

Use of Wireless and AMS Suite Saves Money at New Acid Plant

RESULTS

- 70% cost reduction by using wireless instruments versus wiring
- 50% reduction in time for installation and commissioning
- Lower total cost for installation of measurement points

APPLICATION

Wireless measurement instruments are installed in a new sulfuric acid plant.

CUSTOMER

CEMIN Mining Company of Chile is a medium-size producer of copper and gold with several plants located in Regions II and IV of the country. Because of the high cost of obtaining sulfuric acid for leaching copper, CEMIN built its own acid plant with a capacity of 300 tons per day to serve the needs of two of the more important process plants.

CHALLENGE

The decision to construct a new sulfuric acid plant was based on the high cost of acid and a desire to eliminate dependence on third parties. However, for the investment to be successful, construction and operating costs had to be carefully controlled. For this reason, the designers needed to minimize the cost of installing measurement instrumentation. Wiring was considered too costly to install and access to measurement points for commissioning was too dangerous.



“The total cost of installing measurement points was reduced, and for that reason expansion of the wireless network is now being considered.”

Victor Gonzalez
Project Manager

SOLUTION

Emerson's Smart Wireless network was just what the acid plant designers were looking for – a way to install and operate measurement instrumentation without the expense of trenching and laying cables. Each field device is a wireless transmitter that also acts as a router for other nearby devices, passing data along the wireless mesh network until the transmissions reach a receiver (gateway). If there is an obstruction in the path of one transmission, it is simply re-routed until a path to the Smart Wireless Gateway is found.

Because Smart Wireless networks are based on the *WirelessHART™* communication standard, the field devices are configured and commissioned with the same tools used with wired HART devices.

Commissioning was also accomplished easily using AMS Suite, which eliminated the need to have a technician locate and plug a handheld communicator into each field device. Instead, one person in the comfort and safety of the instrument shop or control room established contact with the device and verified the integrity of the control loop as well as the device's functionality. This technology greatly simplified the commissioning of field instruments and cuts the time required for that task by about 50 percent.

Implementing the wireless network and installing about 450 wireless field devices, including Smart Wireless THUM Adaptors on several magmeter flow meters, resulted in a significant reduction of the time required for installation and commissioning. The overall cost of field instrumentation was about 70 percent of the cost of a wired system.



“The coordination between Emerson and the CEMIN Engineering Company allowed for correct dimensioning of the wireless network.”

Victor Gonzalez
Project Manager

**Emerson Process Management
Asset Optimization**
12001 Technology Drive
Eden Prairie, MN 55344 USA
T 1(952) 828-3633
F 1(952) 828-3006
www.assetweb.com

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