

FOR IMMEDIATE RELEASE

### **First Mobile Substation Reference For Zest Energy In Africa**

Zest Energy, a Zest WEG Group company, is poised to deliver the first of three mobile substations ordered by Eskom for deployment within its Mpumalanga Operating Unit. This represents the first mobile substation reference for Zest Energy in Africa.

Eskom will utilise the three new units — 40 MVA, 20 MVA and 10 MVA — during fixed type substation refurbishments, maintenance and breakdowns as well as to improve the reliability of the grid network by limiting the duration of power interruptions. The mobile outdoor substation equipment will be mounted and installed on custom engineered trailers that comply with the South African road ordinance legislation in regard to weight and overall equipment dimensions. During transportation, the effects of trailer flex and movement on the integrity of the transformer design were also important considerations that had to be analysed.

“Our parent organisation WEG has built this type of mobile substation for more than a decade and has supplied units extensively to South America,” Coenraad Vrey, managing director of Zest Energy, says. “We’re drawing on WEG’s capabilities and experience for this order and WEG’s broad range of international references gave Eskom peace of mind that we were able to deliver a solution to suit their requirements. In the planning stages of this contract, our design team consulted heavily with Eskom engineers to ensure that we gained a full understanding of their standard specifications and project engineering requirements. Zest Energy is not an off the shelf solution company — our custom engineered solutions take into consideration all the various constants and customers’ preferred equipment specifications.

“The transformer is the specialist aspect of the Eskom units and Zest Energy, in consultation with Eskom and our WEG counterparts, has been able to come up with a very compact design specific to local conditions.”

Zest WEG Group has supplied power transformers to Eskom for several years already, but these are the first mobile substations the company has been asked to manufacture for the power utility. The

technical and legislative requirements for these substations call for extensive engineering and testing to design a product that is compliant. The transformers for the mobile substations are imported from WEG in Brazil and the substation's switchgear is also imported from various international countries, but all other substation components are being manufactured in South Africa, which is where the substations will also be assembled to promote maximum local content.

Vrey comments that the concept of a purpose-built mobile substation is an ideal solution in this application, because the units can be utilised wherever needed within the region to save time, while providing the flexibility of being able to connect to several different high and medium voltage networks, especially when it comes to interfacing with Eskom's older networks. This is achieved by using multi-ratio transformers. The transformers were designed with very low impedances, capable of interfacing with Eskom's current network infrastructure and limitations. Furthermore, the resulting designs were developed to be robust enough to withstand the internal forces that could be experienced during fault conditions.

The contract includes for the training of Eskom's drivers on the 20 MVA and the 40 MVA mobile substations, both which have steerable axles for improved manoeuvrability.

The Zest WEG Group has intensified its plans to realise prospects for growth both in South Africa and the greater African continent, which it believes will continue to grow above the world average. In order to build a solid foundation on the continent, the group along with its parent WEG, continues to invest heavily in expanding its business in Africa.

Zest Energy has extensive expertise in several different energy generation technologies. Whether a single component or a combination of power generation solutions is required, the organisation's services include the supply, manufacture, erection and maintenance of power generation equipment. Projects range from complete, integrated power generation plants and co-generation systems, to custom engineered power generation solutions for new or existing mining and industrial companies.

ESKOM MOBILE SUBSTATIONS PIC 01 : The 10 MVA mobile substation manufactured by Zest Energy ready for dispatch to site.

ESKOM MOBILE SUBSTATIONS PIC 02 : The 10 MVA mobile outdoor substation is mounted on a custom engineered trailer.

ESKOM MOBILE SUBSTATIONS PIC 03 : The concept of the Zest Energy purpose-built mobile substation is considered an ideal solution.

ESKOM MOBILE SUBSTATIONS PIC 04 : The Zest Energy 10 MVA mobile substation en route to Eskom.

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