

**Annexure-
Price Bidding Schedule:
Unloading, Dragging, Overhauling/Repair transportation & Installation of Transformer**

SI No.	Scope of work	Unit	Rate(Rs)	Qty	Amount(Rs)
1	Draining of oil in empty barrels(barrels provided by AEGCL) & dismantling of accessories like HV bushing,LV bushing, radiator bank, conservator tank carefully and sealing with blanking plate(dummy plates)of the above transformer.	Job			
2	Dragging of above transformer from site to loading point (Distance-XXXmtr approx)	MT/Mtr		(Do not Enter) Already Determined	
3	Loading of transformer & accessories on trailer	Job		(Do not Enter) Already Determined	
4	Transportation of transformer with necessary accessories & oil by low bed trailer/Axle trailer from site to factory with proper packaging as required.	MT/KM		(Do not Enter) Already Determined	
5	Unloading of transformer and accessories from trailer at works	Job		(Do not Enter) Already Determined	
B	Steps in overhauling of Power Transformer				
6	Dismantling of transformer & draining of oil.				
6.1	132kV to 220kV, upto 50MVA	Job			
6.2	Upto 220kV, above 50MVA	Job			
7	Lifting of core coil assembly. Inspect insulation of windings, winding spacers, core fixing clamps & core. Clean the core coil with hot oil. Inspect spacers, insulating cylinders, bushing end connections, brazing, tap switch & its connections, tie rod, wooden support etc and do minor repairs required if any.Re-insulation of line leads, tapping leads as required.				
7.1	132kV to 220kV, upto 50MVA	Job			
7.2	Upto 220kV, above 50MVA	Job			
8	Detection of any fault which causes evolution of gases during DGA & carry out minor repairing required for rectifying the same.(The same will be assessed during stage inspection) ** An extension of other related core tasks.				
8.1	132kV to 220kV, upto 50MVA	Job			
8.2	Upto 220kV, above 50MVA	Job			
9	Processing of core coil assembly by continuous hot air blowing on electrical oven or by using VPD till satisfactory IR value reached.				
9.1	Upto Voltage Level 132kV	Job			
9.2	Above 132kV But Upto Voltage Level 220kV	Job			

10	Cleaning of tank. The sludge on the bottom of the tank are removed by hot oil jets.Conservator,radiators and any other metal parts including associated pipes cleaned with hot oil jet to remove any traces of sludge.				
10.1	132kV to 220kV, upto 50MVA	Job			
10.2	Upto 220kV, above 50MVA	Job			
11	Changing of gasket & 'O' rings as per specification of IS.				
11.1	132kV to 220kV, upto 50MVA	Job			
11.2	Upto 220kV, above 50MVA	Job			
12	Cleaning of OLTC chamber with hot oil jet, removing of sludge, carbon deposit over fixed contact, moving contact and inside the chamber and do repairs required if any & refitting the same with new oil sealing gasket.Reinsulate the leads as required. Replacement of all oil seals gaskets etc.				
12.1	132kV to 220kV, upto 50MVA	Job			
12.2	Upto 220kV, above 50MVA	Job			
13	Complete overhauling of OLTC & changing of all the contacts, rollers along with transition resistors if required. Changing of barrier board if required. Along with replacement of all oil seals gaskets etc.				
13.1	Intank	Job			
13.2	Separate tank	Job			
14	After drying of transformer check IR value of top& bottom yoke bolts, tighten the yoke bolts, tie rods, pressure screw etc and finally core coil assembly put back to the tank.				
14.1	132kV to 220kV, upto 50MVA	Job			
14.2	Upto 220kV, above 50MVA	Job			
15	Complete assembly of the job				
15.1	132kV to 220kV, upto 50MVA	Job			
15.2	Upto 220kV, above 50MVA	Job			
16	Processing of core coil assembly in tank with N2 gas filling & vacuum drying minimum four cycles.				
16.1	132kV to 220kV, upto 50MVA	Job			
16.2	Upto 220kV, above 50MVA	Job			
17	Preparation of OIL and oil filling under vacuum.				
17.1	132kV to 220kV, upto 50MVA	Lts			
17.2	Upto 220kV, above 50MVA	Lts			
18	Pressure test of the job for checking of any leakage.	Job			
19	Final testing of the transformer	Job			

