

Tender No:- TPSODL/OT/2024-25/058			
Package Name:- Rate Contract for Supply of Power Transformer for TPSODL			
Reply to Additional Techno Commercial Pre Bid Query			
S.NO.	Stipulation as per Technical Specificaiton	Clarifications / Confirmation	TPSODL Response
1	As per clause 4.1.27 36 KV oil filled communicating type porcelain bushings (Anti-fog type)	Being a voltage class of 36kV we would like to provide oil cummunicating type solid porcelain bushing please confirm	Ok Noted
2	As per clause 4.1.29 Polarisation index i.e ratio of megger values at 600 sec. to 60 sec for HV to earth, L.V to earth and HV to LV : Shall be greater than or equal to 1.5, but less than or equal to 5.	PI value shall be \geq to 1.5 but less than or equal to 5 during FAT (at TTDI works) and shall be \geq 1.25 at site before charging (as per CBIP).	Specification to be complied as scope of work defines for Supply of Power transformer only
3	As per clause 4.1-40b: b) Option 1: +5% to -15% in steps of 1.25% Option 2 : +4.686% to -20.28% in steps of 1.56% Note: Tapping range to be confirmed at the time of release of PO by concerned DISCOM. d) Principal Tap Position:5th	b) External flange mounted OLTC range: +4.68%,-20.28% insteps of 1.56% d) the principal tap position will be on 4th instead of 5th position	b) Tapping range should be +4.68 to -20.28 in steps of 1.56% d) Noted
4	As per clause 4.1-40h: h) All contacts should be SCADA compatible and suitable for connection to TMU j) Potential free contacts for SCADA shall be Provided p) SCADA and TMU compatibility :Yes	ROTI, RWTI, TPI(OLTC) are compatible to SCADA. Please arrange details related to inputs from transformer that is required for TMU compatibility. Also as Supply of TMU is not in our scope of supply, TMU details (like make, model , specification) are to be provided such that suitable inputs will be provided from transformer and OLTC .	Refer to CI No. 5.15, XII and CI No. 5.23. II list of details from transformer and TMU through SCADA Compatibility. Also the details to be integrated after commisioning of Power Transformer.

5	<p>As per clause 4.2: Neutral CT (Bushing CT): Supplier to provide suitably sized 2 core CT with PS class & 5P20. CTR & other parameters shall be decided during detailed Engineering</p>	<p>Please provide the complete CT details to be considered. For both PS class and 5P20 class CT Such as accuracy class, magnetizing current, secondary resistance, CT ratio, burden, knee point voltage and instrument safety factor etc.</p>	<table><tr><td>LV Neutral CTs</td><td>Core 1 (REF)</td><td>600-400/5A</td><td>PS</td><td>-</td><td>>500V</td><td><100mA</td><td>≤5</td><td><6 ohm</td></tr><tr><td></td><td>Core 2 (Stand by eff)</td><td>600-400/5A</td><td>5P20</td><td>30 VA</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>	LV Neutral CTs	Core 1 (REF)	600-400/5A	PS	-	>500V	<100mA	≤5	<6 ohm		Core 2 (Stand by eff)	600-400/5A	5P20	30 VA	-	-	-	-
LV Neutral CTs	Core 1 (REF)	600-400/5A	PS	-	>500V	<100mA	≤5	<6 ohm													
	Core 2 (Stand by eff)	600-400/5A	5P20	30 VA	-	-	-	-													
6	<p>As per clause 5.1,III) All fasteners of M10 and below size should be of stainless steel. All fasteners of M12 and above size should be hot dip galvanized. To achieve a good quality corrosion free painting, bidder should provide epoxy plus polyurethane paint with minimum paint thickness of 120 microns.</p>	<p>Painting on external fasteners (wherever applicable) will be provided as per manufacturer’s practice only.</p>	<p>Specification to be complied</p>																		
7	<p>As per clause 5.1, V) The framework and the core bolts shall be efficiently insulated from the core so as to reduce the eddy-currents to a minimum.</p>	<p>Our core construction well be of Boltless type hence core bolts are not applicable.</p>	<p>Specification to be complied</p>																		

