

PART I - ELECTRICAL INSTALLATION

SECTION 5 - BILLS OF QUANTITIES - BLOEMFONTEIN GOVERNMENT BUILDING: SARS

BILL NO: 2 - DISTRIBUTION NETWORK

Number	Item Description	Unit	Quant	Rate	Amount
1	New Equipment In Existing Substation New equipment to be supplied and installed in existing LV Panel, complete with connections to existing buss bars				
a	New Main Switch Panel - with 1200 Amp - 3 Phase Circuit Breaker - Schneider - NSX-N Type - 35k A - mounted in a floor standing panel with door - next to the existing Main DB (complete with bussbars, Volt meter, 3 x Ampmeters and selector switch)				
	Supply	ea	1		
	Install	ea	1		
b	Disconnect existing 4 x 120mm ² x 4 Core cables and earth wires in existing Main DB, re-route and re-connect onto 1200 Amp circuit breaker in new Main Switch Panel. (Complete with all lugs and connections)				
	Supply	Sum	1		
	Install	Sum	1		
c	New 150 Amp - 3 Phase Circuit Breaker - Schneider - D Frame - 25k A - fitted in existing DB				
	Supply	ea	2		
	Install	ea	2		
d	New 60 Amp - 3 Phase Circuit Breaker - Schneider - D Frame - 25k A - fitted in existing DB				
	Supply	Sum	4		
	Install	Sum	4		
e	Re-Label existing Main DB as 100% Emergency DB (Re-powder coat all panels red)				
	Supply	Sum	1		
	Install	Sum	1		
2	Low Voltage Cables 600/1000V PVC/PVC/SWA/PVC laid in cable trenches or on existing cable tray or drawn into existing cable sleeves				
a	120mm ² x 4 Core				
	Supply	m	400		
	Install	m	400		
b	70mm ² x 4 Core				
	Supply	m	60		
	Install	m	60		
c	50mm ² x 4 Core				
	Supply	m	120		
	Install	m	120		
d	35mm ² x 4 Core				
	Supply	m	80		
	Install	m	80		
e	25mm ² x 4 Core				
	Supply	m	150		

f	10mm² x 4 Core	Install	m	150		
		Supply	m	160		
		Install	m	160		
TOTAL CARRIED FORWARD					R	

	TOTAL BROUGHT FORWARD				R
g	4mm ² x 3 Core	Supply	m	120	
		Install	m	120	
3	Cable Termination				
	Complete as specified including lugs, glands, shrouds and other accessories				
a	120mm ² x 4 Core	Supply	ea	16	
		Install	ea	16	
b	70mm ² x 4 Core	Supply	ea	12	
		Install	ea	12	
c	50mm ² x 4 Core	Supply	ea	12	
		Install	ea	12	
d	25mm ² x 4 Core	Supply	ea	14	
		Install	ea	14	
e	10mm ² x 4 Core	Supply	ea	10	
		Install	ea	10	
f	4mm ² x 3 Core	Supply	ea	16	
		Install	ea	16	
g	Cable Joint Complete - LV - 120mm ² x 4 Core	Supply	ea	8	
		Install	ea	8	
4	Labelling of Cables				
	Labelling of cables at both ends as per detail specification				
a	Brother tape labels at both ends of cable / 2 labels per cable	Supply	ea	32	
		Install	ea	32	
5	Remove and reconnection of temporary emergency cables & DB				
	Remove and reconnection of cables in temporary emergency DB				
a.	Disconnect existing 4 x 50mm ² x 4 cables on Temporary Emergency LV DB		ea	1	
b.	Disconnect existing Temporary Emergency LV DB and hand to client		ea	1	
c.	Disconnect existing 4 x 150mm ² x 4 cables on existing Main DB		ea	1	
d.	Reconnect existing 4 x 150mm ² x 4 cables on new 1200 Amp CB in New CB DB				
	(To include making off of 4 x 150mm ² x 4 cables plus new glands)		sum	1	
e.	Disconnect , re-route and re-connect all existing cables on existing temporary generator DB		sum	1	
f.	Disconnect , re-route and re-connect existing 4 x 150mm ² x 4 cables on existing Main DB		ea	1	

	g. Disconnect existing temporary 300 A generator DB supply and feeder circuit breakers	ea	2		
	TOTAL CARRIED FORWARD			R	

	TOTAL BROUGHT FORWARD				R
6	Bare Copper Earth Conductor Laid in cable trenches, or cable rack or drawn into cable sleeves				
a	70mm ² Cu	Supply	m	400	
		Install	m	400	
b	35mm ² Cu	Supply	m	60	
		Install	m	60	
c	25mm ² Cu	Supply	m	12	
		Install	m	12	
d	16mm ² Cu	Supply	m	18	
		Install	m	18	
e	10mm ² Cu	Supply	m	414	
		Install	m	414	
f	6mm ² Cu	Supply	m	160	
		Install	m	160	
g	4mm ² Cu	Supply	m	80	
		Install	m	80	
7	Cable Sleeves Complete with all couplings, fittings, bends, galvanised draw wire and accessories				
a	110mm Ø HDPE	Supply	m	80	
		Install	m	80	
b	50mm Ø HDPE	Supply	m	120	
		Install	m	120	
c	32mm Ø Galvanised Steel	Supply	m	40	
		Install	m	40	
	TOTAL CARRIED FORWARD				R