20	Any special test if required (Test may be mentioned)	Job			
21	Cleaning of external rust of all the surfaces of tank & fittings. Applying one coat of metal primer at the rusted spots. Applying two coats of synthetic enamel paint.				
21.1	132kV to 220kV, upto 50MVA	Job			
21.2	Upto 220kV, above 50MVA	Job			
C	Steps in Repairing of Power Transformer				
22	Dismantling of transformer & draining of oil.				
22.1	132kV to 220kV, upto 50MVA	Job			
22.2	Upto 220kV, above 50MVA	Job			
23	Lifting of core coil assembly. Inspect insulation of windings, winding spacers, core fixing clamps & core. Dismantling of top core fixing clamps & top core. Removing of damaged windings & design of faulty Primary/ Secondary/Regulating winding as per requirement.				
23.1	132kV to 220kV, upto 50MVA	Job			
23.2	Upto 220kV, above 50MVA	Job			
24	Manufacturing of Primary/Secondary/ Regulating winding as per requirement with fresh copper conductor. Replacement of insulation like cylinders, spacers, crape craft paper etc. Drying & compression of each coil. (As per actual)				
24.1	132kV to 220kV, upto 50MVA	Per Kg			
24.2	Upto 220kV, above 50MVA	Per Kg			
25	Clean the core with hot oil jet. Reassemble all windings by fresh insulation like blocks, oil ducts, cylinders, wooden supports etc. Reassemble the top core & core fixing clamps & refitting of core bolts, yoke bolts & tie rods etc., brazing of all the leads like line leads, tapping leads etc & insulation of tapping & line leads.				
25.1	132kV to 220kV, upto 50MVA	Job			
25.2	Upto 220kV, above 50MVA	Job			
26	Processing of core coil assembly by continuous hot air blowing through the core- coil assembly on electrical oven or by using VPD till satisfactory IR value reached.				
26.1	132kV to 220kV, upto 50MVA	Job			
26.2	Upto 220kV, above 50MVA	Job			

27	Cleaning of tank. The sludge on the bottom of the tank are removed by hot oil jets.Conservator,radiators and any other metal parts including associated pipes cleaned with hot oil jet to remove any traces of sludge.				
27.1	132kV to 220kV, upto 50MVA	Job			
27.2	Upto 220kV, above 50MVA	Job			
28	Changing of gasket & 'O' rings as per specification of IS.				
28.1	132kV to 220kV, upto 50MVA	Nos			
28.1	Upto 220kV, above 50MVA	Nos			
29	Cleaning of OLTC chamber with hot oil jet, removing of sludge, carbon deposit over fixed contact, moving contact and inside the chamber and do repairs required if any & refitting the same with new oil sealing gasket.Reinsulate the leads as required.				
29.1	132kV to 220kV, upto 50MVA	Job			
29.2	Upto 220kV, above 50MVA	Job			
30	Complete overhauling of OLTC & changing of all the contacts, rollers along with transition resistors if required. Changing of barrier board if required				
30.1	Intank	Job			
30.2	Separate tank	Job			
31	After drying of transformer check IR value of top bottom yoke bolt, tighten the yoke bolts, tie rods, pressure screw etc and finally core coil assembly put back to the tank.				
31.1	132kV to 220kV, upto 50MVA	Job			
31.2	Upto 220kV, above 50MVA	Job			
32	Complete assembly of the job				
32.1	132kV to 220kV, upto 50MVA	Job			
32.2	Upto 220kV, above 50MVA	Job			
33	Processing of core coil assembly in tank with N2 gas filling & vacuum drying minimum four cycles.				
33.1	132kV to 220kV, upto 50MVA	Job			
33.2	Upto 220kV, above 50MVA	Job			
34	Preparation of OIL and oil filling under vacuum.				
34.1	132kV to 220kV, upto 50MVA	Lts			
34.2	Upto 220kV, above 50MVA	Lts			
35	Pressure test of the job for checking of any leakage.	Job			
36	Final testing of the transformer	Job			
37	Any special test if required	Job			

38	Cleaning of external rust of all the surfaces of tank & fittings. Applying one coat of metal primer at the rusted spots. Applying two coats of synthetic enamel paint.				
38.1	132kV to 220kV, upto 50MVA	Job			
38.2	Upto 220kV, above 50MVA	Job			
39	Supply of Accessories:-				
a	Buchholz relay (1No),	Nos			
b	OSR (1No),	Nos			
c	PRV (2 Nos) one each for main tank & OLTC,	Nos			
d	Cooling fans (4 Nos),	Nos			
e	OTI & WTI meter one each.	Nos			
f	Others	Nos			
40	Replacement of HV & LV bushing as per requirement				
40.1	HV Bushing per Nos				
40.1.a	132kV to 220kV, upto 50MVA	Nos			
40.1.b	Upto 220kV, above 50MVA	Nos			
40.2	LV Bushing per Nos				
40.2.a	132kV to 220kV, upto 50MVA	Nos			
40.2.b	Upto 220kV, above 50MVA	Nos			
41	Any modification & alteration of design without effecting the basic design of transformer	Job			
42	Loading of above transformer & accessories on trailer at works after overhauling & repair	Job		(Do not Enter)	Already Determined
43	Transportation of transformer with necessary accessories & oil by low bed trailer/Axle trailer from works to site	MT/KM		(Do not Enter)	Already Determined
44	Unloading of transformer and accessories from trailer at site	Job		(Do not Enter)	Already Determined
45	Dragging of above transformer from unloading point to plinth (Distance-XXXmtr approx)	MT/Mtrs		(Do not Enter)	Already Determined
46	Installation,Erection,testing & ready for commissioning	Job			
47	Total (Ex Works- without taxes)				

Total

Rs