

Network Engineering & Design (Primary Plant)

Private Bag X1, Beacon Bay, East London 5205

Sunilaws Office Park, c/o Bonza Bay Road & Quenera Drive, Beacon Bay 5241

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Version 1.272

Project Information

Project Name: Dimbaza 66/11kV substation refurbishment

Project Number / F10: C.DS00073

Document Prepared by: A. Gwelana

Type of BOM: BOM (To complete outstanding scope of refurbishment)

Rev / Date Control

12-Aug-21

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Rev No. 0

Project Description

- ☐ New Substation ☒ Substation extensions
- ☐ Refurbishment ☐ Decommission only

Control / Selection

Compiled By : A Gwelana

Signature : 

Checked by : R. Reddy

Signature : 
R. Reddy, Pt/Eng
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DATE PREP. : 12-Aug-2021

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LASTEST REV :

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DIMBAZA 66/11KV SUBSTATION REFURBISHMENT

MAIN EQUIPMENT

QTY	DESCRIPTION					DT reference			SAP	ENC	BOM REVISIONS	
	kV	Equip.	Description	mm/kV	Stem ø	HyperLink	O/L No	W/D No			Rev No.	Notes
Isolators on Buyers Guide												
6	22	Isolator	No E/SW 2500 A 25 kA	31 mm/kV	Pad	D-DT-6154			0642549		0	
8			Phase tube assembly L=1860mm (Item 4 of ACTOM 66kV Isolator)				0.54/7591					See Note 1 & 2 below
4			Horizontal drive tube L=1320 (Item 5 of ACTOM 66kV Isolator)				0.54/7591					See Note 1 & 2 below
4			ACTOM 66kV Isolator)				0.54/7591					See Note 1 & 2 Below
Voltage Trfr. on Buyers Guide												
	kV	Equip.	Burden									
2	11	Voltage Trfr.	100VA class 0.2 M + 100VA class 3 P	31 mm/kV	26.0 ø	D-DT-6174			0402185		0	
Current Trfr. on Buyers Guide												
	kV	Equip.	A / kA									
6	66	Current Trfr.	1600 / 31.5 2 P classX; 2M class 0.2; 2B 1/500	31 mm/kV	38.0 ø	D-DT-6198			0180035		9	
Surge Arresters on Buyers Guide												
	kV	Equip.	Technical info									
6	66	Surge Arrestor	48kV Cont Oppr V; Effec earthed; 10kA	31 mm/kV	26.0 ø	D-DT-6212			0401595		10	
18	11	Surge Arrestor	12kV Cont Oppr V; NONEffec earthed; 10kA	31 mm/kV	M12 Lug	D-DT-6216			0401605		0	
Post Insulators on Buyers Guide												
	kV	Equip.	Technical info									
6	132	Post Insulator	TOTAL HIGHT = 1220	31 mm/kV	PCD 127	D-DT-6230	D-DT-6230		0017528		0	
24	66	Post Insulator	TOTAL HIGHT = 770	31 mm/kV	PCD 127	D-DT-6232	D-DT-6232		0017527		0	

NOTE:

1. THESE ITEMS ARE PARTS OF 66kV ISOLATORS, THERE FORE HAVE NO SAP NUMBERS.

2. 4 X ACTOM 66kV ISOLATORS HAVE BEEN INSTALLED ON SITE AND OUTSTAND ITEM 4, 5 & 6 OF OUTLINE 0.54/7591 ATTACHED.

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CLAMP AND STRAIN ASS. SCHEDULE

