

**PART 5 - SCHEDULE OF PRICES**

Wentworth EMS Base - Generator Replacement						
C2.3 BILLS OF QUANTITIES						
<p>The Quantities measured in the Bill are PROVISIONAL and are subject to remeasurement at completion of the works.                      The Bill of Quantities MUST BE READ in conjunction with the Project Specifications: Annexure 10</p>						
ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL	
		SUPPLY	DELIVER	INSTALL & COMMISSION		
2.3.1	Supply, delivery to site a 250 kVA Prime 400/230-volt outdoor type generator set, Including Base tank (Grade 3CR12 Stainless Steel, <1000L as per Ann 10: 7.7.1).	1	Each			
2.3.2	Installation and commissioning of a 250 kVA 400/230-volt outdoor type generator set and base tank, including Deep Sea 7320 generator controller as specified.	1	Each			
2.3.3	Supply & delivery of a suitably rated generator LV Panel panel as per Section 10 - Technical Specification for newly installed generator within the respective plant room. (Grade 3CR12 Stainless Steel)	1	Each			
2.3.4	Installation and commissioning of a suitably rated generator LV Panel as per Section 10 - Technical Specification for newly installed generator within the respective plant room.	1	Each			
2.3.5	Supply & delivery of a new Control Panel as per Section 10&11 - Technical Specification. (Including Deep Sea 7320 generator controller as specified.) (Grade 3CR12 Stainless Steel)	1	Each			
2.3.6	Installation and commissioning of a new Control Panel as per Section 10&11 - Technical Specification. very of a new Control Panel as per Section 11 - Technical Specification. (Including Deep Sea 7320 generator controller as specified.)	1	Each			
2.3.7	Supply, deliver, DSE WebNet DSE890 Gateway complete with a 1 x GPS antenna and 1 x GSM antenna installed in generator set in item 2.3.1, complete with a data SIM card.	1	Each			
2.3.8	Install and commission DSE WebNet DSE890 Gateway complete with a 1 x GPS antenna and 1 x GSM antenna installed in generator set in item 3.1, complete with a data SIM card.	1	Each			
2.3.9	The SIM card must be loaded with adequate data for this reporting module for the entire duration of the Two Years (24 months) with a minimum of 5GB of data per month OR 300GB once off	1	Each			
2.3.10	Provision for Supply, delivery and installation of Breaker panels: Supply, deliver and install suitably rated circuit breakers (2 off) and suitably rated panel (1 off) for <u>cable protection</u> to be installed: 1. Onto concrete plinth and 2. Installed within LV Plant room  in accordance with SANS standards (SANS 10142 I&II) Test and commission both panels.	2	Each			
2.3.11	Supply deliver and install suitable sound proofing within the generator canopy; Sound attenuated to <70dB one meter away from canopy. The canopy manufactured and supplied to the hospital shall be weatherproof and not tropical. Which ensures there is no water/moisture ingress into the interior compartment of the genset from weatherside louvres.	1	Each			
2.3.12	Decommission of existing 160kVA Olympian (by Caterpillar) Generator, day tank and control panel in existing generator plant room. Provide assessment report of generator including remaining years of operation, spares availability, condition assessment on the generator with recommendation to salvage spares, containerise and utilise as portable unit or dispose.		Item			
2.3.13	Removal from plant room: - 160kVA Olympian (by Caterpillar) Generator, - day tank, - bulk fuel tank with pipework and supports, - <b>safely demolish bulk tank bund wall, removal of rubble. Ensure concrete base is smooth and safe to be re-used if necessary.</b> - control panel - cables and associated ladders and trays - <b>Reinstate brickwork as per the existing construction on radiator side of Olympian generator.</b>  Relocation of equipment must be transported to Strategic Spares Warehouse located within Wentworth Hospital if necessary (dependant on 2.3.13 above)		Item			
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CABLE WORKS					
2.3.14	Supply, deliver, install, test and commission 8 off 150mm <sup>2</sup> single core, ECC, SWA, PVC insulated copper cables; Cables must be able to withstand no less than 400A/phase. <b>Cable design and selection design must be included in engineers design report.</b>	400	m		
2.3.15	Supply, deliver, install, test and commission Single 2.5mm <sup>2</sup> , 7 core, ECC control cables.	40	m		
2.3.16	Supply, deliver and install all terminations of newly installed cables using C.C.G or Pratley Glands and shrouds. <b>Allow for all terminations of newly installed cables using C.C.G or Pratley Glands and shrouds. All terminations shall be done with the use of hydraulic crimping tools only.</b>	16	Each		
2.3.17	Supply, deliver, install and commission suitably rated earth mat/spike. Earth mat/spikes design must be included in engineers design report.	1	Item		
2.3.18	Supply, delivery and installation of overhead and wall mounted heavy duty cable tray including all fixtures and fittings between the generator and LV panel. This includes the entire cable route: - Cable sleeves for underground installation - Cable route with galvanised trays/ladders, floor mounted steel trunking - Suitable busbar trunking within transformer and meter room, - Breaking of walls/penetrations from genset to the LV Panel - Reinstate brickwork in areas where there are cable penetrations with pyro fireseal. *This includes reinstating of all brickwork present cable route and penetrations to have suitably rated fireseals. <b>Additional cables and pipework to be fixed onto cable ladders/tray surrounding plant room</b>	60	m		
EARTHWORK & CIVIL					
2.3.19	Provision for Trenching for cable works and fuel piping: - in soft rock - including cable marking tape, - concrete cable markers, - backfilling and compaction - reinstate all surfaces as per original design *Trenching would not exceed 1m deep and 1m wide with a distance not exceeding 50 m.	50	m <sup>3</sup>		
2.3.20	Construct a new reinforced concrete base of suitable strength on top of which the generating set and diesel bulk tank will be located in a position to be discussed at site briefing. Tentatively to be installed near meter room. (Including bulk earthworks, excavation compaction and rubble removal ie. carting away of all unwanted material. Item includes earthworks and all civil works associated with plinth installation. Minimum Comprehensive strength of Concrete 30MPa. <b>Plinth design to be included in engineers design report.</b>	80	m <sup>2</sup>		
2.3.21	Remove existing Substation/Meter Room Doors (including disposal). Supply deliver and install Substation/Meter Room doors & with accompanying locks and keys (3 sets each). (As per attached Annexure 12a & 12b - Drawing A - Substation or Meter room door detail		Item		
