

Item No.		UOM	Qty	Rate	Amount
	<p><u>SECTION NO. 1</u></p> <p><u>ELECTRICAL INSTALLATION</u></p> <p><u>BILL NO. 1</u></p> <p><u>GENERATOR INSTALLATION</u></p> <p>i) Quantities in this schedule are to be re-measurable on completion. Rates are fixed in accordance with the tendered rates.</p> <p>ii) This Bill of Quantities is to be read in conjunction with the specification in respect of the following listed items <u>Standard Preambles for all Trades (Rev 3) - DOH 2009 as published shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained.</u></p> <p><u>Proprietary Items or Materials</u></p> <p>Proprietary items or materials where specified are to be of the brand specified - or equal approved - by the DoH Electrical Engineer prior to tender closing.</p> <p><u>Specifications, Drawings, etc.</u> The quantities measured in the Bill of Quantities for work and material must not be viewed as a limitation of the amount of work to be done and material provided by the contractor in the complete execution of the work.</p> <p>The general descriptions and data of the work given in the specification, drawings or schedules are not fully repeated in the Bill of Quantities and reference to the other documents for complete information is therefore important and necessary.</p> <p>Material must be ordered as determined on site and not from the drawings or Bill of Quantities. The Employer will not accept any responsibility for surplus or inadequately ordered material. Payments will only be made for the actual re-measured quantities as installed.</p> <p>In these bills, the word "rate" shall be deemed to include the acquiring of equipment and materials from suppliers and workshops and the delivery, off-loading and safe storage of the equipment on site as well as unpacking, hoisting, placing and fixing, suspending or building in an approved position, cutting, connection, commissioning, testing and handing over of plant, equipment and materials.</p> <p>All Provisional Sums to be use as directed by the Departments Project Leader</p>				
	C1 - Carried to Collection				R

1	GENERATOR				
1.1	Supply and install 400kVA, 400V, 3Phase Generator complete plus all other requirements as specified in the DOH Generator Set Technical Specification that forms part of the bid document – <i>Annexure A - Part 2: Technical Specifications</i>), with extra over for soundproofing of unit, transportation, labour, mark-up, etc. This includes the ATS to be installed in the panel, antivibration mounts, louvres for provision of ventilation, etc.	No.	1		
1.2	Supply, install, program and commission DSE WebNet DSE7320 MKII 90 Gateway complete with 1 x GPS antenna and 1 x GSM Antenna installed in sets above.	No.	1		
1.3	Connect the Webnet controller to the facility's ethernet system for remote connection. This is to include cabling, termination, connection points, etc.	No.	1		
2	PROVISIONAL SUM				
2.1	Allow for a provisional amount of R 50 000.00 for the Design, Supervision and Construction of the generator plinths that will withstand the weight of the generator	Item	1		R 50 000.00
2.2	Profit and attendance	%			
2.3	Allow for a provisional amount of R 200 000.00 for the Professional Electrical Engineer for; - Perform data logging on the mini-substation to ascertain maximum demand and then propose a suitably sized generator). Engineer to design the best practice for supplying the Staff Accomodation while limiting the load demand and not overloading the generator uncessesarily - Provide site specific report and Production of Site Specific Design - Site Work Supervision and Contracts Admin	Sum	1		R 200 000.00
2.4	Profit and attendance	%			
2.5	Allow provision sum of R100 000.00 for cater for the building's electrical distribution and reticulation modifications to cater for the generator back up supply.	Sum	1		R 100 000
2.6	Allow for a provisional amount of R150 000 for earth mat design and installation	Sum	1		R 150 000
C2 - Carried to Collection					R

3	<u>DIESEL TANK AND ANCILLARIES</u>			
3.1	Supply a 2250 Litres diesel tank and associated piping to allow automatic filling of the diesel generator tank. Diesel tank to be positioned 50meters away from the generator. Detailed specification is in Annexure A - Part 2: Technical Specification, Section 8 document that is part of this bid document	Item	1	
3.2	Supply and install suitable main electric pump for pumping of diesel from the bulk tank to generator. <i>This must include connection onto the electrical supply and limit switches and must be automatically controlled to fill in the diesel to the tank when the tank reaches low level and also cut the filling of the diesel into the tank when the tank reaches the high level. Pump to be supplied from the essential panel</i>	No.	1	
	Trenching for the diesel pipe (0.6m deep x 0.3m wide x 50m long)	m3	14.4	
4	<u>CABLING</u>			
4.1	Supply and install 150mm ² x 4core, PVC/PVC/SWA/PVC, ECC cable <i>2 runs per phase. Rates must include sleeves</i>	m	500	
4.2	Supply and install 2.5mm ² 12 core Multicore control cables for generator sensing	m	250	
4.3	Trenching in soil (0.5mx0.3mx200m)	m3	30	
4.4	Trenching in hard rock (0.5mx0.3mx200m)	m3	30	
4.5	250meters Cables Sleeves for the cable above	No.	2	
4.6	Conduct surveys to detect underground services and produce a report. NB: No repairs will be paid for if underground services are damaged willfully or accidentally.	Item	1	
5	<u>CABLE TERMINATIONS</u>			
5.1	Supply and install 150mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable terminations	No.	16	
C3 - Carried to Collection				R

