Format for Pre-Bid Queries :	**Technical**		
Tender No :	TPSODL / OT / 2021-22 / 087		
Package Name :	Rate Contract for Supply of 33/11 KV Power Transformers of various Ratings		
Name of Bidder :			

Sr. No.	Detailed Reference to Tata Power Technical Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Tata Power Response
1	2	3	4	5
1	clause No.2.2	Capitaliztolerance of losses will be as per Annexure B which is attached herewith. No ()ve tolerance shall be allowed at any point of time, on the quoted losses after the awarded. In case, the losses during type testing, routine testing etc. are found above the quoted losses, the award shall stand cancelled. In such a case, the CPG money shall also forfeited.	Since different power utilities in India had different specifications for Power transformers and the watt losses of the transformers differed from one power utility to another, in an effort to standardize the technical specification which would be applicable to all the Power Utilities/Electricity Boards uniformly, the Ministry of Power, Government of India formed a Committee A to bring out a uniform technical specification. In the report of Committee A they standardized the technical specification of Power transformers and did away with the condition of capitalization of losses while evaluation of tenders so that the specification becomes applicable all over India uniformly without any deviations, as otherwise it would give way to unhealthy competition amongst bidders. Various Power Utilities/Discoms viz. All Discoms of Uttar Pradesh, All Discoms of Madhya Pradesh, All Discoms of Rajasthan have already adopted the aforesaid Technical Specification of Committee A for Power Transformers in toto without any deviation. We enclose herewith "Report of Committee A on Ministry of Power Initiative to facilitate States in Mobilisation of Quality Equipment/Materials at Competitive Prices" comprising of 298 pages. The Committee A at page commencing from no.87 have finalized the Technical Specification for Power Transformers. At its page no.90 Cl.2.2 under the Heading CAPITALISATION OF LOSSES AND LIQUIDATED DAMAGES it is mentioned "Not applicable for bid evaluation purposes". We therefore request that the condition of capitalization of losses while evaluating the prices of the aforesaid tender be done away with in line with the Committee A specification. Besides, this clause was removed against your Tender No. TPSODL/OT/2021-22/054. So please remove capitalization of losses from this tender also.	**Capitalization of losses is not applicable**
2	GTP - Point No. 42	Particulars of Bushings and Neutral CT	Please provide Neutral CT details / specification	**For 3.15MVA CT Ratio :- 400-200/1-1 For 5 MVA CT Ratio :- 400-200/1-1 For 8 MVA CT Ratio :- 600-300/1-1 Class - 5P20 & PS, Burden- 30 VA Knee Point Voltage - Vk>=250 V (At 200/1A) Vk>=325V (At 300/1A) Vk>=500V (At 400/1A) VK>=750V (At 600/1A) Maximum excitation current (Ie) @ Vk/2 shall not be greater than 30mA**
3	Page No. 73 of Tender Documents	NITROGEN INJECTION DRAIN AND STIR SYSTEM and its related provisions / arrangements	Please confirm whehter suppy of this system is in the scope of mannufacturer.	**NIDS is not in the scope of bidder**
4	GTP - Point No. 29	Terminal Arrangement - HV & LV	Terminal Arrangement : HV - Bare bushing, LV - Cable Box. Kindy confirm	**LV Termination & HV termination is with bare bushings.**
5	TS - Clause No. 2 and 7.13.7	As per Clause No. 2, Oil and Winding temperature is : 40 & 45 Deg. C. As per Clause No. 7.13.7, Oil and winding temperature are : 45 & 55 Deg.C	Please confrm actual requirement	**specification to be complied as per clause no - 7.13.7**
6	Page No. 58, Clause No. 13	Tap Changer Control and Transformer Monitoring Unit (TMU) is not to be supplied by the bidder of the Transformer.	We understand that Tap Changer Control, AVR and TMU are o not in the scope of bidder. Please confirm.	**Tap Changer Control and Transformer Monitoring Unit (TMU) are not to be supplied by the bidder of the Transformer**
7	Clause NO. 8.2.1 (A) special Test	ACLD and SFRA Tests	These tests are not applicable for small rated / voltage class transformers. Please confirm	**Noted**
8	Clause No. 7.1.16 Page NO. 40	The tank shall have an oil tight bolted flanged joint near the base of the transformer so that the tank can be lifted off to provide access to the core and coils.	This provision is applicable only in 220 KV and above votlage ratio transformers where the weight of the CCA is too heavy. Hence, it is not recommended nowhere for such small voltage ratio of 33 KV Transformers. Hence request you to delete this clause.	**Noted**