	TOTAL BROUGHT FORWARD			R	
8	Cable Wire Baskets and Racks				
	Cable wire trays and racks, fixed to walls or hung from concrete ceiling				
a	Cable Wire Tray - Heavy Duty - 500 mm Wide for 4 x 120mm x 4 cables	Supply	m	80	
		Install	m	80	
b	Cable Wire Tray - Heavy Duty - 200 mm Wide	Supply	m	120	
		Install	m	120	
c	90 deg Horizontal Bend - Heavy Duty - 500 mm Wide	Supply	ea	8	
		Install	ea	8	
d	90 deg Horizontal Bend - Heavy Duty - 200 mm Wide	Supply	ea	12	
		Install	ea	12	
e	External Elbow - Heavy Duty - 500 mm Wide	Supply	ea	6	
		Install	ea	6	
f	External Elbow - Heavy Duty - 200 mm Wide	Supply	ea	6	
		Install	ea	6	
g	Clip On Support - Heavy Duty - for 500 mm wide tray / horizontal installation	Supply	ea	50	
		Install	ea	50	
h	Clip On Support - Heavy Duty - for 200 mm wide tray / horizontal installation	Supply	ea	80	
		Install	ea	80	
i	Threaded Rod Support Set - 2 x 10mm Dia x 400mm long, fixed to wire basket support and drilled and screwed into concrete ceiling	Supply	ea	130	
		Install	ea	130	
9	Distribution Boards				
	New distribution boards complete with all switching equipment as per drawings and specifications (Schneider type switching equipment only)				
a	New VRV - AC DB - 1	Supply	each	1	
		Install	each	1	
b	New VRV - AC DB - 2	Supply	each	1	
		Install	each	1	
	TOTAL CARRIED FORWARD			R	

	TOTAL BROUGHT FORWARD				R
c	New Extract Fan DB - 1	Supply	Sum	1	
		Install	Sum	1	
d	Disconnect, make safe and remove old Main LV DB in Basement from site. (+- 4ml x 1mw x 2.2mh)	Supply	Sum	0	
		Install	Sum	1	
e	Disconnect existing cable from Old Main LV DB (70mm ² x 4 core) and re-connect on existing CB in New Main LV DB	Supply	each	0	
		Install	each	8	
f	Earthleakage unit with overload: 6kA 60A 2Pole (CBI)	Supply	ea	12	
		Install	ea	12	
g	Circuit breaker: 6kA 10A 1Pole - Installed and wired in existing DB (CBI)	Supply	ea	86	
		Install	ea	86	
h	Circuit breaker: 6kA 20A 1Pole - Installed and wired in existing DB (CBI)	Supply	ea	148	
		Install	ea	148	
i	Circuit breaker: 6kA 25 - 30A 3Pole - Installed and wired in existing DB (CBI)	Supply	ea	8	
		Install	ea	8	
j	Circuit breaker: 6kA 30 - 60A 3Pole - Installed and wired in existing DB (CBI)	Supply	ea	6	
		Install	ea	6	
k	Contactor - 3 pole - 32Amp - 24V DC coil (Telemacaneque Type)	Supply	ea	6	
		Install	ea	6	
l	Electronic Timer for AC contactor control - 230 V /10Amp - DB mounted type	Supply	ea	6	
		Install	ea	6	
	TOTAL CARRIED FORWARD				R

	TOTAL BROUGHT FORWARD			R	
10	Temporary Connections and supplies to electrical equipment Temporary circuits to be installed. Rate to include socket outlets and removal of installation at a later stage. Max 25m from DB (surfix cable may be used)				
a	Temporary light circuit (max - 8 lights) connected to existing circuit breaker in DB	each	18		
b	Temporary normal socket outlet circuit in existing power skirting (max - 4 socket outlets) connected to existing circuit breaker in DB	each	24		
c	Temporary dedicated socket outlet circuit in existing power skirting (max - 4 socket outlets) connected to existing circuit breaker in DB	each	24		
d	Temporary UPS socket outlet circuit in existing power skirting (max - 4 socket outlets) connected to existing circuit breaker in DB	each	24		
11	Test and Commission				
a	Test & Commission Distribution Network installation and issue a SANS COC	Sum	1		
b	Test & Commission new Basement installation DB-BS and issue a SANS COC	Sum	1		
c	Test & Commission new Basement installation DB-BN and issue a SANS COC	Sum	1		
d	Test & Commission New Ground Floor installation DB-GS and issue a SANS COC	Sum	1		
e	Test & Commission New Ground Floor installation DB-GN and issue a SANS COC	Sum	1		
f	Test & Commission changes to First Floor DB1-S and issue a SANS COC	Sum	1		
g	Test & Commission changes to First Floor DB-1N and issue a SANS COC	Sum	1		
h	Test & Commission changes to Second Floor DB-2S and issue a SANS COC	Sum	1		
i	Test & Commission changes to Second Floor DB-2N and issue a SANS COC	Sum	1		
	TOTAL FOR BILL NO:2 - CARRIED FORWARD TO SUMMARY SHEET			R	