

Scope of Work for “The Repair of 10/16 MVA , 132 KV BHEL Transformer”

Tender Ref.M&S/P&C/2017/41 dt.30/08/2017

Sl. No.	Description of Work as Specified	Units	Quantity
A	JOB INVOLVING ONLY LABOUR PORTION		
1	Removal of active parts from tank, cleaning all healthy parts including coils, Lamination, Tank, Top changer including sleeves and reassembly of core & winding with old healthy & re-wound coils and other new parts in lieu of damaged one including brazing, soldering sleeving insulating etc., as required. Over drying of assembled core & winding. re-assembled of transformer by fanking the dried core & winding assembly, changing all gasket on fank, making of technical connections to external bushings (Labor charges only). Welding of tank and other parts at the points of leakages.	LS	1
2	winding coils with new winding wire and new insulation		
a	HV winding / LV Winding / Tertiary Winding / Top Winding	Kgs	2015.00
3	winding coils with Old winding wire and new insulation		
a	HV winding / LV Winding / Tertiary Winding / Top Winding	Kgs	3385.00
4	overhauling of existing OLTC, including drive mechanism complete along with replacement of damaged parts.	Set	1
5	Radiator Overhauling and replacement of tellonwasher	each	12
6	Filtration of new oil and filling	KL	12.22
7	Proper alignment of HV Bushings	Each	3
8	Proper alignment of LV Bushings	Each	5
9	Filling of Power Transformer with nitrogen Gas with a pressure of 0.4 Kgs per sq. cm	PTR	1
B	JOB INVOLVING ONLY MATERIAL PORTION		
1	Supply of new copper winding wire	Kgs	2015.00
	Supply of new paper insulation		
2	Supply of laminated core	Kgs	1500.00
3	Supply of neutral bushings	Each	5

4	Supply of OLTC Motion Gear	Each	1
5	Supply of OLTC Surge relay	Each	1
6	Supply of OLTC guage glass	Each	1
7	Supply of OLTC Parts		
a	driving motor	Nos	1
b	motor arm assembly	Nos	1
c	Motor protection relay	Nos	1
d	Tap position indicator	Nos	1
e	Transition resistance/ Phase	Nos	1
f	Moving contact	Nos	1
g	Epoxy arm	Nos	1
h	oil seal	Nos	1
i	Fixed contact	Nos	1
j	Selector switches on local drive mechanism	Nos	1
8	Supply of Dial type thermometer(oil) with 2 contacts	Each	1
9	Supply of Dial type thermometer (winding) with 2/4 contacts	Each	1
10	Supply of Breather with Silica gel for main tank	Each	1
11	Supply of Breather with Silica gel for OLTC	Each	1
12	Supply of Magnetic oil guage (MOG) for conservator	Each	1
13	PRV	Each	1
14	Supply of Buchholtz relay	Each	1
15	Colling fans	Each	10
16	Supply of new Transformer Oil	KL	12.12
17	Supply of Radiator valve on tank.	Each	28
C	JOB INVOLVING MATERIAL & LABOUR PORTION		
1	Complete spray of Transformer tank externally with 2 coats of enamel paint (with material)	LS	1

	Painting of Transformer tank internally with Oil resistant paint with 2 coats		
2	Providing / changing of all gaskets	LS	1
3	Providing new insulation for leads (Phase and Neutral) Tap leads, interwinding connections and inter coil connections	LS	1
4	Providing new insulation for the existing Tap leads.	Each	42
5	Providing new Fan control cubical with main switch, contactors, relay and new wiring to meet requirement for more than 8 fans and upto 16 fans	LS	1
6	Parmali wooden rings	Each	3
7	Providing pressure relief valve with trip contact and alignment	Each	1
8	Providing new pipe line arrangement from Main tank to Buchholtz relay and conservator	LS	1
9	Contractor shall provide credit to BHEL for the old material for items Damaged HV/LV Coils, Damaged CRGO Laminations and OLD Scrap Oil. Details are provided in price bid format. However, these credit also shall be paid by contractor to BHEL on actual basis with joint inspection	LS	1
D	TRANSPORTATION & LOADING, UNLOADING		
1	Loading of PTR with accessories at Site	LS	1
2.	Unloading, erection, filtration and commissioning	LS	1
3	Transportation of PTR main tank with Out Oil excluding transit insurance		
a	Weighing upto 30 MT thorough Mechanical trailer	LS	LS
b	Transportation of accessories and oil barrels through lorries excluding transit insurance.	LS	LS
4	Transportation of PTR main tank with Out Oil excluding transit insurance (Return)		
a	Weighing upto 30 MT thorough Mechanical trailer	LS	LS
b	Transportation of accessories thorough lorries and oil barrels excluding transit insurance.	LS	LS
5	Transit Insurance	LS	1
6	Transit Insurance (Return)	LS	1

Other Terms and conditions

S.No	Inspection after dismantling the Transformer at contractors work shop	Bidder compliance (Yes/No)
1	Contractor needs to intimate the date for inspection for BHEL Hyderabad after dismantling the transformer	
2	Joint inspection will take place in the premises of the contractor's work shop- in the presence of TSTRANSCO, BHEL and Contractor	
3	Based on the detailed inspection, the scope will be finalized not exceeding the present scope mentioned in Part A, Part B, Part C and Part D	
4	Payment to the contractor will be done on basis of actuals as per the site inspections done at the quoted Rates in the price bid.	
5	After the work completion, Contractor has to perform the required Transformer Tests in the presence of TSTRANSCO as per applicable Indian Standards and As per the instructions of TSTRANSCO. Only after the inspection of TSTRANSCO official's upto the satisfaction of TSTRANSCO and BHEL, the transformer can be shifted to BHEL RC Puram Substation. Contractor needs to shift the Transformer to BHEL RC Puram TSTRANSCO Substation on his own transit expenditure and insurance. Only after Successful erection and commissioning of transformer and with the satisfaction of TSTRANSCO and BHEL the work will be assumed completed.	
6	Any work not specified even in this scope, which necessitates for repair, erection and commissioning of transformer shall be envisaged by the firm before submitting their tender documents to BHEL and shall include the price in their final offer price. BHEL will not pay any single rupee more than mentioned in the purchase order. However payments will be done as per the actuals with inspections and maximum upto purchase order price, which is the L1 price offered by the contractor in the price bid.	