1	2.SPECIFIC TECHNICAL REQUIREMENTS	3. Type of installation - Outdoor	We understand that, LV Termination & HV termination is with bare bushings. Kindly Confirm.	

		28(a). HV winding line end 36 KV oil filled communicating type porcelain bushings (Anti-fog type) 28(b). LV winding 12 KV porcelain type of bushing (Anti-fog type) – for outdoor 11 KV breakers (11KV Power cables shall be used for extending supply to 11KV breakers in case of indoor circuit breakers. The termination of 11 KV cables on LV bushing shall be through extended copper bus bars suitable to hold power cables termination. A metallic cable termination box, completely sealed, shall be installed on LV side of the transformer in which cables shall enter from bottom gland plates.)	If LV cable Box is required, please provide Cable Box details • Cable sizes • Number of runs. Cable Glands, Cable Lugs and Cable Termination Hardware's are not in TTDI scope of supply	**LV Termination & HV termination is with bare bushings.**
2	8.2.1(A) Special Test	The short circuit test shall be a mandatory test for each design shall be supplied by the manufacturer	We have already conducted type tests on similar rating 3.15MVA, 33/11kV, OCTC, 5MVA, 33/11kV, OLTC & 8MVA, 33/11kV, OLTC power Transformers. Accordingly type test reports of short circuit test, Lightning Impulse Withstand voltage test & Temperature rise tests are availabe with us. Kindly accept the available type test reports and issue the waiver for short circuit test. However, following type tests shall be carried out on one transformer of each rating, at our works, in presence of TPSODL representative. 1. Temperature rise test 2. Impulse Test (Including chopped wave on all the three limbs of HV & LV).	**Type test report for short circuit test on the same design as per tender requirement shall be acceptable**
3	8.2.1(e) Special Test	Long duration induced AC voltage test (ACLD) transformer winding 72.5 <Um≤ 170kV.	As per clause.no. 8(a) & (b) of 2. SPECIFIC TECHNICALREQUIREMENTS; Highest continuous system voltage: a) Maximum system voltage ratio (HV / LV): 36KV / 12 KV b) Rated voltage ratio (HV / LV): 33KV /11KV HV and LV System voltage (Um) doesn't fall in this category. So it is not applicable.	**Ok Noted**
4	Cl. No 11 Automatic / Parallel Operation with OLTC Clause no. 1.1 of TS Clause no. 13 of TS:	Clause no. 11 of TS: OLTC shall be able to do automatic / parallel operations through Transformer Monitoring Unit (TMU). Clause no. 1.1 of TS: 5.00 MVA - ON Load in Tank/Flange Mounted type Tap Changer (with TMU Control Panel) 8.00MVA-ON Load in Tank / Flange Mounted type Tap Changer (with TMU Control Panel) Clause no. 13 of TS: Tap Changer Control and Transformer Monitoring Unit (TMU) is not to be supplied by the bidder of the Transformer.	These clauses are contradictory to each other. We presume the Tap change control, AVR, RTCC and transformer monitoring unit (TMU) are not in bidder scope of supply. Please check and confirm the same.	**Tap Changer Control and Transformer Monitoring Unit (TMU) are not to be supplied by the bidder of the Transformer.**
5	Clause 7.1.36	Suitable arrangement shall be made for mounting HV and LV lightning arrestors of the transformer.	We understand only provision is requried and LA's are in the scope of TPSODL.	**Ok Noted**

<table>
<tr>
<td>6</td>
<td>clause no:2(34): SPECIFIC TECHNICAL REQUIREMENTS</td>
<td>Clause no. 34 of 2.SPECIFIC TECHNICAL REQUIREMENTS

Annexure-B
Methodology for computing total owning cost for Power Transformer
A factor=Cost of no load losses in Rs/KW (A = 334447)
B factor = Cost of load losses in Rs/KW (B = 151616)</td>
<td>With a goal for energy efficent products, TATA Power - Mumbai is procuring power transformers with Captilization for establishing a reliable and quality products in the network.

