

1. SCOPE OF WORK/SPECIFICATIONS/ REQUIREMENTS:

1.1. BACKGROUND

PROJECT SPECIFICATIONS

STATUS

The Project Specifications (PS) forms an integral part of the contract and supplements the Standard Specifications and Umgeni Water Particular Specifications. They contain a general description of the works, the site and the requirements to be met.

In the event of any discrepancy between a part or parts of the Standardized or Particular Specifications and the Project Specifications, the Project Specifications shall take precedence. In the event of a discrepancy between the Specifications and the drawings and / or the Bill of Quantities, the drawings take precedence, thereafter the Bill of Quantities. In all events, the discrepancy shall be brought to the attention of the Employer's Agent before the execution of the work under the relevant item.

3.5.1 QUALITY ASSURANCE

The successful Tenderer shall furnish the Employer a detailed Quality Control Plan (QCP) and Procedure for all materials, such as Alternators, engines, enclosures and fittings for approval prior to any fabrication, coating, lining and delivery.

The Employer shall inspect all of the above at the supplier/manufacturer's facility and release same for delivery with a 48 hour written notice.

PS 1 PROJECT DESCRIPTION

The supply, delivery, installation and commissioning of a 125 kVA prime rated standby diesel generator for the 321 Prince Alfred Street, PMB Offices.

PS 2 OVERVIEW AND DETAILS OF CONTRACT

PS 2.1 Overview

The main components of the contract comprise:

PS 2.1.1 The supply, delivery, installation and commissioning of a 125 kVA prime rated standby diesel generator with automatic changeover for the 321 Prince Alfred Street, PMB Offices. The changeover panel shall include a TCP/Ethernet communication protocol for future linking to the SCADA system. The generator shall be the silent-type and meets the Msunduzi Municipality bylaws for that area.

PS 2.1.2 The generator must be installed in an outdoor weatherproof enclosure as per PS 2.2.1.

PS 2.1.3 A Certificate of Compliance (COC) must be supplied for the installation and the complete building.

PS 2.1.4 Factory acceptance tests (FAT) will only be attended by the project manager and/or his designate.

PS 2.2 The generator and installation must comply with the following:

PS 2.2.1 The outdoor weatherproof enclosure must be manufactured from 2mm thick 3CR12 stainless steel. The enclosure must be vandal proof.

- PS 2.2.2 The installation must include all cables between the generator and the existing outdoor distribution board (DB). This includes supply cables, mains sensing and any other cable required to make the installation fully functional. All supply cables must be rated for the full load rated current of the existing DB. In addition to this, cable sizing must allow for volt drop over distance if applicable. Cable size must be approved prior to installation.
- PS 2.2.3 Main supply cables in and out must be XLPE cable with copper conductors. Mains Cables must be mounted on heavy duty galvanised industrial cable ladder or heavy duty cable tray where applicable. Cables may be 4 core cables or sectorial cables.
- PS 2.2.4 In addition to a low level fuel cut-off the diesel tanks must have an analogue fuel level sensor with a 4-20mA output corresponding to 0-100% fuel level. The level must be indicated on a separate digital indicator mounted in the changeover panel.
- PS 2.2.5 The generator must have an automatic fuel cut-off valve for fire protection. This can be activated by a fusible link.
- PS 2.2.6 The following signals must be wired to terminals in the changeover panel:
- Generator running
 - Current
 - Voltage
 - Power
 - kWh
 - Mains fail
 - Low fuel
 - Common Alarm
 - Fuel Level – analogue 4-20mA signal
 - Battery Charger Fail
- PS 2.2.8 The generator must preferably be a Deepsea controller or similar approved by Umgeni Water, mounted in the changeover panel.
- PS 2.2.9 The automatic changeover panel must be set mounted. The changeover panel must be rated for the full load current of the main incomer. Changeover circuit breakers must be 4 pole with overlapping neutral i.e the neutral must be the first to make and the last to break.
- PS 2.2.10 All applicable cables buried in the ground must be installed in sleeves. Trenching must be as per Umgeni Water's Standard Specification. Deviations must be cleared with the Project Manager
- PS 2.2.11 Sleeves must be 110mm PVC or similar approved where applicable.
- PS 2.2.12 The generator must be supplied with a full tank of fuel.