

**ANNEXURE F - BILL OF QUANTITIES**  
**CSIR - Cottlesloe Campus - Generator Installation**

SECTION A		RATES		TOTAL		
Nr	DESCRIPTION	QTY	UNIT		SUPPLY	ERECTION
<b>GENERATORS</b>						
<b>Supply and install Generators</b>						
1	400V, 250KVA Free-Standing Diesel Generator as per datasheet XXXXXXXX (complete with ATS)	1.00	No			
2	FAT of Generator	1.00	LOT			
3	Delivery & Off-Loading	1.00	No			
4	Generator concrete plinth	1.00	No			
5	Generator earth math	1.00	No			
6	Excavation and explore existing services	1.00	LOT			
<b>Supply and install 400V Generator change-over panel</b>						
7	Option 01 - Including Transformer Selection Panel - Complete as per drawing XXXXXX	0.00	No			
8	FAT of Generator change-over panel	0.00	No			
9	Delivery & Off-Loading	0.00	No			
10	Option 02 - ATS only - Complete as per drawing XXXXXX	0.00	No			
11	FAT of Generator change-over panel	0.00				
12	Delivery & Off-Loading	0.00	No			
<b>CABLE SUPPORT SYSTEMS</b>						
<b>Sundry Steel</b>						
13	Miscellaneous supports (Channels, beams, angle, plate etc)	15.00	kg			
<b>Cable Racking</b>						
14	200wide galv PS100 cable rack	0.00	m			
15	200wide Int/Ext Bend PS100	0.00	No			
16	200wide Hoz Bend PS100	0.00	No			
17	400wide galv PS100 cable rack	15.00	m			
18	400wide Int/Ext Bend PS100	2.00	No			
19	400wide Hoz Bend PS100	2.00	No			
<b>Trenching (MV and LV Cables)</b>						
20	Trenching, levelling, bedding and back-filling - soft soil	20.00	m <sup>3</sup>			
21	Trenching, levelling, bedding and back-filling - pickable soil	20.00	m <sup>3</sup>			
22	Cable Protection Tiles (MV Cables)	0.00	m <sup>3</sup>			
23	Cable Warning Tape (MV and LV Cables)	15.00	m			
24	Stainless Steel pole Cable markers @ 25m interval on MV Trenches	2.00	No			
25	160mm PVC Sleeves including draw wire	40.00	m			
<b>Sleeves and Manholes</b>						
26	Trenching, levelling, bedding and back-filling - soft soil	0.00	m			
27	Trenching, levelling, bedding and back-filling - pickable soil	0.00	m			
28	Brick Manholes	1.00	Nr			
29	160mm PVC Sleeves including draw wire	0.00	m			
<b>MV CABLE SUPPLY &amp; INSTALLATION</b>						
<b>Supply &amp; Install MV Cable (6.35/11kV) XLPE SWA Red Stripe - with 316 S/S banded strapping</b>						
30	6.35/11-XLPE/PVC/SWA/PVC-3C-35.0	0.00	m			
31	6.35/11-XLPE/PVC/SWA/PVC-3C-70.0	0.00	m			
32	6.35/11-XLPE/PVC/SWA/PVC-3C-120.0	0.00	m			
<b>Terminate 6,35/11kV XLPE - Red stripe cable</b>						
33	6.35/11-XLPE/PVC/SWA/PVC-3C-35.0	0.00	No			
34	6.35/11-XLPE/PVC/SWA/PVC-3C-70.0	0.00	No			
35	6.35/11-XLPE/PVC/SWA/PVC-3C-120.0	0.00	No			
<b>SERVICES LV CABLE SUPPLY &amp; INSTALLATION</b>						
<b>Supply &amp; Install LV Power Cable (600/1000V PVC/PVC/SWA/PVC) Red stripe cable - with 316 S/S Banded strapping</b>						
36	600/1000-PVC/PVC/SWA/PVC-4C-150.0	40.00	m			
<b>Supply &amp; Install LV Control Cable (600/1000V PVC/PVC/SWA/PVC) Red stripe cable - with 316 S/S Banded strapping</b>						

