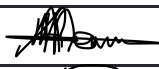


PROJECT NUMBER	2.KVES	MANUFACTURER	ASEA
STATION NAME	MATLA OVERLAND TRFR	TYPE	Transformer
PROJECT MANAGER	Lebo Maune	RATING (MVA)	1.6
ENGINEERING	Boitumelo Nkoyi	RATIO (kV)	11/3.3
CUSTOMER	GX Matla	SERIAL NUMBER	30117
DATE ARRIVED	2026/06/05	SCOPE OF WORK	Rewind

ACTION	DESIGNATION	NAME	SIGNATURE	DATE
COMPILED BY:	Snr Technician Engineering	Boitumelo Nkoyi		2026/07/17
REVIEWED BY:	Senior Engineer	David Hayes		2026/07/17
ACCEPTED BY:	Project Manager	Lebo Maune		2026/07/20
APPROVED BY CUSTOMER:	Engineer	Nkosinathi Ndima		2026/07/17

REMARKS / COMMENTS

		Business Management System Transformer & Switchgear Services Engineering Scope of Work	Document Identifier	240-94063834	Rev	3
			Effective date	04/10/2023		
			Review date	04/10/2028		
			Page	2 of 5		
Item	Activity Description	Reference(s)	Document(s)			
1	WINDINGS MANUFACTURE					
2	Manufacture 3 new HV windings as per winding specifications	240-94064354	240-94063680			
3	Manufacture 3 new LV windings as per winding specifications	240-94064354	240-94063680			
4	Manufacture associated winding insulation as per winding specifications	240-94064354	240-94063680			
5	Place windings under hydraulic press and apply compacting pressure	240-94064354	240-94063675			
6	Test continuity and parallel path on every winding	240-94064354	240-94064036			
7	Dry out windings until < 0.8 % water is achieved	240-94064354	240-94063680			
8	Place windings under hydraulic press and apply compacting pressure	240-94064354	240-94063675			
9	Test continuity and parallel path on every winding	240-94064354	240-94064036			
10	Apply assembly pressure and make adjustments as per winding specifica	240-94064354	240-94063675			
11	Conduct final inspection and deliver windings to the assembly section	240-94064354	240-94063680			
12	ASSEMBLE ACTIVE PART					
13	Clean core and test insulation resistance					
14	Supply and fit new core insulation	240-101507295	240-94064270			
15	Test IR megger core insulation	240-65216748	H-919,			
16	Supply and fit new blocking, press frames and insulation	240-102722919	94064262 200T/6			
17	Fit bottom blocking and support structures referring to drawings	240-102722919	240-94064262			
18	Fit windings to core referring to drawings	240-102722919	240-94064262			
19	Fit top blocking and press rings referring to drawings	240-102722919	240-94064262			
20	Clean, inspect and retape Tapping leads and harnesses	240-102722919	240-94064262			
21	Supply and fit new top core insulation	240-102722919	240-94064273			
22	Supply and fit new tapping lead protection wrap at all clamping points	240-102722919				
23	Fit top core clamps	240-102722919	240-94064262			
24	Pre-dry active part in vapour phase until < 0.5 % dryness is reached	240-94065380	cate supplied by C			
25	Retension windings as required for core stacking	240-102722919	94064262 200T/6			
26	Pack 1/3 of the top yoke	240-101507295	94064262 200T/6			
27	TEST ACTIVE PART AFTER PACKING 1/3 YOKE	240-65216748	917, 240-940642			
28	Test ratio	240-65216748	917, 240-940642			
29	Test magnetization	240-65216748	H-919, H-917			
30	Test IR megger core insulation	240-65216748	H-919,			
31	Complete packing of top core	240-102722919	240-94064262			
32	Fit harnessing and make temporary connections	240-102722919	240-94064262			
33	TEST ACTIVE PART AFTER PACKING FULL YOKE	240-65216748	917, 240-940642			
34	Test ratio	240-65216748	917, 240-940642			
35	Test polarity	240-65216748	917, 240-940642			
36	Test impedance	240-65216748	H-919, H917,			
37	Test IR megger core to earth	240-65216748	H-919			
38	Check and tighten all parts, locknuts etc	40-102722919-200	240-94064262			
39	Make and tape final connections	240-102722919	240-94064262			
40	TEST PERMANENT HARNASS CONNECTIONS	240-65216748	917, 240-940642			
41	Test ratio	240-65216748	917, 240-940642			

