

**DBSA CAMPUS
GENERATOR INSTALLATION**

ITEM	DESCRIPTION	UNIT	EST QTY	MATERIAL	LABOUR	TOTAL
	The supply, installation, testing, commissioning and a 52 week defects liability period in accordance with this bill of material, Local Supply Authority's by-laws & regulations, National Building Regulations, Regulations of Telkom, SANS 10142-1: 2003 (Code of Practice), Occupational Health and Safety Act, JBCC, Local Fire regulations and drawings.					
1	PRELIMINARY AND GENERAL					
1.1	<u>FIXED CHARGE ITEMS</u>					
1.1.1	SITE ESTABLISHMENT A:					
	Allow for site establishment, storage of plant, materials and equipment including protection thereof.	Sum	1			
1.1.2	SITE ESTABLISHMENT B:					
	Removal of all material, fixtures and reinstating area as it was before site establishment	Sum	1			
1.1.3	COMMISSIONING AND TESTING					
	Supply all test equipment and labour for testing and commissioning of the final installation. Including the Factory Acceptance Test (FAT) to include Client Representative and Engineer	Sum	1			
1.1.4	GUARANTEES					
	Allow for a guarantee period of 12 months against defect in equipment, material and workmanship, but wear and tear and normal against defect in equipment, material and maintenance excluded.	Sum	1			
	MAINTENANCE					
1.1.5	Allow Maintance of Generators for a period of 60 months	Sum	1			
1.1.6	SASRIA Insurance to the value of R 10 000 000-00	Sum	1			
1.1.7	Public liability / 3rd party to the value of R 10 000 000-00.	Sum	1			
1.1.8	Sets of JBCC 2000 contract	each	3			
1.1.9	Allowance for Compliance with Construction Regulations, as detailed in Occupational Health & Safety Act (OHS), Act 85 of 1993, Submission of a (OHS) plan and all applicable documentation, to the client's satisfaction	each	1			
1.1.10	Allow for obtaining all necessary permits and giving of notices and co-operation with other Trades	Sum	1			
	AS BUILT DRAWINGS					
1.1.11	The marking - up of "As Built" drawings and submitting to the engineer at the end of the installation.	Sum	1			

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1.2	<u>TIME RELATED ITEMS</u>					
1.2.1	STORAGE					
	Provide for storage of Plant, Equipment and Material on site including protection and insurance thereof	Mnth	12			
1.2.2	SUPERVISION					
	Allow for qualified site supervision during the construction period					
	Project Manager - Registered as Pr CMP with SACPCMP or equivalent	Mnth	12			
	Electrical Engineer - Registered as Pr. Eng / Pr Tech Eng with ECSA	Mnth	12			
	Site Agent - Registered as Costruction Mnsgr with SACPCMP	Mnth	12			
	Qualified Artisan with a trade test certificate	Mnth	12			
	Safety Officer - Registered with SACPCMP	Mnth	12			
1.2.3	TRANSPORT					
	Allow for Transportation and Rigging of Generators	Sum	2			
	Allow for transport cost during the construction period	Mnth	12			
1.2.4	OTHER TIME RELATED ITEMS					
	Specify and cost all other time related items not listed elsewhere as well as the period for which these items will be applicable Bond Costs	Sum				
	-	Sum	1			
	-	Sum	1			
	-	Sum	1			
	-	Sum	1			
	SUB-TOTAL TO BE CARRIED OVER TO SUMMARY PAGE					

