

M&C Zambia completes compressor motor overhaul in rapid time

In August 2022, Marthinusen & Coutts Zambia was tasked with a challenging assignment. A smelter based in the Copperbelt region requested an in-country repair solution for their two critical 4.5MW compressor motors. The company was given a tight deadline of just three weeks to overhaul and commission the motors.



The comprehensive scope of work involved dismantling, cleaning, and assessing all parts of the motors. The team at then dynamically balanced the rotors at operating speed using their own 12-tonne balancing machine.

Following this, they supplied new bearing assembly parts and assembled the motors. The final steps included a no-load test and laser alignment of the motors on site. This rapid and efficient response showcases the company's commitment to providing high-quality, timely solutions to its clients.



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“Upon dismantling both motors we identified that the stator coils indicated partial discharge and the stator wedges had deteriorated significantly over time. We consequently requested M&C’s workshop in Cleveland, Johannesburg to supply partial discharge treatment of the stator coils and to manufacture the stator wedges that needed to be replaced,” said Eugene Lottering, M&C Zambia’s GM.

South African input

To ensure that all the work complied with international standards, M&C also sent a senior technician from Johannesburg to assist the local team on the contract.

“Our team is well experienced in how to approach and action various stages throughout the overhaul of these motors. We successfully completed various medium voltage overhauls up to 4,650kW. The motors were no-load tested at 11kV with exceptionally good results and the customer then gave us the go-ahead to commission the motors,” Eugene explained.

“Installing them on-site turned out to be a complicated procedure, especially the alignment of the motors to the compressors,” he added.

The motors were finally tested on load, recording satisfactory vibration levels of below 1.34mm/s.

“The motors were successfully installed and commissioned three days before the scheduled deadline for completion,” Eugene concluded.

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