

FOR IMMEDIATE RELEASE

### Shaw Controls Fast Tracks Upgrade At Automotive Component Manufacturing Plant

A wide-ranging upgrade of the electrical distribution network at a catalyst manufacturer's plant near Johannesburg has been successfully – and speedily – completed by Zest WEG Group companies led by Shaw Controls.

According to Shaw Controls chief operating officer Bevan Richards, the work was efficiently coordinated between companies in the Zest WEG Group so that the contract could be fast tracked during a special weekend shutdown to minimise the production disruption at the facility.

“This major upgrade of the plant – which included the moving and replacement of 17 transformers and 22 medium voltage outdoor panels – had to be completed in just five days,” says Richards. “With careful planning and preparation, along with the close collaboration of the customer, we were even able to complete the job with a day to spare, allowing production to resume earlier than expected.”

To meet these demanding timeframes, Shaw Controls proposed and implemented a solution that involved an E-house – a prefabricated walk-in modular enclosure to house switchgear and auxiliary equipment – as well as two containerised substations, built in-house at the company's ISO 9001 Bureau Veritas-certified manufacturing facility in Heidelberg.

The E-house was equipped with free-issue medium voltage switchgear from the customer, and the substations were each equipped with a 400 V main distribution board. These modular solutions allow for assembly and testing in the factory, where customers can view the build progress as well as witness the performance of the finished product before delivery is finalised.

“The medium voltage panel was installed, pre-tested, commissioned and the relays programmed before delivery,” he says. Once at the customer site, it was simply a matter of connecting the cables before getting the system ready to be re-energised.

“Part of our project management role was to develop the design and construction drawings, working in conjunction with the customer’s consulting engineer,” he says. “We brought in group companies WEG Transformers Africa (WTA) to provide two 3 MVA oil transformers that stepped down from 11 000 V to 400 V and EnI Electrical to conduct the on-site construction work, which included medium and low voltage supply, installation and termination of cabling.”

EnI Electrical received all equipment on site, undertaking substantial site preparation and pre-works prior to the plant shutdown. It then instituted a two-shift system of 12 hours each over the project period, while Shaw Controls was on-site providing overall project management. On the first day of the shutdown, with the assistance of a mobile 250 tonne crane, EnI Electrical was able to remove all the old equipment and place the new items in position ready for cabling to begin. Access to the work area was also constrained, requiring the crane to reach over an existing building.

By the end of the project, 380 metres of 11 kV cable had been laid, with two cable joints and seven terminations, as well as 1 560 metres of 400 V cable with 21 joints and 132 terminations.

“A turnaround as fast as this is really only possible due to the utilisation of the E-house and containerised substation option,” he says. “Delivering all the equipment in loose pieces and building everything on site, as well as the necessary re-testing, would take much longer and would involve considerably more production downtime for the factory.”

The new system was designed by Shaw Controls and the consulting engineer to give the customer a highly stable system with more flexibility in terms of how the loads are distributed to the plant.

Added benefits of the E-house solution for the customer are that they do not have to manage multiple service providers and suppliers in the various aspects of constructing a substation, says Richards. The process could be potentially complex, time consuming and expensive, especially when conducted in remote sites where access is difficult and infrastructure is weak.

CONTAINERISED SOLUTION PIC 01 : A view of the 11 kV E-House and containerised 400 V substation rebuilt by Zest WEG Group.

CONTAINERISED SOLUTION PIC 02 : Cabling was reworked to tie in with the new substations.

CONTAINERISED SOLUTION PIC 03 : Two 11kV WEG transformers replaced 17 smaller units in the upgrade of this power solution.

CONTAINERISED SOLUTION PIC 04 : Two low voltage substations fitted with power distribution boards.

ENDS ... JANUARY 2018

FROM : CORALYNNE & ASSOCIATES  
TEL : +79 523 7422  
EMAIL : [communicate@coralynne.co.za](mailto:communicate@coralynne.co.za)  
WEBSITE: [www.coralynne.co.za](http://www.coralynne.co.za)

FOR : ZEST WEG GROUP AFRICA  
TEL : +27 011 723 6000  
EMAIL : [marketing@zestweg.com](mailto:marketing@zestweg.com)  
WEBSITE: [www.zestweg.com](http://www.zestweg.com)