2.3.22	Provision for Refurbishment of Meter Room/Substation <b>Annexure 10 - Section 2: Scope of Contract</b> a) Including: doors, windows, vents, cable tunnels, lighting, LV panels and make good wall-mounted drawings. b) Flooring: Cleaning, making good of the surface and painting. Cable tunnels to be cleaned and covers to be replaced if necessary. c) Walls: Cleaning, making good of the surface and painting; this is to allow for any building/civil works that must take place. The doors and frame should be replaced if necessary to accommodate the larger sized generator into the plant room. All brickwork and plaster to be reinstated and must returned to its original state as per the existing building material. d) Ceiling: Cleaning, making good of the surface and painting. e) Paint colour to be discussed during site handover. Paint specification should be Class 4 – "Typical area". f) Lighting lux levels must adhere to OHS Act (No.85 of 1993) and SANS 10400, SANS 10114-1 lighting requirements. Contractor to install additional lighting if necessary. g) Supply, deliver and install - Wall-mounted drawings: General plant layout, Wiring diagram, Essential/Non-Essential SLD. h) Outside plant (Meter room) brickwork to be repaired and made good as per original design i) Renew water proofing and gutters. j) Replace rusted meter room/transformer room doors with 4 sets of keys (and locks if necessary) as per attached eThekweni Municipality specifications. k) Remove redundant cable ladders/trays		Item		
2.3.23	Supply, delivery and Installation of Chromadeck carport/shadeport to be installed over the concrete plinth area with 500mm overhang. Installation to include all necessary components: gutters, support structure, lighting etc. ( <b>*Lighting: Minimum 2x4foot luminaires capable of 100lux in the area around the generator and bulk tank</b> )	120	m <sup>2</sup>		
2.3.24	Supply, deliver, install fire barrier wall between generator and bulk fuel tank		Item		
2.3.25	Install ABS Certified Aluzinc Galvanized fencing for Coastal applications around generator and bulk fuel tank. Fence installation must be all inclusive of a fully installed fencing system including but not limited to posts, foundations, topping, anti-burrow <b>with TWO gates</b> with 4 sets of locks and 4 keys. <b>Quantity is the perimeter of the fence.</b> <b>(As per Annexure 10 - Section 2: Scope of Contract)</b>	50	m		
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DIESEL TANKS & PIPEWORK					
ITEM	DESCRIPTION	QTY	UNIT	RATE	TOTAL
2.3.26	Supply, deliver and install ISO 9001 quality containerised double walled (self-bunded) 4,000 litre bulk fuel tank	1	Each		
2.3.27	Provision for specialized petrochemical installation Contractor in accordance with SABS 0131 Part 2/1979 and SABS 089 Part 3/1991.		Item		
2.3.28	Supply, deliver and install dedicated fueling point with all associated pipework, connectors and valves for refuelling bulk tank. <b>Fuelling point to have self contained bunded area for spillage.</b>		Item		
2.3.29	Supply and deliver first fill of 50ppm Diesel to Day tank to bulk tank and day tank for commissioning.	4500	L - litres		
2.3.30	Supply, deliver, install and commission smart, digital and mechanical fuel gauges linked to DSE Controller as per Annexure 10 - Project Specifications - Wentworth EMS Base - Generator Replacement Part 4: Schedule of Equipment - Part 7.7		Item		
2.3.31	Supply, deliver and install: water absorbers (tank snakes) Black for heavy duty application	2	Each		
COMPLIANCE, DOCUMENTATION & LABELLING					
2.3.32	Provision for Electrical compliance certificates	1	Each		
2.3.33	Supply, delivery, installation and commissioning of fire protection system including: - Fire Suppression equipment (extinguishers) - Fire detectors linked to existing Fire detection and alarm panel ( <b>150m away</b> ) - Fire Certificate of Compliance - Diesel spill Kit	1	Each		
2.3.34	O & M manuals – 3 sets per unit.	1	Each		
2.3.35	Submission of an approved Safety Plan specifying type of work to be carried out.	1	Each		
2.3.36	Supply and install new labelling: 1. Within and Outside Substation 2. On Control Panel 3. On generator 4. On fencing  in accordance with the DoH Policy document.	1	Item		
2.3.37	Provision for Professional Services - Electrical Engineers Design: -Submission of Engineers Design Report for KZN DOH approval ( <b>Electrical, Geotech, Civil and Mechanical inclusive.</b> ) -Submission of Single Line Diagram for KZN DOH approval -Submission of Panel design and drawings for new LV Panel	1	Item		
2.3.38	Provision for Site Establishment	1	Item		
SERVICING & MAINTENANCE					
Note	<b><i>In the event that Load Shedding Stages increase and multiple services are required during the 52 week/12 month retention period, kindly make provision for the price of a major service and fuel remediation to bulk and base tank.- **Service intervals shall be every 6 months for a minor service and every 250 hours/12 months whichever comes first. The prices below will remain as per the priced bid BOQ for the duration of the contract.</i></b>				
2.3.39	Major Service of diesel generator during the 12 month guarantee period. (once per annum or every 250hours)	6	Each		
2.3.40	Fuel Remediation and Tank Cleaning (bi-annual)	2	Each		
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GENERAL				
2.3.41	Provision for hire of portable generator and LV panel during installation (maximum of 20 days)	20	daily rate	
2.3.42	Supply and delivery of type HA1 padlocks with keys.	4	Each	
2.3.43	Supply and delivery of type Generator Canopy side door locks with keys.	4	Each	
2.3.44	Preliminaries and General: Contractor to provide detailed breakdown. Note: P&Gs May not exceed 10% of the total Construction Costs		Item	
2.3.45	Supply and Deliver portable electric DIESEL DRUM PUMP KIT with K33 METER 220V fuel pump (7.7.1 Annexure 10)	1	Each	
2.3.46	Balancing of three phase loads within the base.		Item	
2.3.47	Tree and foliage removal around substation: - Area to be cleared of grass and foliage, soil poisoning to be applied to ensure proper installation of plinths		Item	
2.3.48	Install new warning enclosure linked to all generator alarms, complete with siren and strobe.	1	Each	
2.3.49	Respraying of existing LV panel doors to red to indicate Essential Supply - This includes the main LV plant room panel as well as sub DB throughout the facility (8 in total)	9	Each	
2.3.50	Supply , deliver and install heavy duty pavers/paving: - to and from substation and to the road. - one meter around the fenced generator plant area	350	m2	