QTY	DESCRIPTION				MASS/UNIT		CIP	Drawing	SAP	ENC	BOM REVISIONS	
	Aluminium Conductor Clamps							HyperLink			Rev No.	Notes
	Type	Description	Degrees	Size Ø in mm	kg/Clamp	Total-kg						
12	EX-A (K-1)	CLAMP, CROSS 16.3mm - 26mm (Bolted-Bolted)	0°	16,3 to 26	2.4	28.8		D-DT-6002	0401786		0	
33	EX-B (K-2)	CLAMP, CROSS 26.5mm - 26mm (Bolted-Bolted)	0°	26,5 to 26	2.6	85.8		D-DT-6002	0401584		0	
12	EX-C (K-3)	CLAMP, CROSS 16.3mm - 38mm (Bolted-Bolted)	0°	16,3 to 38	2.6	31.2		D-DT-6002	0401788		0	
6	EX-E (K-5)	CLAMP, CROSS 38.3mm - 38mm (Bolted-Bolted)	0°	38,3 to 38	3.0	18.0		D-DT-6002	0401635		0	
12	ETC-C (TC-3)	CLAMP, T/COMP 26.5mm - 26.5mm ODG (Bolted-Compression)	0°	26,5 to 26,5	1.9	22.8		D-DT-6010	0401754		0	
12	EXC-B (KC-2)	CLAMP, B/COMP 38mm - 26.5mm ODG (Bolted-Compression)	0°	38 to 26,5	2.6	31.2		D-DT-6006	0401766		0	
66	EPC-A (SPC-1)	CLAMP, B/COMP 26.5mm PALM ODG (Bolted-Compression)	0°	26,5 to(50x50)	1.0	66.0		D-DT-6018	0401580		0	
24	EPC-D (SPC-4)	CLAMP, B/COMP 38.3mm PALM ODG (Bolted-Compression)	0°	38,3 to(50x50)	1.2	28.8		D-DT-6018	0400422		0	
6	EPC-B	CLAMP, B/COMP 26.5mm PALM 45DG (Bolted-Compression)	45°	26,5 to(50x50)	1.0	6.0		D-DT-6018	0400420		0	
6	KCP26/127	Fixed Conductor Support Clamp	PCD127	26	2.5	15.0		D-DT-6029	0401675		0	
6	EXCP-D (KCP38/127)	Fixed Conductor Support Clamp	PCD127	38	1.7	10.2		D-DT-6029	0401679		0	
18	ACC3	Acrylic clamp covers						D-DT-6055	0402649			
	Aluminium Tubular Busbar Clamps											
	Type	Description	Info	Size Ø in mm	kg/Clamp	Total-kg						
9	TBST-120/26-/C	Bus Stud Terminal Clamps (H/V) - Conductor	-	120 to 26	5.3	47.7		D-DT-6035	0213941		0	
6	TBST-120/38-/C	Bus Stud Terminal Clamps (H/V) - Conductor	-	120 to 38	5.6	33.6		D-DT-6035	0213930		0	
6	TBSI-120/26/C	Bus Stud Terminal Clamps (In Line)	-	80 to 26	5.3	31.8		D-DT-6037	0206324		0	
18	ESC-PI-F-F(TBFS-120/127)	Fixed Bus Support Clamp	PCD127	-6.2	3.4	61.2		D-DT-6086	0206343		0	
6	TBTO 120	Tub Bus/ Palm T/Off	120	80 to 26,5	4.6	27.6		D-DT-6117	0206345		0	
9	EEC-PI-SS-F(TBFX-120/ss)	Full In-line Expansion Clamp	PCD127	120 to 120	12.2	109.8		D-DT-6093	0216201		0	
21	EEC-PL-C 4 (TBEC-120)	Tubular Bus End Cap (Plain)	-	120 O.D. & 72 I.D.	-	-		D-DT-6040	0206319		0	
9	EEC-DC-C 4 (TBEC-120)	Tubular Bus End Cap (Conductor)	-	120 O.D. & 72 I.D.	-	-		D-DT-6040	0206320		0	
TOTAL MASS OF CLAMPS AS DETAILED ABOVE:					574.2 kg							
	String Assemblies										Rev No.	Notes
	Enumerative String Assembly [Details of above]											
	Description							HyperLink	SAP			
12	Clamp Pistol 4B 20mm – 30mm D6046							D-DT-6042	0400588		0	
18	Clev-Ball 16mm IEC 120 kN D6059							D-DT-6059	0167508		0	
18	Long Rod 66 kV Insulator 120 kN B/S 31C							D-DT-7029	0167609		0	
6	Pivot suspension clamp (25 - 40mm)							D-DT-7009	0402629		0	
6	Strap, Ext ST 450mm CRS 50mm							D-DT-6110	0402467		0	
6	Socket-Tongue 120kN							D-DT-6061	0010270		0	

Network Engineering & Design (Primary Plan)


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CONDUCTOR & EARTHING SCHEDULE

QTY	DESCRIPTION	Gen. Info		Drawings	CIP	SAP	ENC	Rev No.	BOM REVISIONS
	Conductor			HyperLink					Notes
200	Metres Bull Conductor 61/4 26mm AL	38.3mm Ø		D-DT-3136		0403047		0	
500	Metres Centipede Conductor 37/3 78mm AL	26.5mm Ø		D-DT-3136		0403041		0	
200	Metres Centipede Insulated Conductor 37/3 78mm AL	26.5mm Ø		D-DT-3136		0403061		0	
80	Metres Hornet PVC insulated Conductor 19/3.25mmAL	29mm Ø		D-DT-3136		0403059		0	
3	Aluminium Alloy Tubes [D655]	12m x 120mm Ø		D-DT-6000		0206318		0	
6	Aluminium Alloy Tubes [D655]	10m x 120mm Ø		D-DT-6000		0501194		0	
	Earthing	Gen. Info	See standard D-DT5085						
175	kg Round Copper Bar	10mm Ø	250 m	D-DT-6044		0400769		0	
135	kg Flat Copper Bar	50 x 3mm	100 m	D-DT-6045		0400772		0	
36	Ball joint,single earth assembly	20kA		D-DT-6081		0206118		0	
	Units Cable	Gen. Info							
240	m Metres Single Core Cable (Aluminium wire armour, PE serving)	11kV - 630mm²	XLPE-insulated	D-DT-8001		0171351		0	
	Cable Termination kit	Gen. Info							
	Type	Description						0	
6	XLPE	Term Kit 630mm² ; Per phase [Single Core Cable]	11kV Indoor	D-DT-8006		0635343		0	
6	XLPE	Term Kit 630mm² ; Per phase [Single Core Cable]	11kV Outdoor	D-DT-8006		0635344		0	