Philex Mining Corporation Achieves Quality Product and Sustained Production using Emerson's PlantWeb Digital Plant Architecture

RESULTS

- Increase in throughput by 70%
- Maintain consistent product quality by centralized monitoring
- Reduce unscheduled grinding plant shutdown by 40% with continuous online temperature monitoring of bearings

"Without the DeltaV, we had a hard time optimizing the metallurgical parameters of the flotation plant. With the DeltaV, we improved process control."

Reynold V. Yabes
Mill Operations & Maintenance Manager
Philex Mining Corporation

APPLICATION

Production of copper concentrate with gold and silver as by product.

CUSTOMER

Philex Mining Corporation (PMC) was incorporated in the Philippines in 1955 to engage primarily in mining activities. The company has operated for the past 50 years the Sto. Tomas II deposit at Padcal, Tuba, Benguet Province, island of Luzon. The Padcal mine was the first underground block cave operation in the Far East. Total ore mined to year-end 2007 was 323.3 million tones, with a metal production of 878.8 million kilograms (1,940.5 million pounds) of copper in concentrate, and 157.7 million grams (5,073.4 thousand ounces) of gold and 173.7 million grams (5,596.1 thousand ounces) of silver in concentrate and bullion form. The Padcal mine is the only remaining copper-gold operation in the Philippines.

CHALLENGE

Philex Mining Corporation wanted to automate its 25,000 Dry Metric Tons per Day copper concentrate plant to increase its operations efficiency, reduce costs, and improve product quality. The plant wanted to change existing localized operating philosophy to a centralized monitoring system to make adjustment in production faster and avoid unnecessary wastage.

For more information:
www.AP.EmersonProcess.com/PlantWeb
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EMERSON
Process Management

SOLUTION

Philex Mining Corporation chose the state of art Emerson's PlantWeb Digital Architecture with FOUNDATION fieldbus technology which improved plant performance and availability by utilizing the maximum benefits of latest technologies, including intelligent field devices. The project included:

- DeltaV™ process automation system
- AMS Suite™ software
- Rosemount® FOUNDATION fieldbus RADAR level transmitters
- Rosemount® Analytical FOUNDATION fieldbus instruments
- FOUNDATION fieldbus FIELDVUE digital valve controllers

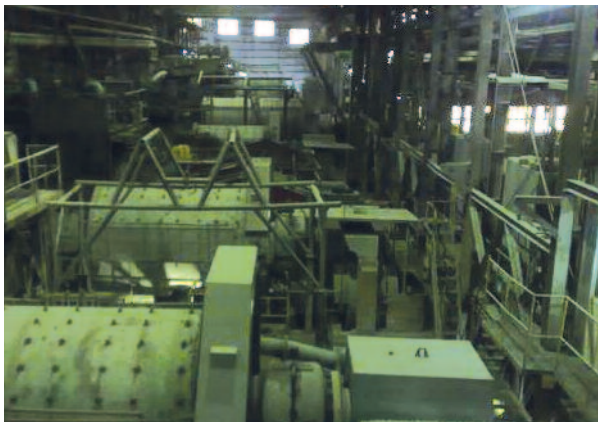
For a long time, Philex was operating with localized instrument readings. This required operation, maintenance and metallurgical people to go to the site every time to find out the quality of the product. If the quality of the concentrate is below 23%, they had to make adjustments. This affected the production capacity. In 2007, a new Ball Mill No.2 was installed and it was the first ball mill in the plant to be fully automated using the DeltaV Control System of Emerson Process Management with FOUNDATION Fieldbus technology.

With the installation of FOUNDATION fieldbus pH transmitters and centralized monitoring with DeltaV Control System, process control of Metallurgical Department further improved and optimized pH monitoring of the rougher and cleaner flotation plant.

"Final product quality and non-stop production are the key operational requirements. Using Emerson's PlantWeb digital plant architecture, we are now able to monitor from the central control room thereby able to achieve the required product quality, increase the throughput and maintain sustained production. This is a major achievement for us."

Paul N. Gahid
General Foreman, Instrumentation Maintenance Section,
Philex Mining Corporation

Temperature measurements at various stations in the Ball Mill is important to avoid overheating of the Pinion bearings and prevent damage which would cause downtime and production loss. This has been achieved using on line temperature measurement and has resulted in 40% reduction in unscheduled downtime, improved plant availability. Philex intends to add more FOUNDATION fieldbus temperature transmitters to monitor more points and to improve the efficiency of the Ball Mills.



Philex Mining Corporation has been able to achieve their target production throughout the year with the aid of Emerson's PlantWeb digital architecture with DeltaV system for centralized monitoring and control and with highly accurate FOUNDATION fieldbus products. They intend to expand the automation system with additional PlantWeb systems and products.

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