

	<h1>Proforma for Substation Tubular Clamps</h1>	Template Identifier	240-67841451
		Template Revision	2
		Document Identifier	EGEO12P02-SE-E70A
		Effective Date	01 March 2016

Scheme	NA
Project	GEORGEDALE REFURBISHMENT
Substation	GEORGEDALE SUBSTATION
Grid	EASTERN
Project WBS	TO BE ADVISED BY PROJECT MANAGER
Date	03 August 2020
Revision Number	1
Eskom Reference Documents: 240-53113923 & 240-83534936	

D6118 ESC-PI-TF: POST INSULATOR MOUNTED SUPPORT CLAMP; TUBE FIXED

Type	SAP #	Description	Note	QTY
56	ESC-PI-TF-B	Non Buyers' Guide	CLAMP,TUBE:ESC-PI-TF-B;80/127;FIXED	9

D6090 ETP-TE-IL1: TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP




Type	SAP #	Description	Angle	Note	QTY
336	ETP-TE-IL1-B45	0179974	CLAMP,TUBE:ETP-TE-IL1-B45;80/38.3;45D	45	18


ADDITIONAL NON-STANDARD CLAMPS REQUIRED

Tube Size	Conductor Size	Description	Note	QTY
461	80mm / 6mm WT	CLAMP,TUBE:EEC-PL-A;80/6;PLAIN-END-CAP	PLAIN END CAP FOR 80mm DIA 6mm WT TUBE	18

Revision Control

Rev	Date	Description	Compiled By:
1	06-Sep-19	1ST ISSUE FOR CONSTRUCTION - CONVENTIONAL CLAMPS ASSOCIATED WITH 88kV & 132kV YARD CT (AS REFLECTED ON URS) REPLACEMENT	AC LE GRANGE
2	03-Aug-20	ISSUE FOR CONSTRUCTION - GEORGEDALE REFURBISHMENT 88&132kV YARDS	AC LE GRANGE
		SUPERSEDES/DISREGARD REV 1 (QUANTITIES MUST NOT BE DUPLICATED).	

	Name	Designation	Signature	Date
Compiled By	AC LE GRANGE (DESIGNATION SNR TECHNOLOGIST)			3/8/2020
Reviewed By	S BHUDA			04/08/2020
Authorized By	S ZULU			05/08/2020

	<h1>Proforma for Substation Conventional Clamps</h1>	Template Identifier	240-67841609
		Template Revision	4
		Document Identifier	EGEO12P02-SE-E71A
		Effective Date	1 November 2018

Scheme	NA
Project	GEORGEDALE REFURBISHMENT (88kV & 132kV YARDS)
Substation	GEORGEDALE SUBSTATION
Grid	EASTERN
Project WBS	TO BE ADVISED BY PROJECT MANAGER
Date	03 August 2020
Revision Number	2
Eskom Reference Documents: TSP474-218 & 240-83534936	

D6006 EXC: BOLTED/COMPRESSION CLAMP

	Type	SAP #	Description	Note	QTY
11	EXC-A	0401752	CLAMP:EXC-A:BOLT/COMP; STEM 26 COND26.5		9
13	EXC-C	0005660	CLAMP:EXC-C:BOLT/COMP; STEM 38 COND38.3		6
14	EXC-D	0401637	CLAMP:EXC-D:BOLT/COMP; STEM 38 COND38.3		18
15	EXC-E	0005691	CLAMP:EXC-E:BOLT/COMP; STEM 38 COND38.3		15
16	EXC-F	0401639	CLAMP:EXC-F:BOLT/COMP; STEM 38 COND26.5		8
17	EXC-G	0005692	CLAMP:EXC-G:BOLT/COMP; STEM 38 COND26.5		4
21	EXC-L	0401641	CLAMP:EXC-L:BOLT/COMP; STEM 26 COND26.5		59
25	EXC-Q	0005184	CLAMP:EXC-Q:BOLT/COMP; STEM 60 COND38.3		21
26	EXC-R	0005185	CLAMP:EXC-R:BOLT/COMP; STEM 60 COND38.3		18