Accordinlgy we request you to kinldy allow the bidders to consnider the Capitalization of losses as per Annexure-B of specification.

If Capitalization is aplicable, in the losses table in Clause.no. 34:
No-load losses shall not be on fixed basis as bidder may provide better losses to achieve better capitalization values.
<table>
<tr><th>MVA Rating</th><th>No-load losses (Fixed loss) KW</th><th>Load losses at 75°CKW</th></tr>
<tr><td>3.15</td><td>3</td><td>16</td></tr>
<tr><td>5</td><td>4</td><td>23</td></tr>
<tr><td>8</td><td>5.5</td><td>40</td></tr>
</table>
</td>
<td>Capitalization of losses is not applicable</td>
</tr>
<tr>
<td>7</td>
<td>As per Specification, clause no:1.2

As per Specific Technical Requirements-Point-21

As per Specification, clause no:7.4.2-Core</td>
<td>As per Specification, clause no:1.2
The maximum flux density under 10% overvoltage condition should not be more than 1.9 Tesla
As per Specific Technical Requirements-Point-21
Maximum Flux Density in any part of the core and yoke at rated MVA with +112.5% combined voltage should be 1.9 Tesla\
As per Specification, clause no:7.4-Core
The maximum flux density in any part of the cores and yoke at normal voltage and frequency shall not be more than 1.69 Tesla.</td>
<td>We will proceed as per clause no. 7.4.2

The maximum flux density in any part of the cores and yoke at normal voltage and frequency shall not be more than 1.69 Tesla.</td>
<td>The flux density in any part of the cores and yoke at normal voltage and frequency shall not be more than 1.69 Tesla.
&
The flux density at 10% over voltage condition should be 1.859(1.69x1.1) Tesla and flux density at 112.5% of combined voltage and frequency variation condition should be 1.9 Tesla.</td>
</tr>
<tr>
<td>8</td>
<td>As per Specification, clause no:4

As per Specific Technical Requirements-Point-8(a)</td>
<td>As per Specification, clause no:4- System conditions
Mentioned Maximum system voltage for 33kV System as 36.3 kV.
As per Specific Technical Requirements- Point-8(a)
Maximum system voltage on HV -36kV</td>
<td>We are considering the Maximum system voltage on HV side as 36kV as per IEC 60076. Please confirm.</td>
<td>Ok Noted</td>
</tr>
<tr>
<td>9</td>
<td>As per Specification, clause no:7.1.6

As per Specification, clause no:7.13.2</td>
<td>As per Specification, clause no:7.1.6
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. Rubber gaskets used for flange ype connections of the various oil compartments, shall be laid in grooves or in groove- equivalent sections on bolt sides of the gasket, throughout their total length.

As per Specification, clause no:7.13.2
All bolted connection to the tank shall be fitted with suitable oil-tight gaskets which shall give satisfactory service under the operating conditions. Gaskets shall be of rubber/Nitrate</td>
<td>We request you to kindly amend this clause as Gaskets of Nitrile rubber bonded cork or Neoprene rubber bonded cork or equivalent shall be used to ensure perfect oil tightness conforming to type-'C' grade RC 70-C of IS:4253 (part ii)-1980. Which cannot be over pressed / damaged while tighten.