8	<p>As per clause 5.1 XVII. Magnetic oil level indicator shall comprise with 2 nos. mercury contact/switch (for High / Low oil level alarm).</p>	Magnetic oil level indicator provided is with micro switches instead of mercury contact/switch as mercury is banned to use in Industrial applications.	OK Noted
9	<p>As per clause 5.2, II) The core shall be stress relived by annealing under inert atmosphere if required,</p>	We would like to bring to your kind notice that annealing is not required considering our manufacturing process where lamination slitting, cutting & stacking machinery is done through high degree of automation thus handling of laminations is reduced substantially and hence annealing is not necessary.	Specification to be complied
10	<p>As per clause no. 5.2(XI): All steel sections used for supporting the core shall be thoroughly sand blasted after cutting, drilling and welding.</p>	All steel sections used for supporting the core shall be thoroughly sand/Shot blasted after cutting, drilling and welding.	Ok Noted
11	<p>As per clause no. 5.4(ii) Inter layer insulation both for HV and LV windings shall be DPC and compressed pressboard of reputed make (subject to approval of TPCODL/TPNODL/TPWODL/TPSODL).</p>	As required transformers voltage class is of 33/11kV, both HV & LV windings will be Disc winding, so inter layer insulation is not applicable.	For inter layer insulation compressed pressboard of reputed make is applicable.
12	<p>As per clause no 5.5 (x) Manholes with welded flange and bolted covers shall be provided on the tank.</p>	All inspection covers provided are of bolted type except OLTC inspection covers which are of stud type.	Specification to be complied
13	<p>As per clause no 5.5 (xxi). For the auxiliary lead wiring from individual instrument to marshalling box, the cables shall be provided in the conduits</p>	Cable conduits not required as cables will be running through G.I cable trays.	Ok Noted
14	<p>As per clause no 5.5 (xxiv). Transformer tank shall be of welded sheet steel construction and provided with gaskets steel cover plates</p>	Transformer tank provided is with welded sheet construction except top cover. Top cover is bolted with suitable gasket arrangement.	Specification to be complied

15	<p>As per clause no: 5.7(i) Mentioned Air-less spray shall be applied.</p>	We will provide our conventional spray painting method as per our regular manufacturing practice, Please confirm	Specification to be complied
16	<p>As per clause no: 5.8(ix) The bushings shall have a link type isolating facility for tap for maintenance tests viz. power factor measurement etc. (Terminal shall be provided for the measurement of power factor and tan delta).</p>	This is applicable only when cable box is required,for open type(Bare bushings) these are not applicable.	Specification to be complied
17	<p>As per clause no:5.8.I All main winding leads shall be brought out through outdoor type bushings as specified which shall be so located that the full flashover strength will be utilized and the adequate phase clearance shall be realized.</p>		
18	<p>As per clause no:5.8 Option 1: (33KV Indoor AIS/GIS and 11KV indoor AIS) a. For 33 KV side cable termination, Palm Connector & Extended copper Busbar of suitable size (60mm X 10mm) for termination of 1 runs of 3C x 400 sqmm Option 2 : (33KV Outdoor Switchyard and 11KV indoor AIS) a. On 33KV side, suitable provision to connect Zebra/Panther/Dog/Coyote Conductor. b. For 11 KV side cable termination, Palm Connector & Extended Copper Busbar of suitable size</p>	<p>Please confirm the required bushing termination i.e bare bushing termination with extended busbar or cable box termination, for both HV and LV side.</p> <p>Also elaborate about HDPE cleats for better understanding purpose.</p>	Bare bushing to be consider on both side with conductor termination arrangements only and HDPE cleats are not in bidder scope of supply.

19	<p>As per clause no:5.11 i) Type: Type-II Unhibited</p> <p>As per clause no:5.1 ii)All covers and seals shall be oil and airtight and shall not be affected by mineral or synthetic oil action.</p>	We are proceeding with Mineral oil (as per latest version IS335 Type-II Unhibited)	Oil shall be in provision of IS 335
20	<p>As per clause no: 5.12(v) All bolts shall be provided with one spring washer and two numbers of flat washers and with locking bolts.</p>	These will be provided wherever it is necessary based on manufacturer's std. practice, Please confirm	Specification to be complied
21	<p>As per clause no: 5.5(ix) To ensure oil tightness, recessed neoprene or equivalent gaskets shall be used</p> <p>As per clause no: 5.5(XXVII) Gaskets of nitrile rubber or equivalent shall be used to ensure perfect oil tightness. All gaskets shall be closed design (without open ends) and shall be of one piece only.</p> <p>As per clause no: 5.12(v) Gaskets shall be NRBC (Nitrile Rubber Bonded Cork)</p>	Gaskets shall be Rubberized bonded cork gaskets as per IS:4253-II gr. RC-70C(type-C) with joints which cannot be over pressed / damaged while tightening are provided wherever applicable.	Specification to be complied
22	<p>As per clause no: 5.6 Before painting, surface preparation shall be done by sand blasting and procedure for sand blasting has to be submitted by the Vendor along with the bid.</p>	Surface treatment is done by Shot blasting in accordance with ISO 8501 Part 1 to a minimum requirement of SA 2½ to make the surface free from oil, grease, mill scale, rust, paint coatings and foreign matter.	OK Noted
23	<p>As per clause no: 5.13(iv) Prismatic oil level indicators with red color float shall be provided on main tank and OLTC tank Conservator.</p>	Plain prismatic oil level gauges without float and with clear visibility of oil level is provided. Oil level details can be taken from MOG provided on main conservator and OLTC conservator. Further this is in-line with our regular supplies to all TATAPOWER orders.	Specification to be complied

