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SENARAI SKOP KERJA DAN HARGA (BQ)

NAMA BAHAGIAN/UNIT : HT TEAM

QUOTATION TO CARRY OUT SERVICING AND REPLACE BUSHING TRANSFOMER 1 33/11kV 15MVA AT PMU IIUM GOMBAK

NO	Descriptions	Unit	RM	Total (RM)
1	Mobilization and demobilization as per contract - load, unloading and transport of oil filtration machine, Skid tank/drum, tools, hoses and equipment			
2	To provide insurance for project and equipment for the unexpected			
3	To supply and replace gasket parts that is causing the leakage. - 3 sheet 6.4mm Nebar white gasket - 9 sheet 10mm Neber white gasket - Oring for PRD - Donut/oil seal for LV bushing			
4	To supply and replace part for transformer - 4 unit new bushing for LV side transformer brand NZL - **Delivery Duration** **Refer from picture 1**			
5	**Transformer repair work as below:-** -To drain out oil below bushing level inside skid tank/clean empty drums. -To lifting top cover to enable bushing dismantle work -To dismantle and reinstall piping for conservator. -To dismantle LV bushing to enable gasket replacement.			

	-To replace gasket at LV bushing that causing the leakage. -To replace old neutral bushing with new unit bushing. -To replace new PRD with new oil seal . -To refill previously drained oil through filtration machine. -To painted transformer after service work. ***include supply 20 tons mobile crane for liftng top cover work.**			
6	**OLTC Servicing Work:-** -Supply manpower ABB OLTC trained specialist, tools and transportation to carry out servicing of one unit of ABB OLTC type UZEDT **(ABB OLTC TYPE UZEDT 200/300)** - Gasket for OLTC cover -To replace the oil in OLTC compartment via filteration machine -To carry out filteration until oil test the oil dielectric strength >60kV shall meet before energized the transformer -To supply 7 drum new transformer oil -Check and repair oltc control panel **to provide certificate of OLTC ABB specialist** **Refer from attachment name plate OLTC**			
7	To perform filtration of transformer oil inside main tank after service work (not more 60 deg Celcius and results BDV>60kV, Moisture<15ppm). To perform oil test before and after leak repair:- Measure dielectric strength (BDV) water content (ppm) **Refer from attachment name plate Transformer**			
8	To collect transformer oil sample after filtration and send it to accredited lab for oil analysis. Analysis to be carried out: i)DGA (Maintank only) ii)BDV (Main tank and OLTC) iii)Moisture Content (Main tank and OLTC)			

9	Other : -Supply and install flexible right angle bushing for cable termination cable 33kv and 11 kv -To make good bucholz system (Contact for alarm and trip not trigger when simulation by push button the signal) -Silica gel for breather			
10	To perform electrical testing for transformer before and after: -Insulation resistance -Polarization Index -Turn Ratio -Static winding resistance test -Tan Delta -Functional tx guard - Dynamic winding resistance - Insulation Resistance Test for cable 33kv & 11kv			
11	Provide competent person 33kV for ptw , switching (shut down and normalize) and monitor work			
12	Period of work			
13	Term of payment			
14	**Warranty Period 1 year for service and repair work**			
Total				

For any inquiries and site visit kindly contact our person in charge Mas Nizam 0122607932

HT CHARGEMAN DBSB
Mas Nizam

PICTURE 1

PICTURE 2 (NAME PLATE OLTC)

PICTURE 3 (NAME PLATE TRANSFORMER)