D6010 ETC: BOLTED/COMPRESSION T CLAMP

	Type	SAP #	Description	Note	QTY
36	ETC-C	0401754	CLAMP:ETC-C:T/COMP; RUN 26.5 TAP 26.5	Angle: 0 deg	35
42	ETC-J	0401768	CLAMP:ETC-J:T/COMP; RUN 38.3 TAP 26.5	Angle: 0 deg	63
43	ETC-K	0401756	CLAMP:ETC-K:T/COMP; RUN 38.3 TAP 38.3	Angle: 0 deg	150
44	ETC-L	0401790	CLAMP:ETC-L:T/COMP; RUN 18.1 TAP 26.5	Angle: 0 deg	9
47	ETC-P	0005167	CLAMP:ETC-P:T/COMP; RUN 38.3 TAP 18.1	Angle: 0 deg	18
51	ETC-T	Non Buyers' Guide	CLAMP:ETC-T:T/COMP; RUN 26.5 TAP 26.5	Angle: 45 deg	27
52	ETC-U	Non Buyers' Guide	CLAMP:ETC-U:T/COMP; RUN 38.3 TAP 26.5	Angle: 45 deg	27
53	ETC-V	Non Buyers' Guide	CLAMP:ETC-V:T/COMP; RUN 38.3 TAP 38.3	Angle: 45 deg	39

D6022 EY: BOLTED/BOLTED Y CLAMP (150mm SEPARATION)

	Type	SAP #	Description	Note	QTY
64	EY-B	0005631	CLAMP:EY-B:Y/BOLT; STEM 38 COND X2 38.3	Angle: 0 deg	4

D6013 EYC: BOLTED/COMPRESSION Y CLAMP (150mm SEPARATION)

	Type	SAP #	Description	Note	QTY
73	EYC-B	0005663	CLAMP:EYC-B:2X38.3 COMP 38 BOLTED 0DG	Angle: 0 deg	18
75	EYC-D	0401750	CLAMP:EYC-D:2X38.3 COMP 38 BOLTED 45DG	Angle: 45 deg	10
77	EYC-F	0401772	CLAMP:EYC-F:2X38.3 COMP 38 BOLTED 90DG	Angle: 90 deg	26
78	EYC-G	0005681	CLAMP:EYC-G:2X38.3 COMP 60 BOLTED 0DG	Angle: 0 deg	6
88	EYC-S	0401802	CLAMP:EYC-S:COMP/PALM 45DG:2X38.3 MM	Angle: 45 deg 8 Hole Pad	12

D6018 EPC: PALM/COMPRESSION CLAMP

	Type	SAP #	Description	Note	QTY
110	EPC-A	0401580	CLAMP:EPC-A:COMP/PALM 0DG:26.5 MM	Angle: 0 deg 4 Hole 100x100mm Palm	62
111	EPC-B	0400420	CLAMP:EPC-B:COMP/PALM 45DG:26.5 MM	Angle: 45 deg 4 Hole 100x100mm Palm	82
113	EPC-D	0400422	CLAMP:EPC-D:COMP/PALM 0DG:38.3 MM	Angle: 0 deg 4 Hole 100x100mm Palm	159
114	EPC-E	0400425	CLAMP:EPC-E:COMP/PALM 45DG:38.3 MM	Angle: 45 deg 4 Hole 100x100mm Palm	45

D6087 ES: NON-CURRENT CARRYING CONDUCTOR SPACER

	Type	SAP #	Description	Note	QTY
128	ES-B	0402559	SPACER:ES-B:COND 2X38.3MM;150MM CRS		413

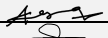


D6087 ESC: CURRENT CARRYING CONDUCTOR SPACER


	Type	SAP #	Description	Note	QTY
133	ESC-B	0206362	SPACER:ESC-B:COND 2X38.3MM;150MM CRS MM		72