Kidly note that groove is not requried for this capacity of tranformers which is economically burden. Currently TPNODL, TPDDL & TATA Power Mumbai also usinig the gaskets as per above only. So we request you to kindly amend the clause accordingly.</td>
<td>OK Noted</td>
</tr>
<tr>
<td>10</td>
<td>As per Specification, clause no:7.4.13</td>
<td>As per Specification, clause no:7.4.13
Oil ducts shall be provided, where necessary, to ensure adequate cooling inside the core.</td>
<td>Oil ducts will be provided in winding only & for this capacity of transfomrer Oil ducts for core is not required. Please confirm.</td>
<td>Ok Noted</td>
</tr>
<tr>
<td>11</td>
<td>As per Specification, clause no:7.7-2</td>
<td>As per Specification, clause no:7.7-2
Mentioned , Inter layer insulation both for HV and LV windings shall be Epoxy diamond dotted Kraft paper and compressed pressboard of reputed make (subject to approval of TPSODL)</td>
<td>The Epoxy diamond dotted Kraft paper will be applicable for Smaller ratings of Layer type winding construction. For higher ratings of voltage class 33/11kV, the winding will be of Disc winding and EDD is not applicable. However, compressed press board of reputed make will be used. Please confirm the same.</td>
<td>Ok Noted</td>
</tr>
</table>

12	As per Specification, clause no:7.6.17 As per Specific Technical Requirements-Point-31	As per Specification, clause no:7.6.17 The current density of coil shall not exceed 2.4 Amps/ square mm at min tap of respective PTR's higher rating. As per Specific Technical Requirements- Point-31 Maximum current density for HV and LV winding for rated current is 2.6 tap A/MM2	Both the clauses are contradictory. Please confirm the current density and exact tap for current density to be follow.	**specification to be complied as per clause no - 7.6.17**
13	As per Specification, clause no:7.12.2- ON-LOAD TAP-CHANGERS As per Specific Technical Requirements-Point-18(a)	As per Specification, clause no:7.12.2- ON-LOAD TAP-CHANGERS The Transformer with off-load tap changing gear shall have taps ranging from +5% to -15% in 9 equal steps of 2.5% each for Off Load Tap. As per Specific Technical Requirements- Point-18(a) On load In-tank or flange mounted tap changer for 5 MVA ,8 MVA	These both the clauses are contraditcotry. Please specify the clause to follow.	**1. Refer Clause no -7.12.1 OFF-LOAD TAP-CHANGERS (For 3.15 MVA transformers)** **2. Refer clause no 7.12.2 ON-LOAD TAP-CHANGERS (For 5 MVA & 8 MVA transformers)**
14	As per Specific Technical Requirements-Point-26(a) & 26(b) As per Specification, clause no:7.13.7-Insulation	As per Specific Technical Requirements- Point-26(a) & 26(b) top oil measured by thermometer 40 °C Winding measured by resistance 45 °C. As per Specification, clause no:7.13.7-Insulation Mentioned Winding Natural-oil Natural-air cooled (ONAN) -55 deg.C Oil All types -45 deg.C	These both the clauses are contraditcotry. Please specify the clause to follow.	**specification to be complied as per clause no - 7.13.7**
15	As per Specific Technical Requirements-Point-37-clearances	As per Specific Technical Requirements-Point-37-clearances 35 Paper covering thickness of HV winding-0.6 mm(minimum) 36 Paper covering thickness of LV winding- 0.5 mm(minimum) 37 -Clearances 37(d) Gap between core yoke to tank bottom- 55mm (minimum) 37(e) Gap between core yoke to tank bottom -55mm (minimum) 37(f) Gap between core yoke to tank bottom -20 mm(minimum) 37(g) Gap between core yoke to tank bottom -20 mm(minimum)	Please allow bidders to follow the manufacturing practice. The specified clereances are on higher side and the transformers footprint will increase and will become bulky. As the design is going to proven through type tests and routine tests allow bidders to follow manufacturing practice.	**37(d) Gap between core yoke to tank bottom 55mm (minimum)** **37(e) Yoke insulation at top and bottom: 130mm (minimum)** **37(f) Phase to Phase clearance between HV Limbs: 20mm (minimum)** **37(g) Radial Clearance between LV and HV Coil: 20mm (minimum)** **Rest Clearences shall be as per tender specification.**
16	As per Specification, clause no:6.13.5 - Paint Material As per clause no:7.13-Fittings& Accessories- Surface preparation and painting	As per Specification, clause no:6.13.5 - Paint Material The color of the finishing coats shall be dark admiral grey conforming to No.632 or IS 5:1961. As per clause no:7.13-Fittings& Accessories- Surface preparation and painting The two coats shall be of oil and weather-resistant nature with final coat as flossy and non-fading paint of shade 631 as per IS 5 or RAL 7032.	These both the clauses are contraditcotry. Please specify the clause to follow.	**All the clauses have definite meaning, vendor has to compile the same. Outer finishing coat shall be shade 631 as per IS:5 or RAL 7032**
17	As per Specification, clause no: 7.10.2 - i) - d) As per Specification, clause no: 7.10.3	As per Specification, clause no: 7.10.2 - i) - d) Mentioned, Plain conservator fitted with silica gel breather. As per Specification, clause no: 7.10.3 Given details of Oil preservation Equipment.	There is ambiguity between two points. We will proceed as per Clause No: 7.10.2 (i) (d) i.e., Plain conservator fitted with silica gel breather ie., without aircell. Please confirm.	**Specification to be complied as per clause no 7.10.3 Oil preservation Equipment of tender specification**
18	As per Specification, clause no: 2.5-Miscellaneous	ii) Foundation bolts for wheel locking devices of Transformer shall be supplied by the Contractor.	We will provide wheel locking clamps. Foundation bolts will be in the scope of TPSODL. Please confirm	**Specification to be complied**
19	As per Specification, clause no: 7.5-Internal Earthing	As per Specification, clause no: 7.5-Internal Earthing a) The grounding lead from the core shall be brought out of the tank through a 11 kV class bushing and grounded externally.	Kindly please note that the grounding shall be with 1.1 KV class bushing.	**1.1kV class bushing for core and 11kV class bushing for neutral.**
20	clause no:7.13-Fittings& Accessories	NITROGEN INJECTION DRAIN AND STIR SYSTEM	NIFPS is not in bidders scope of supply .Please confirm the same	**NIDS is not in the scope of bidder**
21	clause no: 7.13.3-Radiators	7. The following accessories shall be provided for radiator: g) Top oil filling pump.	We presume it is oil filling plug at top of radiators. Please clarify this point	**Ok Noted**
22	As per cl 7.1.4	conservator tank shall be 06 mm minimum	Please allow the bidder to procees with conservator tank of 05 mm minimum. Kindly note that forming of circulate shape for these smaller dia is a concern. Kindly review and confirm.	**Specification To be Complied**