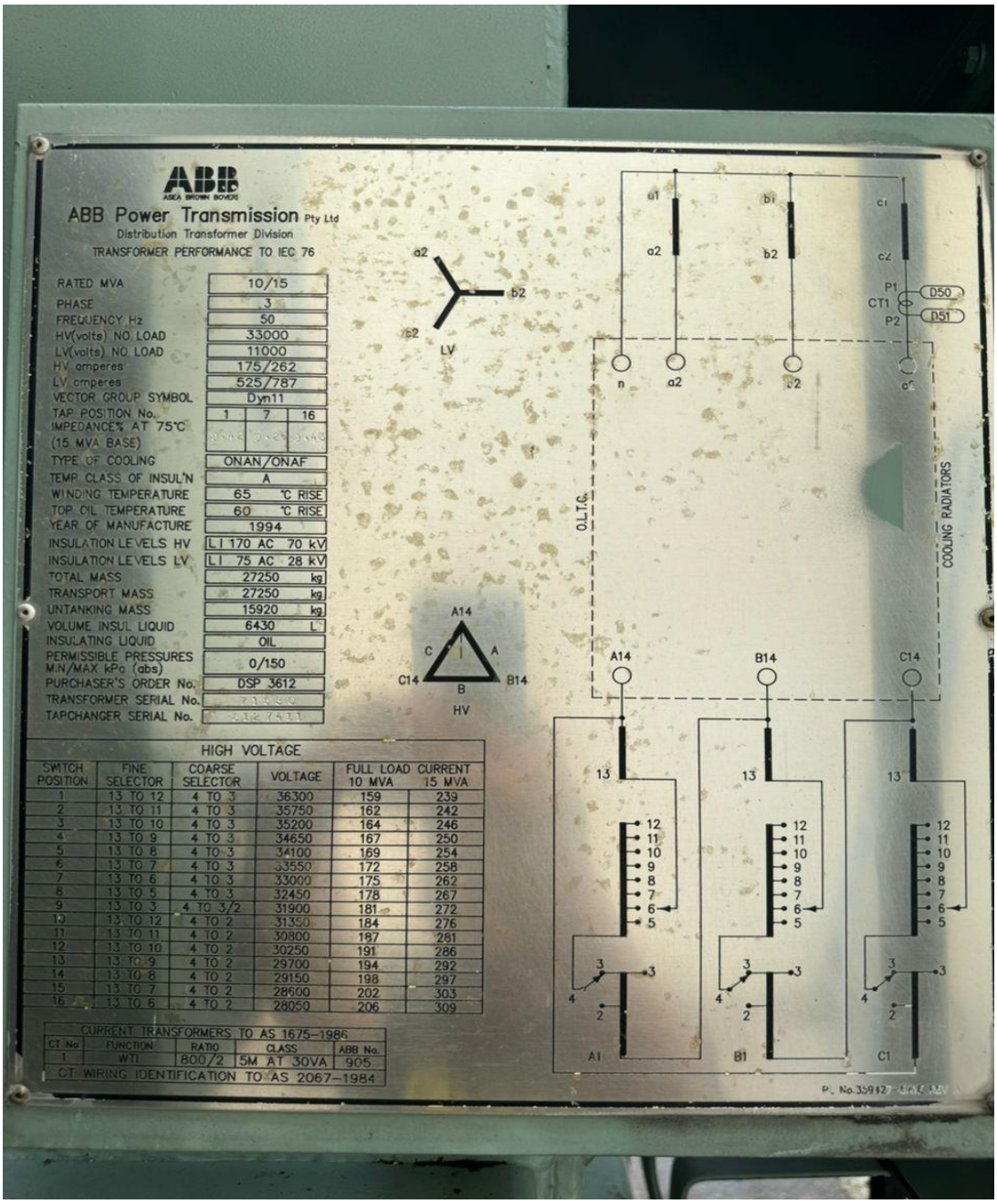

ABB
ASEA BROWN BOVERI

ABB Power Transmission Pty Ltd
Distribution Transformer Division
TRANSFORMER PERFORMANCE TO IEC 76

RATED MVA	10/15
PHASE	3
FREQUENCY Hz	50
HV(volts) NO LOAD	33000
LV(volts) NO LOAD	11000
HV amperes	175/262
LV amperes	525/787
VECTOR GROUP SYMBOL	Dyn11
TAP POSITION No.	1 7 16
IMPEDANCE% AT 75°C (15 MVA BASE)	[illegible]
TYPE OF COOLING	ONAN/ONAF
TEMP. CLASS OF INSUL'N	A
WINDING TEMPERATURE	65 °C RISE
TOP OIL TEMPERATURE	60 °C RISE
YEAR OF MANUFACTURE	1994
INSULATION LEVELS HV	LI 170 AC 70 kV
INSULATION LEVELS LV	LI 75 AC 28 kV
TOTAL MASS	27250 kg
TRANSPORT MASS	27250 kg
UNTANKING MASS	15920 kg
VOLUME INSUL LIQUID	6430 L
INSULATING LIQUID	OIL
PERMISSIBLE PRESSURES MIN/MAX kPa (abs)	0/150
PURCHASER'S ORDER No.	DSP 3612
TRANSFORMER SERIAL No.	[illegible]
TAPCHANGER SERIAL No.	[illegible]

a2 b2 c2 LV

a1 b1 c1 a2 b2 c2 P1 CT1 P2 D50 D51 n a2 b2 c2 O.L.T.C. COOLING RADIATORS

A14 C A B14 C14 B HV

A14 B14 C14 13 12 11 10 9 8 7 6 5 3 4 2 A1 B1 C1

HIGH VOLTAGE

SWITCH POSITION	FINE SELECTOR	COARSE SELECTOR	VOLTAGE	FULL LOAD CURRENT 10 MVA	15 MVA
1	13 TO 12	4 TO 3	36300	159	239
2	13 TO 11	4 TO 3	35750	162	242
3	13 TO 10	4 TO 3	35200	164	246
4	13 TO 9	4 TO 3	34650	167	250
5	13 TO 8	4 TO 3	34100	169	254
6	13 TO 7	4 TO 3	33550	172	258
7	13 TO 6	4 TO 3	33000	175	262
8	13 TO 5	4 TO 3	32450	178	267
9	13 TO 3	4 TO 3/2	31900	181	272
10	13 TO 12	4 TO 2	31350	184	276
11	13 TO 11	4 TO 2	30800	187	281
12	13 TO 10	4 TO 2	30250	191	286
13	13 TO 9	4 TO 2	29700	194	292
14	13 TO 8	4 TO 2	29150	198	297
15	13 TO 7	4 TO 2	28600	202	303
16	13 TO 6	4 TO 2	28050	206	309

CURRENT TRANSFORMERS TO AS 1675-1986

CT No	FUNCTION	RATIO	CLASS	ABB No.
1	WTI	800/2	5M AT 30VA	905

CT WIRING IDENTIFICATION TO AS 2067-1984

Pt. No.359127 [illegible]