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ITEM	DESCRIPTION	UNIT	EST QTY	MATERIAL	LABOUR	TOTAL
2	GENERATOR INSTALLATION					
2.1	Generator Installation					
2.1.1	Generator Set – 1250kVA (Prime Rated) with a set mounted circuit breaker complete with all accessories required to make the generator functional.	each	2			
2.1.2	Custom Weatherproof ISO HC Container: - Rated at 65dBA at 7m.	each	2			
2.1.3	2000A Automatic Mains Failure Panel - Panel including Changeover: - DSE7420 Controller - 2000A 3P ABB Motorised ACB's - Remote free standing indoor Panel	each	2			
2.1.4	4000A ACB's Bus Coupler	each	1			
2.1.5	Supply, deliver and install stainless steel 10000L diesel tank with automatic refuelling system, valves, solenoids, gauge, low and over full alarm system. The fuelling system shall consist of electrical pump set. The system shall be linked to the generator monitoring system. The day tank shall include new piping from the bulk diesel tank. Measurement to be taken on site by supplier.	each	1			
2.1.6	PC Interface and Software (Monitoring & Control)	Sum	1			
2.1.7	Control cables between generator/controller/change over panel	Sum	1			
2.1.8	Concrete foundation/Slab (including Bundt Wall) including soil and concrete cube tests for a 1250 kVA Generator (Canopy type). The bundt wall size should allow for 110% of the diesel tank including drain valve.	each	2			
2.1.9	2.0m high security Clear vu or simillar fencing with lockable Gate around the Generators, 15mx15m	each	1			
	SUB-TOTAL TO BE CARRIED OVER TO SUMMARY PAGE					

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ITEM	DESCRIPTION	UNIT	EST QTY	MATERIAL	LABOUR	TOTAL
3	CABLING INSTALLATION					
3.1	Cables:					
3.1.1	Rates to include for supply, delivery and installation, but excluding trenching, terminations, joints and cable supports for PVC/SWA 600/1000V copper cables laid in trenches, installed in sleeves, fixed on surface and laid on trays:					
a	300mm ² x 4-core PVC-SWA cable.	m	2870			
3.1.2	Cable Terminations: For PVC-SWA cables including armour glands, shrouds, lugs and connections:					
a	300mm ² x 4-core copper.	each	30			
3.1.3	Cable joint including joining kit, labour and accessories					
a	300mm ² x 4-core PVC-SWA cable.	each	40			
3.2	Earthing:					
3.2.1	Bare copper earth conductors installed with cables and drawn into conduits with PVC conductors as specified in the Specification, including terminations:					
a	150mm ² .	m	2870			
3.3	Excavation of cable including bedding, covering, backfilling and compaction					
3.3.1	Pickable Soil	m ³	50			
3.3.2	Soft Rock	m ³	25			
3.3.3	Hard Rock	m ³	10			
3.4	Reconfiguration of the existing Generators at the Vulindlela Building: This includes - Re- Routing the 650kVA generator from the Main Bank to feed the Vulindlela Building and Welcome Center - Tracing and Re Routing of the Existing 150mm ² x 4-core PVC-SWA cable	iten	1			
3.5	Reconfiguration of the existing LT Panel to accommodate the new installation: This includes - Changing the Panel Doors - To reflect the Emergency Power - Installing the New 4000A 3P ABB Motorised ACB's	Sum	1			
3.6	For the supply and installation of labels and a legend cards as per the standard and specification documents					
	Labelling of distribution boards - legend cards	Sum	1			
3.7	Certificate of compliance (COC)					
	For the testing, commissioning and submission of a COC document for each Distribution Board. as per the specification documents	ea	2			
	SUB-TOTAL TO BE CARRIED OVER TO SUMMARY PAGE					

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<u>PROVISIONAL BILL OF QUANTITIES</u>		
<u>SUMMARY PAGE</u>		
ITEM	DESCRIPTION:	TOTAL
1	PRELIMINARY AND GENERAL	
2	GENERATOR INSTALLATION	
3	CABLE INSTALLATION	
4	SUB TOTAL A	
5	Contangencies @ 10% - This amount will be under the control of DBSA and may be deducted after approval only	
6	SUB TOTAL A	
7	ADD VAT @ 15%	
8	TOTAL CARRIED TO FORM OF OFFER	