23	As per cl 7.1.16. As per Cl 7.2	The tank shall have an oil tight bolted flanged joint near the base of the transformer so that the tank can be lifted off to provide access to the core and coils Tank Cover The transformer top shall be provided with a detachable tank cover with bolted flanged gasket joint	Against this we will provide the Tank and the Top cover of the transformer with Bolted construction(cl 7.2), since generally above construction will be used for very large power transformers (above 100MVA). Please confirm.	**Ok Noted**
24	AS per Cl no 7.1.20	Inspection covers on elevation (on vertical plane) shall be provided for all HV bushing turrets	Generally inspection covers provided on top cover for Bushing bottom access. So Vertical plane inspection covers are not applicable.	**Ok Noted**
25	As per clause 11.3 Packing:	The transformer shall be shipped filled with oil/without oil but with the tank filled with Nitrogen under pressure complete with gas cylinder reducer, connection and pressure gauges. (After testing dew point of the Nitrogen filled.	This capacity of transformers are dispatched with oil filling CCA and no separate nitrogen filling arrangement is required. please confirm.	**Ok Noted**
26	As per clasue 11 .5 A	shock recorder also shall be provided during transport.	Generally this capacity of transformers not require any shock recorders for transport. Please confirm.	**Ok Noted**
27	As pe Clasue no 7.13	Calls for MOG, buccholz relay, surge relay given specification,	These are of standard power transformer accessories & suppliers are not meeting confimring the specificaiton. In this regard we will provide all the components from reputed suppliers. The detailed suvvendor list will be submit in the event of order placment along with drawings for approval.	**Ok Noted with Valid Type test reports.**
28	As per clause 7.7	Table Insulation specifiction	As per relevant IS stadards the insulation wil be provided.	**Specification to be complied**
29	Sr. No. 42. Page No. 83	Particulars of bushing & Neutral CT	Please confirm the requirement of CTs . If required please provide the Ct ratios and its RCT, Vk ,Imag Values..	**For 3.15MVA CT Ratio :- 400-200/1-1** **For 5 MVA CT Ratio :- 400-200/1-1** **For 8 MVA CT Ratio :- 600-300/1-1** **Class - 5P20 & PS, Burden- 30 VA** **Knee Point Voltage -** **Vk>=250 V (At 200/1A)** **Vk>=325V (At 300/1A)** **Vk>=500V (At 400/1A)** **VK>=750V (At 600/1A)** **Maximum excitation current (Ie) @ Vk/2 shall not be greater than 30mA**
29	Sr. No. 28 & 29 . Page No. 52	NIDS is to be supplied with transformer unless specified elsewhere in the Bidding document. In All conditions Transformer shall have provision for future implementation of NIDS.	Please confirm the scope of requirement of NIDS. If not include in scope wheather provision for NIDS is required or not?	**NIDS is not in the scope of bidder**

