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1 Overview and purpose of the *goods* and *service*s

Tutuka Power Station was built and commissioned in early 1985 and is located in Mpumalanga province, South Africa. It is a base load power station with 6 units, each capable of producing 600 MW to the Eskom national grid. The switchgear that is currently installed, is metal clad switchgear and is not internal arc classified as this was not a requirement at the time when the existing switchgear was designed.

The Power Station has several areas in which the installed equipment is obsolete, nearing obsolescence or do not meet the requirements for safety of personnel. This is posing a growing risk on the sustained production capabilities of the Power Station. It is expected that as the equipment ages, plant performance will deteriorate until the stage where it is necessary to shut units down.

The Power Station, therefore requires major refurbishment and or replacement of the current Switchgear to maintain the Power Station's ability to produce electricity safely, reliably and within legislative requirements. A mobile container is therefore required to be manufactured and delivered that will be able to house the new Switchgear Boards will be used as a temporary supply point to allow for the old switchgear to be replaced. This container will also have to be moved from one physical location, to a next location within the Power Station to be used as a temporary supply for other old switchgear to be replaced.

Logistics and Delivery to Site

The supplier will manufacture and deliver a mobile switchgear container which will be used to supply all the critical/essential parts of the plant during the replacement of the MV switchgear boards. The supplier is responsible for the provision of a 12m mobile container for the housing of MV switchgear boards (9 x 11kV panels of 7445kg total and 7.3m long by 1.565m width) and associated bus zone protection panel which are to be provided by the Employer and the supplier is expected to collect the panel from the Original Equipment manufacturer (Actom workshop in Johannesburg). The mobile container will have new correctly sized 220VDC Battery Chargers and Nickel Cadmium batteries for a controlled DC power supply of the switchgear in the container, in accordance with 240-53114248 and 240-56360086.

2 Specification and description of the *goods*

Product Conformance
12m Convertible mobile container with its steel support stand
At least 4 x Arc duct exhaust covers to be manufactured and supplied
All signage for mobile switchgear container to be supplied
LV cables and its termination accessories (26 terminations each cable type) 2.5 x 4c = 200m & 2.5mm x 7c =200m
12 x 1.5 florescent/LED high performance lights
3 x 20A, 2 x 10A single phase breakers, 63A single phase 2p main switch with earth leakage
Small power distribution board equipped with main breaker, earth leakage, circuits breakers for (interior lights, external lights, plugs and air conditioners)
Cabling for domestic circuits like lights, plugs and air conditioners
Top entry cable racking for all LV cables in the mobile switchgear container
4 x weatherproof outdoor lights
2 x Air conditioner units 9000 BTU units
Certificate of compliance for the mobile switchgear container domestic circuits will be required
4 x fire extinguishers to be mounted outside
2 x main doors with emergency exit door catches
1 x Double container door for loading/unloading of equipment
2 x staircases with handrails
Kick plates for floor
Design (Signed off by a accredited ECSA registered professional engineer) and manufacturing of steel support frame of the mobile switchgear container
BTU 220V DC with its related test certificates as per the Eskom standards
Water proofing inside the container (Cladding and ISO wall)

2.1 Procedure for submission and acceptance of *Supplier*'s manufacturing plan

To procure and convert the 12m container to a mobile substation with small power electrical equipment installed, collection of 11kV switchgear and bus zone protection panels from the original equipment manufacturer, assemble the 11KV switchgear and bus zone panels inside the mobile substation, procurement of the 220VDC battery terminal unit with its batteries and the required testing as per the Eskom standards.

2.2 Other requirements of the *Supplier*'s manufacturing process

The labelling for the Plant that forms part of the *works*. The *supplier* should provide labels for the MV mobile switchgear according to 240-56227573.

2.3 Use of *Supplier*'s schedule

The supplier to submit a pre-approved schedule before the works can commerce. The manufacturing and testing to be implemented as per the provided drawings and specifications.

2.4 Manufacture & fabrication

The mobile switchgear must be manufactured according to the applicable laws, standards and Eskom specifications.

2.5 Factory acceptance testing (FAT)

The *Employer* will inspect and test some parts of the Plant at the manufacturer's premises before dispatch, where required. The *supplier* to advise on the period required for the inspection and testing activities of part of the Plant. The *Employer representative will* then advise on the parts of Plant and Materials he/she needs to inspect and/or test and the *supplier* will make allowance in the delivery time to cater for this requirement.

The *supplier* to provide a detailed plan for approval which will be used for Factory Acceptance Testing (FAT) to be accepted by the *Project Manager*, 30 calendar days prior to starting date of the first FAT. The *Contractor* gives the *Employer* at least 14 calendar days' notice of the date on which any panel is ready for inspection and testing.

2.6 Other tests, inspections and commissioning in place of use

The supplier to provide check sheets and Inspection test plan.

2.7 Operating manuals and maintenance schedules

The *supplier* is responsible for the construction, installation and testing of the equipment according to the *provided drawings* and standards , ensuring that the Employer representative is available to witness all the required tests.

3. Supply Requirements

To avail themselves for cold commissioning and hot commissioning of the 11KV boards, protection panel and the 220VDC BTU which will be installed inside the mobile container.

4. Specification of the *service*s to be provided

- Supply and delivery of mobile container must be on time of required order.
- Transportation of 11KV panels by road on supplier's costs from the original equipment manufacturer.
- End user to be informed when delivery will be done at least 3 days upfront.
- No deliveries to be done on Weekend or public holiday.

Approved by:

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Signature: Date: 12/09/2023

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