ADDITIONAL NON-STANDARD CLAMPS REQUIRED

	Stem/Pad Size	Conductor Size	Description	Note	QTY
175	26mm	26.5mm	EXC- MOD 2: EXC TYPE CLAMP (90DEG)		9
176	60mm	26.5mm	EXC- MOD 1: EXC TYPE CLAMP (45DEG)		45

Revision Control			
Rev	Date	Description	Compiler
1	06-Sep-19	1ST ISSUE FOR CONSTRUCTION - CONVENTIONAL CLAMPS ASSOCIATED WITH 88kV & 132kV YARD CT (AS REFLECTED ON URS) REPLACEMENT	AC LE GRANGE
2	03-Aug-20	ISSUE FOR CONSTRUCTION - GEORGEDALE REFURBISHMENT 88&132kV YARDS	AC LE GRANGE
		SUPERSEDES/DISREGARD REV 1 (QUANTITIES MUST NOT BE DUPLICATED).	

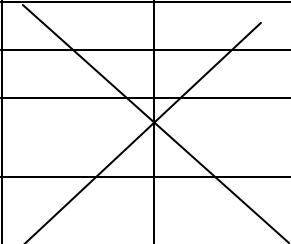
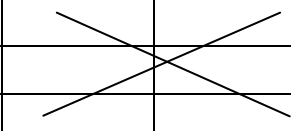
	Name	Designation	Signature	Date
Compiled By	AC LE GRANGE (DESIGNATION SNR TECHNOLOGIST)			31/8/2020
Reviewed By	S BHUDA			04/08/2020
Authorized By	S ZULU			05/08/2020

	PROFORMA FOR SUBSTATION CONDUCTOR REQUIREMENTS	Template Identifier	240-67841619
		Document Identifier	EGEO12P02-SE-E72A REV 1
		Revision	2
		Effective Date	1 November 2013
		Substation Engineering (PDE)	

To : TRANSMISSION PROJECTS MANAGER **From :** CHIEF ENGINEER (ELECTRICAL DESIGN)

REGION : EASTERN
SUBSTATION: GEORGEDALE
PROJECT No : TO BE CONFIRMED BY PROJECT MANAGER
PROJECT NAME : GEORGEDALE REFURBISHMENT PROJECT
DOC REVISION: 2
REV NOTES: ISSUE FOR CONSTRUCTION (CONDUCTOR ASSOCIATED WITH 88kV & 132kV YARD (AS REFLECTED ON URS). SUPERSEDES REV 1 (REV 1 TO BE DISREGARDED – QUANTITIES NOT TO BE DUPLICATED)

PARTICULARS OF SUBSTATION CONDUCTOR REQUIREMENTS




PARTICULARS OF SUBSTATION CONDUCTOR REQUIREMENTS						
ITEM	STOCK No.	DESCRIPTION		SUPPLIER	ORDER NUMBER	QTY
1.	14452	Bull :	61/4, 26 mm AL (38,3 mm Dia)			4556
2.	14447	Centipede :	37/3,78 mm AL (26,5 mm Dia)			1089.5
3.	14446	Hornet :	19/3,25 mm AL (16,25 mm Dia)			N/A
4.	14441	Hare :	6/4,72 mm AL 1/4,72 mm ST (14,16 Dia)			N/A
CONDUCTOR (PVC INSULATED)						
5.	14761	Bull :	61/4, 26 mm AL (48 mm O/D)			N/A
6.	14760	Centipede :	37/3,78 mm AL (36 mm O/D)			N/A
7.	14759	Hornet :	19/3,25 mm AL (29 mm O/D)			N/A
8.	80mm DIA 6WT TUBULAR ALUMINIUM CONDUCTOR					16.2m


DELIVERY ADDRESS : GEORGEDALE SUBSTATION

NOT BEFORE : NOT LATER THAN :




OFF-LOADING FACILITIES TO BE PROVIDED


PLEASE CONTACT A KHAN PHONE +27 31 279 6312 AT LEAST TWO DAYS BEFORE DELIVERY

REMARKS : ISSUED FOR CONSTRUCTION:	SIGNATURE :  3/8/2020COMPILER: A LE GRANGE
	SIGNATURE : CHECKED: S BHUDA 04/08/2020
	SIGNATURE : AUTHORISED: S. ZULU (CHIEF ENGINEER)
	DATE : 05/08/2020