24	As per clause no: 5.14 (v) Silica gel/Silica gel beads breather along with the explosion vent assembly	Silica gel breather will be provided without explosion vent assembly.	Silica gel/Silica gel beads breather along with the explosion vent assembly or PRV
25	As per clause no: 5.15(v) & 5.16 OSR cable entry in terminal box to be from bottom side.	We are providing OSR cable with entry from side of the component as per supplier standard catalogue product, Please confirm.	Specification to be complied
26	As per clause no: 5.17 & 5.22: PRV & MOG components shall be marked with TPCODL/TPNODL/TPWODL/TPSODL	As these are supplier's standard products they will not provide such type of markings.	Ok Noted
27	As per clause no: 5.19 OTI A dial-type indicating thermometer of robust pattern mounted on the side of the transformer at a convenient height to read the temperature in the hottest part of the oil and fitted with alarm and trip contacts and contacts for switching in and switching out the cooling system at predetermined temperatures.	OTI is provided inside the marshalling box only.	Specification to be complied
28	As per clause no: 5.20 iv) All the interconnected wiring between TJB, Marshalling box and OLTC etc	TJB and respective wiring is not our scope of supply.	Specification to be complied
29	As per clause no: 5.22 Mentioned MOG should have cable disconnecting facility at top, to facilitate testing of MOG.	We are providing MOG and suitable function of this MOG (i.e, NO / NC) can be verified at terminal blocks in Marshalling box where this MOG is terminated, Please confirm.	Specification to be complied (MOG shall be provided with disconnecting TB's)
30	As per clause no. 5.26(iv) mentioned radiators shall be metal spray painted. As per clause no 5.9 The radiators shall be epoxy painted.	For external of radiators epoxy base primer with Polyurethane (PU) paint as final coat is only provided. Further this is in-line with our regular supplies to all TATAPOWER orders.	Specification to be complied

