



EXPERTISE LIMITS DOWNTIME AND SAVES MONEY

The safety of mine workers and the mine's overall profitability is dependent on the safe maintenance and operation of mine winders, the large and critical components of a mine's smooth operation. Yet despite the best efforts of a strict maintenance regime, the occasional failure of these components is a reality. In these events, restoring the mine winders to service in the quickest possible time is imperative to minimise downtime and production losses.

Due to the size and nature of mine winders, it is generally only possible to work on them when the whole plant is shut down, meaning that there is usually a time limit to the repair. In one such case at the Lonmin Rowland Shaft, an earth fault occurred in one of the winder armatures and the inter-pole coil insulation had deteriorated due to age on a large DC mine winder. The Lonmin Rowland Shaft is serviced by two DC mine winder motors working in tandem on one shaft.

The repair called for an emergency re-insulation and repair of the inter-pole coils at Marthinusen & Coutts (M&C)'s workshop, the re-installation of the repaired coils on site within 36 hours, and the installation and commissioning of a spare armature. At the same time, the Lonmin Rowland Shaft also decided to install and commission a new converter (DC drive) to replace the existing motor-generator set on the winder.

As the motor-generator has a number of rotating components and was somewhat outdated, it was decided to replace the motor-generator set with a modern, static and almost maintenance-free DC drive.

The new DC drive was purchased from the Original Equipment Manufacturer (OEM), which was Alstom UK. An upgrade from a class B insulation system to a Class F insulation system for the two DC winder motors was required to accommodate the change from the motor-generator set to the DC drive.

This was deemed necessary as the speed of the motor, previously controlled by the motor-generator set, would now be controlled by the DC drive which controls the speed by varying the strength of the field coils magnetism.



Two full sets of field windings were bought from the OEM, following which representatives from M&C visited Quartzelec in Rugby, England to discuss the procedure as each aspect of the project required careful planning and meticulous execution. Delivery was crucial as the two undertakings had to be completed within one week.

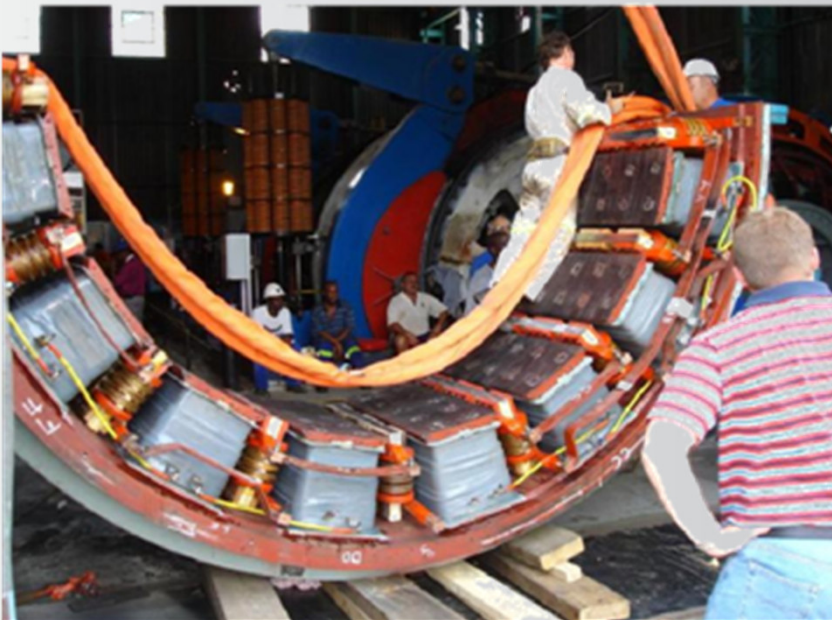
Preparatory work, including rewinding the inter-poles, trial fitting of all the field and IP coils and the rewinding of the armature where the spare was previously installed by M&C was carried out at M&C's Johannesburg workshops prior to moving on to the site. M&C had two crews on site, each consisting of seven members and a supervisor. The motor was handed back to Lonmin, in complete working order, on day 6 within this tight time period with all the project goals achieved.

Machine repair is not simply about the rebuilding of machines. It is about offering a level of service to customers whose livelihood depends on the reliable and continuous operation of their machines. M&C is a leader in providing aftermarket services for all electric assets in Africa. The company provides the complete service of removing, repairing, reinstalling and commissioning; periodic or continuous condition monitoring of motors and transformers as well as maintenance contracts where its extensive skills are used to maintain customer's assets.



Marthinusen & Coutts

A division of ACTOM (Pty) Ltd



Your Assets. Your Needs. Your Service Partner.