6	ELECTRICAL CABLES AND ANCILLARIES - RATES ONLY			
	<i>Cables</i>			
6.1	Supply and install 10mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable - rate only	m	1	
6.2	Supply and install 16mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable - rate only	m	1	
6.3	Supply and install 25mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable - rate only	m	1	
6.4	Supply and install 35mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable - rate only	m	1	
6.5	Supply and install 50mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable - rate only	m	1	
6.6	Supply and install 70mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable - rate only	m	1	
6.7	Supply and install 95mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable - rate only	m	1	
6.8	Supply and install 150mm ² x 4 core, PVC/PVC/SWA/PVC ECC cable - rate only	m	1	
	<i>Cable Terminations</i>			
6.9	Supply and install 10mm ² PVC.SWA.ECC.PVC cable termination	No.	1	
6.10	Supply and install 16mm ² PVC.SWA.ECC.PVC cable termination	No.	1	
6.11	Supply and install 25mm ² PVC.SWA.ECC.PVC cable termination	No.	1	
6.12	Supply and install 35mm ² PVC.SWA.ECC.PVC cable termination	No.	1	
6.13	Supply and install 50mm ² PVC.SWA.ECC.PVC cable termination	No.	1	
6.14	Supply and install 70mm ² PVC.SWA.ECC.PVC cable termination	No.	1	
6.15	Supply and install 95mm ² PVC.SWA.ECC.PVC cable termination	No.	1	
6.16	Supply and install 120mm ² PVC.SWA.ECC.PVC cable termination	No.	1	
	<i>Cable Joints</i>			
6.17	Supply and install 10mm ² PVC.SWA.ECC.PVC cable joint - rate only	Item	1	
6.18	Supply and install 16mm ² PVC.SWA.ECC.PVC cable joint - rate only	Item	1	
6.19	Supply and install 25mm ² PVC.SWA.ECC.PVC cable joint - rate only	Item	1	
6.20	Supply and install 35mm ² PVC.SWA.ECC.PVC cable joint - rate only	Item	1	
6.21	Supply and install 50mm ² PVC.SWA.ECC.PVC cable joint - rate only	Item	1	
6.22	Supply and install 70mm ² PVC.SWA.ECC.PVC cable joint- rate only	Item	1	
6.23	Supply and install 95mm ² PVC.SWA.ECC.PVC cable joint - rate only	Item	1	
6.24	Supply and install 120mm ² PVC.SWA.ECC.PVC cable joint - rate only	Item	1	
	C4 - Carried to Collection			R

7	<u>LOW VOLTAGE PANELS</u>				
7.1	Supply, install and commission new generator control panel as per the DOH Specification that from part of this bid document- <i>Annexure A - Part 2: Technical Specifications.</i>	No.	1		
7.2	The 600A generator circuit breaker and controller to be part of the control panel. Supply and install a 3CR12 kiosk complete with plinth and fitted with; -600A circuit breaker -600A Isolator - 1500A Busbars and all associated cabling and wiring NOTE: Shop drawings indicating all circuit breakers, change over, busbars, ATS, etc, to be availed, reviewed and approved by the Department's Electrical Engineer before manufacturing.	Item	1		
8	<u>MAINTENANCE AND SERVICING</u>				
8.1	Service the generator and clean diesel tank during the 12 month guarantee period (2 services and 2 diesel tank cleaning at 6 month intervals) Generator minor service in accordance to the OEM requirements based on running hours and period.	No.	2		
8.2	Generator major service in accordance to the OEM requirements based on running hours and period.	No.	2		
8.3	Diesel tank cleaning and fuel remediation during major service	No.	2		
9	<u>TESTING AND COMMISSIONING</u>				
9.1	Provide Completion Documentation files x 3 with manuals (Operations and Maintenance), set of keys, panel key, completion certificates, etc.	Item	1		
9.2	Test, commission and provide Electrical Certificates of Compliance for the installation Test, commission and provide Certificates of Fire Compliance for the installation	Item	1		
10	<u>TRAINING</u>				
10.1	Allow for training of the Client (CJM Hospital Maintenance staff) in the correct operation and maintenance of the installation as per project specification requirements. Include the supply of the maintenance plan.	Item	1		
11	<u>FILLING OF DIESEL</u>				
11.1	Fill up diesel tank with 500ppm diesel at commissioning	litre	1000		
C5 - Carried to Collection					R

SECTION 2

BILL NO. 1 - GENERATOR

SUMMARY PAGE

AMOUNTS

Preliminaries and General	
Construction Cost	
Subtotal Excl. VAT	
VAT @15%	
Total Construction Cost Inclusive of VAT @ 15%	