

Smart Wireless Helps Avoid Shutdowns of Rotating SAG Mill at Newmont's Minera Yanacocha

BENEFITS

- Continuous, real-time temperature measurement enables prevention of overheating conditions
- Temperature trending in the DeltaV control system helps prevent unexpected shutdowns
- Smart Wireless solution was easily and quickly installed with minimal downtime



CHALLENGE

Newmont's Minera Yanacocha complex in Peru is the largest gold mine in Latin America and the second largest in the world. Newmont was looking for a cost-effective and reliable way to monitor the temperature of the SAG mill's motor, which is most critical piece of equipment for the process. Continuous temperature monitoring would allow operators to avoid unexpected plant shutdowns which could cost up to USD \$1.4 M/day in lost gold, silver and copper production. Just replacing one of the motor's poles would cause a 2-day shutdown, thus resulting in US \$2.8M in lost production and US \$400K in services and parts. The measurement point is continuously rotating, making a wired solution virtually impossible. Newmont turned to Emerson's Smart Wireless solutions to meet this challenge.

SOLUTION

Newmont implemented a Smart Wireless solution, based on the IEC 62591 (WirelessHART®) standard, to measure the motor's poles temperature at 4 different points with a Rosemount 848T High Density Wireless Transmitter. The device is mounted to the massive 16.5 MW SAG mill motor which continuously rotates at 8-9 RPM. The Smart Wireless Gateway is mounted close to the mill and has a Modbus connection to the DeltaV control system with the capability of trending and alarms.

RESULTS

Emerson's Smart Wireless solution enables Newmont to continually monitor temperature in the rotating motor to prevent overheating which can lead to a costly plant shutdown. Placing and configuring the wireless network was an easy task that required little time. The DeltaV control system is managing both Foundation Fieldbus and Smart Wireless communications buses. An alarm notifies operators if the temperature exceeds normal operations. In addition, trending capabilities allow Newmont to provide the manufacturer of the motor with information they can use for improvements.

“Smart Wireless enables online monitoring of critical equipment and helps to avoid costly plant shutdowns. The wireless network was easy and quick to set up. We plan to implement similar applications throughout the Newmont Corporation.”

Luis Arana
Maintenance General Foreman
Newmont – Minera Yanacocha