1	ENG-HV -104 / Clause.No: 2 / Page.No: 5 & 2	As per clause no:2: SPECIFIC TECHNICAL REQUIREMENTS 31 Maximum current density for HV and LV winding for rated current - 2.6tap A/MM2 As per clause no:7.6: WINDING 7.6.17 The current density of coil shall not exceed 2.4 Amps/ square mm at min tap of respective PTR's higher rating.	We wish to bring to your kind notice that, these two clauses are contradicting to each other. Please confirm the maximum Current density.	**specification to be complied as per clause no - 7.6.17**
2	ENG-HV -104 / Clause.No: 2 / Page.No: 4 & 4	As per clause no:2: SPECIFIC TECHNICAL REQUIREMENTS 26 (a) Of top oil measured by thermometer 40°C 26(b) Of winding measured by resistance 45 °C As per clause no:7.13.7 Temperature rise of winding given as: 55 Deg. C Temperature rise of Oil given as : 45 Deg.C	We wish to bring to your kind notice that, these two clauses are contradicting to each other. Kindly confirm the required Temperature rise of Oil and winding ?	**specification to be complied as per clause no - 7.13.7**

3	ENG-HV -104 / Clause.No: 6.13.6 / Page.No:	As per ANTI RUSTING/ CORROSION TREATMENT 7. The paint shade used shall be shade 631 as per IS: 5. As per Clause No: 6.13.6 Paint Material The color of the finishing coats shall be dark admiral grey conforming to No.632 or IS 5:1961. As per Painting 2. Before shipment all steelwork not under oil shall be painted with a primary coat of anti-corrosive paint of durable nature and two coats of battleship grey paint (Shade 631 of IS: 5). As per Surface preparation and painting The two coats shall be of oil and weather-resistant nature with final coat as flossy and non-fading paint of shade 631 as per IS 5 or RAL 7032.	We wish to bring to your kind notice that, these clauses are contradicting to each other. Please confirm the Paint shade for Transformer.	**All the clauses have definite meaning, vendor has to compile the same. Outer finishing coat shall be shade 631 as per IS:5 or RAL 7032**
4	ENG-HV -104 / Clause.No: 1.3 / Page.No: 2,	As per Clause No :1.3 The maximum flux density in any part of the cores and yoke at normal voltage and frequency shall be such that it should under 10% overvoltage condition should not be more than 1.9 Tesla. As per Clause No 2(21) Maximum Flux Density in any part of the core and yoke at rated MVA with +112.5% combined voltage and frequency variation from rated voltage i.e. 33 kV/11 kV and frequency of 50 Hz - 1.9 Tesla As per Clause No2.3(ii) The maximum flux density in any part of the core and yoke at rated Voltage and frequency shall be such that the flux density with +12.5% combined voltage and frequency variation from rated voltage and frequency shall not exceed 1.9Tesla. As per Clause No:7.4.2 The maximum flux density in any part of the cores and yoke at normal voltage and frequency shall not be more than 1.69 Tesla.	We wish to bring to your kind notice that, These clauses are contradicting each other. We will proceed as per Clause No:7.4.2 i.e. flux density in any part of the cores and yoke at normal voltage and frequency shall not be more than 1.69 Tesla. Then flux density at 10% over voltage condition should be 1.859(1.69x1.1) Tesla and flux density at 112.5% of combined voltage and frequency variation condition should be 1.9 Tesla. So Kindly Confirm?	**Flux density in any part of the cores and yoke at normal voltage and frequency shall not be more than 1.69 Tesla. Then flux density at 10% over voltage condition should be 1.859(1.69x1.1) Tesla and flux density at 112.5% of combined voltage and frequency variation condition should be 1.9 Tesla.**