31	<p>As per clause no.5.27 MAKE OF MAJOR COMPONENTS & RAW MATERIALS The BA shall procure the following constituent items from the designated vendors as follows:</p> <p>RAW MATERIAL/EQUIPMENT MAKE a) Copper M/S Sterlite, M/S Hindustan Copper, M/S Hindalco. b) Core M/S AK Steels, POSCO, Kawasaki/ JFE,Nippon Steel. c) Insulation paper and Pressboards ITC paper, ABB, Raman Boards- Mysore,Senapathy Whiteley – Bangalore d) Transformer Oil (Mineral oil) Savita, Apar, Gandhar. e) Gaskets & Corks Nu Cork, Anchor Corks. f) Steel For Tank M/s, TATA Steel, M/s SAIL, M/s. JSW Steel,M/s. IISCO, M/s. RINL/Vizag Steel, M/s. Jindal Steel. g) Dehydrating Breather Yogya, Anushree, Electrical engineers h) Buchholz, PRD, SPR, OTI , WTI, and other devices Reputed make to be approved by TPCODL during detailed engineering.</p>	<p>Regular standard reputed makes of these material will be provided (in line to our regular supplies to TATA boards). Makes related to some of the Raw material / equipment is as follows:</p> <ul style="list-style-type: none"> • Copper: - Hindalco India Ltd, Vedanta limited –Silvassa, Sterlite, Hindustan Copper. • CRGO Core: -Nippon steel, AK steel, POSCO, Kawasaki/JFE, THYSSENKRUPP ELECTRICAL STEEL INDIA PVT LTD. • Insulation Pressboard:- ABB India ltd , Senapathy Whirtely, Raman board, Global board. • Insulation paper: - SENAPATHY WHITELEY PVT LTD, ITC paper, ABB, Cindus corporation. • Transformer oil(Mineral oil) : Savita, Apar, Gandhar ,Raj petro • MS sheets/Plates:-TATA steel , SAIL , JSW steel , IISCO,RINL/VIZAG steel , Steel Authority of India Ltd, Arcelor Mittal Nippon Steel India Limited, Jindal steel & Power Ltd(JSPL) • Gaskets & Corks: - Nu Cork, Anchor Corks • Dehydrating Breather : - Yogya, Anushree, Electrical engineers 	<p>Specification to be complied</p>
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32	<p>As per specification clause no 6: QR code shall be provided on name plate. QR code shall content the name plate details, approved GTP/Drawing and a video of overall functionality of transformer & associate components.</p>	We are providing the details on QR plate as per the regular supplies to TATA POWER	Specification to be complied
33	<p>As per specification clause no 6: II. Sign writing shall also be provided as per the format attached with this specification.</p>	As respective format is not provided with the technical specification this sign writing is not provided	Name Plate as per standard to be provide
34	<p>As per specification clause no: 7: (testing) 7.1 ROUTINE TESTS 7.2 TYPE TESTS</p>	All routine tests and type tests shall be performed as per the mutually agreed QAP (QAP/CEQG/TPCODL/2312026) dated 15.04.2024 followed for earlier executed orders(TPCODL/CCG/23-24/014).	Specification to be complied
35	<p>As per specification clause no: 7: (testing) 7.1.25.Neutral Unbalance Test: Measurement of Neutral current during load loss test which shall not be more than 2% of the rated current of the transformer.</p>	We understand that this point is added from old specification(Tender No:TPCODL/CCG/23-24/014) ,However this test will be treated as special test & Performed on one job per design during FAT. With acceptance criteria to be consider as per CBIP manual.	Specification to be complied
36	<p>As per specification clause no: 7: (testing) 7.2 (9)TYPE TESTS(SC Test)</p>	<p>It will not be conducted</p> <p>We had already conducted Similar capacity SC test for 5MVA,33/11kV(NLL/LL:3600/18000W) dated March,2024 & for 8 MVA,33/11kV(NLL/LL:5000/41800W) dated July,2020.So will submitte above SC report (5 MVA & 8 MVA) to obtain type test waiver</p>	Type Test Reports for Relevant specification and all the tests shall be conducted at CPRI / ERDA as per the relevant standards. The Type tests should have been conducted in during the period not exceeding 5 years from the date of opening the bid.

37	<p>As per clause no 6 .f Tan delta value of insulating oil and kraft paper of transformer.</p>	<p>Tan delta value of insulating oil & kraft paper to be considered from respective oil supplier's datasheets/test reports. And also with reference to our regular supplies to TATA POWER customers till date these values were not provided in rating plates. Hence for this present tender also the same are not provided in rating plate drawing</p>	Ok Noted
38	<p>As per clause no 6 .1.11 Magnetic balance test.</p>	<p>Magnetic Balance Test will be performed during Final Inspection on Transformer from STAR winding side. The limitation creteria shall be As per CBIP</p>	Specification to be complied
39	<p>As per clause no 10.g g) Shock/Impact recorder data analysis to be submitted by bidder to ascertain the concealed damage. (SFRA to be done before energising the PTR at site).</p>	<p>For these smaller rating power transformers shock/impact recorders are not required and same are not provided.</p>	Ok Noted
40	<p>As per clause no 12.0 iv) Provisions for monitoring of oil and gas pressure during transport and storage and a make-up Nitrogen cylinder shall be made</p>	<p>As these smaller rating transformers will be dispatched in oil filled condition up to transport oil level gauge and hence Nitrogen cylinders, Pressure gauges, provision for monitoring oil and gas pressure during transport & storage and make up nitrogen cylinders is not required</p>	Specification to be complied
41	<p>GTP-3.2 Use of continuously transposed conductor (CTC) in LV winding.</p>	<p>Being a ratings of 5 and 8 MVA, HV and LV currents will be on lower side we would like proceed with DISC winding on both HV and LV</p>	Specification to be complied
42	<p>GTP-10: a) Partial discharge level b) Noise level</p>	<p>a) Being a 33 kV class transformer we don't suggest Partial Discharge test. If the same is mandatory, it will increase cost of transformer. Please advice. b) we are proceeding as per NEMA-TR-1</p>	<p>a) Partial discharge test is not applicable b) Ok Noted</p>

43	GTP-10: 30) Whether Neutral end surge diverter recommended by bidder	We are not recommending Neutral end surge diverter.	Ok Noted
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