	TECHNOLOGY GROUP ENGINEERING POWER DELIVERY - SUBSTATION ENGINEERING
	PARTICULARS OF SUBSTATION EARTHING REQUIREMENTS
SUBSTATION:	GEORGEDALE
PROJECT TITLE:	GEORGEDALE REFURBISHMENT PROJECT
DELIVERY ADDRESS	GEORGEDALE SUBSTATION
DOC UNIQUE ID	EGEO12P02-SE-E73A
REVISION NO.	2
NOTES	1ST ISSUE FOR CONSTRUCTION (EARTHING REQUIREMENTS ASSOCIATED WITH 88kV & 132kV YARD(AS REFLECTED ON URS) REPLACEMENT). SUPERSEDES REV 1 (REV1 TO BE DISREGARDED - QTY's NOT TO BE DUPLICATED)

SIZE	TYPE	QUANTITY
10 MM	ROUND BAR	3593
50 X 3 MM	FLAT BAR	453
COPPER EARTHING STUD	20KA - (D-DT 6081)	138
COPPER EARTHING STUD	30KA	-
COPPER EARTHING STUD	40KA	-
2 BY 10 MM	CRIMPET - 0.54/393 C5	808
EARTH CLAMP	0.54/393 SHT C6-C8	580
L-SHAPED EARTH STUD ADAPTOR (TYPE B)		46
50x3 Cu TO STEELWORK BOLTED CONNECTION (ea)		12

	Name	Designation	Signature	Date
Compiled by	A LE GRANGE	SNR TECHNOLOGIST		3/8/2020
Checked by	S BHUDA	SNR ENG		04/08/2020
Accepted by	S ZULU	CHIEF ENG		05/08/2020

	SUBSTATION ENGINEERING PROFORMA COVER SHEET	Template Identifier	240-68940324 (REV 2)
		Document Identifier	EGEO12P02-SE-E74A
		Document Revision	1
		Effective Date	1 JUNE 2016

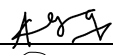


Scheme	N/A
Project	GEORGEDALE REFURBISHMENT (88Kv & 132Kv yards)
Project WBS	TO BE SUPPLIED BY PROJECT MANAGER
Substation	GEORGEDALE
Grid	EASTERN
Date	3 AUG 2020
Revision Number	1
Eskom Reference Documents:	240-120804300

Select: **LABELS** ☐ **HARDWARE** ☒

OTHER ☐ specify _____

REVISION CONTROL

Rev	Date	Description	Compiler
1	3 AUG 2020	First issue	A LE GRANGE

	Name	Designation	Signature	Date
Compiled By	A LE GRANGE			3/8/2020
Reviewed By	S BHUDA			04/08/2020
Authorised By	S ZULU	Chief Engineer		05/08/2020

CONTROLLED DISCLOSURE

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GEORGEDALE Substation

88kVV & 132kV YARD REFURBISHMENT

SCHEDULE OF HARDWARE AND INSULATOR REQUIREMENTS

ITEM	STOCK NO.	DESCRIPTION		SUPPLIER	ORDER NO	QTY.
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SINGLE STRAIN ASSEMBLY

26	11080	A40	:	26 mm Single Conductor	-----	30
27	11081	A41	:	38 mm Single Conductor & 26 mm Insulated Conductor	-----	72
32	11094	B44	:	38 x 150 mm Twin Conductor	-----	60


NOTES: * With holes for corona ring attachment (for 275kV and above).

SINGLE SUSPENSION ASSEMBLY

40	11458	D41	:	38 mm Single Conductor	-----	18
43	11286	E42	:	38 x 150 mm Twin Conductor *	-----	54

GLASS DISC INSULATOR

58	10253	U120/BS16			-----	1812
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 3/8/2020
 04/08/2020