you get sales and support when and where you need it.

## About the SITRANS FUS1010 Clamp-on Flowmeter

The SITRANS FUS1010 instrument is the most versatile clamp-on ultrasonic flowmeter available. Because it can operate in either WideBeam transit time or Doppler mode, there is no need to change the meter when operating conditions change. This makes it suitable for virtually any liquid, even those with high aeration or suspended solids.

The SITRANS FUS1010 flowmeter is available in single, dual and optional four-channel/path configurations. There are three enclosures to choose from: wall-mount, wall-mount explosion-proof and compact explosion-proof.

## Product features

- Accommodates shifting measurement conditions necessitated by presence of high aeration or suspended solids (dual mode)
- Ensures higher accuracy by allowing two sets of sensors to be set up on one pipe and averaged (dual path)
- Reduces capital cost with four channel version that allows simultaneous measurement of four independent pipes
- Measures a wide variety of liquid applications

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