37	600/1000-PVC/PVC/SWA/PVC-7C-2.5	20.00	m			
	<b>Terminate LV Power Cable (600/1000V PVC/PVC/SWA/PVC) Red stripe cable</b>					
38	600/1000-PVC/PVC/SWA/PVC-4C-150.0	6.00	No			
	<b>Terminate LV Control Cable (600/1000V PVC/PVC/SWA/PVC) Red stripe cable</b>					
39	600/1000-PVC/PVC/SWA/PVC-7C-2.5	2.00	No			
	<b>BARE COPPER EARTH WIRE INSTALLED WITH AND STRAPPED TO CABLES</b>					
	<b>Supply and install BCEW</b>					
40	BCEW - 95mm <sup>2</sup>	40.00	m			
	<b>Terminate BCEW</b>					
41	BCEW - 95mm <sup>2</sup>	30.00	No			
	<b>GENERAL WORK</b>					
	<b>BUILDING</b>					
42	Core drill cable entry holes	2.00	Sum			
43	Negotiate with City power	1.00	Sum			
44	Fire extinguisher	1.00	Sum			
45	Fire foam at cable entries	1.00	Sum			
46	Formal Risk Assessment as per SANS (IEC) 62305: Part 2	1.00	Sum			
	<b>DISTRIBURION BOARD</b>					
47	Disconnect busbar link to feeder busbar and support	1.00	No			
48	Cut top entry cable holes on panel and install gland plates	2.00	No			
49	Install 400aTP adjustable circiut breaker	1.00	No			
50	Terminate cable to existing busbar	1.00	m			
51	Alterations to cover plates	1.00	No			
52	Powder coat all cover plates (Red)	1.00	No			
53	Sinages	1.00	No			
54	New buzzer and indicator lamps on board	1.00	No			

<b>CSIR - Cottlesloe Campus - Schedule of Labour, Transport and Mark-up</b>						
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SECTION B				RATES		TOTAL
Nr	DESCRIPTION	QTY	UNIT	SUPPLY	ERECTION	
B	<b>SCHEDULE OF LABOUR, TRANSPORT AND MARK-UP RATES</b>					
B1.1	Labour: The rates in dayworks are to be applied to the hours worked and are to include the cost of labour, overheads, profit, all levies, bonuses and leave pay. Time sheets specifying the time spent on work (with the names of workmen) and the materials employed in dayworks shall be issued with the claim for payment).					
	<b>Normal Hours Hourly Rate</b>					
B1.1.1	Project Manager	hr	8			
B1.1.2	Site Supervisor	hr	8			
B1.1.3	Qualified electrician (minimum N3)	hr	16			
B1.1.4	Installer (not qualified)	hr	16			
B1.1.5	Site staff	hr	16			
B1.1.6	Labourer	hr	32			
	<b>After Hours Hourly Rate (Week days after hours)</b>					
B1.1.7	Project Manager	hr	8			
B1.1.8	Site Supervisor	hr	8			
B1.1.9	Qualified electrician IE	hr	16			

B1.1.10	Installer (not qualified)	hr	16		
B1.1.11	Site staff	hr	32		
B1.1.12	Labourer	hr	32		
	<b><u>Vehicle Transport</u></b>				
	Any variations to the contract shall be claimed in accordance with the rates provided below:				
B1.1.13	Light Motor Vehicle (Load < 1 Ton) - Rate in R/km	km	400		
B1.1.14	Medium Truck (1 Ton > Load < 3 Tons) - Rate in R/km	km	200		
B1.1.15	Materials (Fixed: Building related materials)	%			
B1.1.16	Materials (Consumables)	%			
B1.1.17	Sub-Contractor/Special Services	%			
B1.1.18	Other	%			
	<b><u>Additional items required to make provision for:</u></b>				
	Additional provisional items:				
B1.1.19	a)	Sum	1		
B1.1.20	b)	Sum	1		
B1.1.21	c)	Sum	1		
B1.1.22	d)	Sum	1		
B1.1.23	e)	Sum	1		
1				<b>Sub Total - Section A</b>	
2				<b>Sub Total - Section B</b>	
3				<b>Sub-total (Section A plus Section B)</b>	
4				<b>Contingency 10%</b>	
5				<b>Total Excluding VAT</b>	
6				<b>Total Including VAT 15%</b>	