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Item	Activity Description	Reference(s)	Document(s)			
42	Test polarity	240-65216748	917, 240-9406427			
43	Test magnetization	240-65216748	H-919, H-917			
44	Test impedance	240-65216748	H-919, H917,			
45	Test resistance	240-65216748	876, 240-9406406			
46	Test IR megger core insulation	240-65216748	H-919,			
47	Final dry active part in vapour phase until < 0.5 % dryness is reached	240-94065380	cate supplied by C			
48	Final jack and tighten all parts	240-94065180				
49	Test IR megger core insulation; core to core clamps; windings to core; wi					
50	Refit tapchanger	240-94065072	240-94063690			
51	BOILERSHOP WORK					
52	Manufacture blanking plates as required	240-94065612	Notes on Drawing			
53	Modify conservator to fit new oil level indicators	103262975 and Dra	Notes on Drawing			
54	Modify tank to fit new PRV					
55	Purchase and Install OTI and WTI temperature instrument pockets on th					
56	REFURBUSH TANK AND PARTS					
57	Clean, inspect and regasket tank	240-94065180	240-94064264			
58	Clean, flush and leak test conservator tank	240-94065382	240-94064264			
59	Supply and fit new oil level indicator on conservartor	240-94065382	240-94064264			
60	Supply and fit new valves on piping	240-94065382	240-94064264			
61	Supply and fit new Buchholz isolation valves	240-94065382	240-94064264			
62	Supply and fit new breathers	240-94065180	240-94064264			
63	Supply and fit new BMT drain valve	240-94065180	240-94064264			
64	Supply and fit new filtration valve	240-94065382	240-94064264			
65	Regasket conservator tank	240-94065382	240-94064264			
66	Clean, inspect, flush and seal all pipe work, headers etc.	240-94065382	240-94064264			
67	Supply and fit new Buchholz relay	240-94065382	240-94064264			
68	Supply and fit new Buchholz oil sampling valve	240-94065382	240-94064264			
69	Supply and fit new copper tubing for oil sampling	240-94065382				
70	Supply and fit new PRV	240-94065382	240-94064264			
71	Clean, flush and leak test radiators	240-94065380	1064102 240/940			
72	Supply and fit new OTI	240-94065382	240-94064264			
73	Supply and fit new WTI	240-94065382	240-94064264			
74	Supply and fit new cables	240-94065382	240-94064264			
75	Supply and fit new bolts and nuts where required	240-94065180	240-94064264			
76	PAINTING OF TRANSFORMER AND PARTS	240-99526023				
77	Seal all parts as required before cleaning	240-99526023				
78	Tilt tank to enable painting the base underneath	240-99526023	240-94065316			
79	Clean and abrade surfaces prior to painting	240-99526023				
80	Paint tank base	240-99526023				
81	Test paint thicknesses	240-99526023				
82	Bring tank to upright position again	240-99526023				

Item	Activity Description	Reference(s)	Document(s)
83	Paint tank and parts cloud grey	240-99526023	
84	Test paint thicknesses	240-99526023	
85	Remove all protection applied (masking tape,etc)	240-99526023	
86	RING TYPE CT's		Drawing Number
87	Overhaul CT's (retape as required)	240-94065048	240-94064130
88	Dry out CT's	240-94065380	240-94063636
89	Refit CT's during final tanking of active part ensuring correct polarity	240-94065048	240-94064130
90	INSULATORS	240-119807551	240-94063920
91	Check and inspect insulators	240-119807551	240-94063920
92	Clean all insulator shells	240-119807551	240-94063920
93	Supply and fit new insulator seals and gaskets	Drawing Number	Drawing Number
94	Paint flanges and parts	240-99526023	
95	Assemble insulator	240-119807551	240-94063920
96	OFF LOAD TAPCHANGER		
97	Supply and fit new tapchanger according to engineering specification	240-94065072	240-94063690
98	Assemble tapchanger	240-94065176	240-94063690
99	Check tapchanger for correct operation	240-94065072	240-94063690
100	Fit tapchanger		
101	FINAL TANKING	240-94065180	
102	Final tank active part	240-94065180	240-94064264
103	Bolt main cover	240-94065180	240-94064264
104	Test IR megger core to earth	240-65216748	H-919
105	Fit parts (bushings, tapchanger, ancillary parts and connect ring type CT'	240-94065180	240-94064264
106	TEST TRANSFORMER AFTER FINAL TANKING	240-65216748	917, 240-9406427
107	Test ratio	240-65216748	917, 240-9406427
108	Test polarity	240-65216748	917, 240-9406427
109	Test magnetization	240-65216748	H-919, H-917
110	Test impedance	240-65216748	H-919, H917,
111	Test resistance	240-65216748	876, 240-9406406
112	Test IR megger core to earth; core to ground (tank); core to core clamps		
113	Test CT's	240-65216748	72, To register fro
114	OIL FILLING		
115	Supply oil virgin uninhibited	240-119806360	cate supplied by C
116	Polish oil to Eskom specification	240-94065342	cate supplied by C
117	Take oil sample and test for quality, kV and moisture before filling transf	240-94065342	cate supplied by C
118	Draw vacuum for 24 hrs after final tanking active part	240-136487568	4064306 240-940
119	Fill transformer with oil under vacuum	240-136487568	cate supplied by C
120	Circulate oil for 24 hrs	240-136487568	240-129636011
121	Allow 24 hrs standing time after oil circulation	240-136487568	240-129636011
122	Top up with oil and bleed bushings		
123	Take oil sample and test do dissolved gas analysis (DGA); kV and Moistur	240-94065382	240-94063910

Item	Activity Description	Reference(s)	Document(s)
124	Take oil sample and test for kV and moisture	240-94065382	240-94063910
125	TEST TRANSFORMER AFTER OIL FILLING AND CIRCULATION	240-65216748	EC-ST-H-07
126	Test IR megger core insulation; core to core clamps; windings to core; wi		
127	TEST FINAL HV	155832506, IEC 600	240-94064260, H-91
128	Test transformer tan-delta	240-65216748	240-94063602
129	Test separate source	155832506, IEC 600	H-919
130	Test induced overvoltage	155832506, IEC 600	240-94064260, H91
131	Test no load loss	155832506, IEC 600	H-919
132	Test full load loss	155832506, IEC 600	H-919
133	Take oil sample and test do dissolved gas analysis (DGA); kV and Moistur	240-94065382	240-94063910
134	Test SFRA	240-65216748	EE-F002
135	PREPARE FOR DISPATCH	240-94065316	
136	Fit impact recorder to transformer	240-94065180	240-94064264
137	Final inspection before dispatch	240-94065180	
138	Test IR megger core to earth before/after loading	240-65216748	H-919
139	Load transformer and parts for transportation to site	240-94065382	