

## ABB provides drive systems to Toquepala copper mine

New drive systems, including two 25-foot, ball mill gearless mill drive systems of 15,000kW each, will provide high-efficiency and availability at the Toquepala copper mine in Peru.

ABB, the leading power and automation technology group, is providing variable-speed drive systems to Toquepala copper mine as part of Southern Peru Copper Corporation's (SPCC) brownfield optimisation and expansion projects.

For the expansion project, which aims to double the mine's concentrator milling capacity from 60,000 to 120,000 tons per day, ABB is supplying two 25-foot gearless mill drive systems (GMD) of 15MW and two complete high-pressure grinding rolls (HPGR) drive systems of 2 x 2,650kW.

The GMD systems, by removing critical mechanical components like ring-gear, pinion and gearbox, are about 4% more energy efficient than traditional fixed-speed mill drives. Moreover, they provide

unmatched high-availability due to ABB's application-specific design for reliable operations and faster maintenance.

The HPGR drive systems feature the RollXtend technology, aimed at extending the rollers' overall life time and ease maintenance by application-specific control features.

In order to optimise the project, ABB is supplying an additional complete HPGR drive system with the same ratings and characteristics as for the expansion.

This is the first time Grupo Mexico, the holding company for SPCC, will use GMD systems. ABB was chosen not only for its

state-of-the-art, application-specific drive solutions with market unique features, but also for its expertise in grinding applications, with 125 GMDs and 63 HPGR references worldwide, and a large number of installed or ordered units in Peru (23 GMDs and 17 HPGRs, including Toquepala). Visit [www.abb.com](http://www.abb.com)



## Stepping up condition monitoring

Adopting conventional condition monitoring, testing and measurement techniques are not always enough to ensure optimal operation of plant and equipment. Mines should be working closely with original equipment manufacturers (OEM) that are in the better position to develop a bespoke solution that is suited to the technology and its operating environment.

This is the view of Joest Kwatani's managing director, Kim Schoepflin,

who says that the South African screening equipment manufacturer has complemented conventional condition monitoring practices with advanced testing and measuring technology.

"This assists our customers to achieve a continuous supply of quality production tonnage, while protecting company assets and reducing the total cost of ownership of their plant and equipment."

In developing this service, the company evaluates the skills levels of its customers' staff at the plant, as well as their production and quality requirements. Once these are linked to existing systems, Joest Kwatani has the ability to pre-empt equipment failure, as well as the retention of valuable long-term data on plant performance.

The OEM calls on its extensive knowledge

of different mining applications to continuously refine its monitoring tools. This intellectual property has been garnered from the thousands of vibrating screen and feeder installations Joest Kwatani has undertaken at mineral sands, coal, gold, diamond, platinum, iron ore and manganese mines throughout Africa.

When the screens have been installed, tests are conducted to establish the influence of the plant structure and full-load conditions, as well as to determine the tolerable variances.

These measurements are proving invaluable in flagging deviations and achieving long-term optimisation of equipment performance. Adding to the strength of these programmes is ongoing investment into research and development to arrive at the correct approach for each application.

Schoepflin predicts that the role of condition monitoring/testing and measurement in the future is likely to increase, in order to counter a growing trend in the mining industry worldwide to specify lighter screens and associated support structures when a plant is first designed, in an effort to contain costs. Visit [www.joest-kwatani.co.za](http://www.joest-kwatani.co.za)



Equipment auditing including periodic condition monitoring is used to assess the status of a screen at a point in time