LIGHTING				
2.3.51	Supply deliver, install, test and commission lighting around and within substation: * Including all cables, brackets, mounting and poles * All lighting MUST be supplied from Essential Supply from new generator.		Item	
2.3.52	Provision for Energy efficient LED Outdoor flood light in accordance with SANS 10400 & SANS 10114-1 standards minimum lux levels	4	Each	
2.3.53	Provision for Energy efficient LED Indoor lighting in accordance with SANS 10400 & SANS 10114-1 standards minimum lux levels	2	Each	
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**Wentworth EMS Base - Generator Replacement**

**PRICE PAGE**

**N.B.: This form must be completed in detail signed by the Bidder and bears the signature of a witness.  
 Failure to comply with these requirements may result in the bid being disregarded.**

**CLOSING DATE AND TIME:** \_\_\_\_\_ at 11:00.      **VALIDITY PERIOD:** 84 days

<b>BID/CONTRACT NO:</b> ZNB _____ <b>PERIOD:</b> _____	
<b>Wentworth EMS Base - Generator Replacement</b>	<b>NAME AND ADDRESS OF BIDDER(FIRM)</b> ..... ..... ..... TEL: ..... FAX: .....
<b>DOES OFFER COMPLY WITH THE SPECIFICATION?</b> <i>If not, furnish details of deviation in space provided for "Remarks"</i>	<b>YES/NO</b> <i>(Delete which is not applicable)</i>
<b>CONTRACT EXECUTION PERIOD</b>	.....9.....months
<b>CARRIED OVER FROM SCHEDULE OF PRICES</b>	<b>PS 1</b>
	<b>PS 2</b>
	<b>PS 3</b>
	<b>PS 4</b>
	<b>Subtotal : PS 1 to PS 4</b> R .....
<b>VALUE ADDED TAX @ 15%</b> (Rate applicable on date of submission of Bidder)	R .....
<b>TOTAL BID PRICE</b>	R .....
<b>REMARKS (if any):</b>	..... (Signature of Bidder) DATE: ..... ..... (Signature of Witness) DATE: .....