5	ENG-HV -104 / Clause.No: 7.1.6 / Page.No: 1	As per Clause No:7.1.6 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. As per Clause No:7.13.2 All bolted connection to the tank shall be fitted with suitable oil-tight gaskets which shall give satisfactory service under the operating conditions. Gaskets shall be of rubber/Nitrate	We wish to bring to your kind notice that, These clauses are contradicting each other. We will provide as per Clause no:7.13.I.e. gaskets with rubber bonded cork or Neoprene rubber bonded cork or equivalent shall be used which shall give satisfactory service under the operating conditions. Kindly confirm?	**Comply as per clause No:7.1.6**
6	ENG-HV -104 / Clause.No: 7.6.12 / Page.No:	As per Clause No:7.6.12 Tapping shall not be brought out from inside the coil or from intermediate turns and shall be so arranged as to preserve as far as possible magnetic balance of transformer at all voltage ratios.	Kindly amend this clause as per below "Tapping's can be taken from anywhere in coil but it shall be arranged in a way to get possible magnetic balance of transformer at all voltage ratios."	**Specification to be complied**
7	ENG-HV -104 / Clause.No: 7.7(2) / Page.No:	As per Clause No:7.7(2) Inter layer insulation both for HV and LV windings shall be Epoxy diamond dotted Kraft paper and compressed pressboard of reputed make (subject to approval of TPNODL).	These will be applicable for Smaller ratings of Layer type winding construction. For higher ratings of voltage class 33/11kV these are Not applicable .So kindly remove this point.	**Specification to be complied**
8	ENG-HV -104 / Clause.No: 7.10.2(i)(d) / Page	As per Clause No:7.10.2(i)(d) Plain conservator fitted with silica gel breather. As per Clause No:7.10.3 Oil preservation Equipment.	We wish to bring to your kind notice that, these two clauses are contradicting to each other. We will proceed as per Clause No:7.10.2(i)(d) i.e Plain conservator fitted with silica gel breather. Kindly confirm?	**Specification to be complied as per clause no 7.10.3 Oil preservation Equipment of tender specification**

9	ENG-HV -104 / Clause.No: 2 / Page.No: 6	As per clause no:2(34): SPECIFIC TECHNICAL REQUIREMENTS - Losses 34 Losses: - The losses shall not exceed the value given below MVA Rating | No-load losses (Fixed loss) KW | Load losses at 75°C KW | Percentage impedance voltage on normal tap and MVA base at 75° C 3.15 | 3 | 16 | 6.25 5 | 4 | 23 | 7.15 8 | 5.5 | 40 | 8.35 10 | 7 | 50 | 8.35 c A factor=Cost of no load losses in Rs/KW (A = 334447) B factor = Cost of load losses in Rs/KW (B = 151616)	Kindly confirm that capitalization on losses is applicable or not ?	**Capitalization of losses is not applicable**
10	ENG-HV -104 / Clause.No: 7.1.16 / Page.No:	As per Clause No:7.1.16 The tank shall have an oil tight bolted flanged joint near the base of the transformer so that the tank can be lifted off to provide access to the core and coils.	Against this we will provide the Tank and the Top cover of the transformer with Bolted construction, since generally above construction will be used for very large power transformers (above 100MVA). Please confirm?	**Specification to be complied**
11	ENG-HV -104 / Clause.No: 2 / Page.No: 5	As per clause no:2: SPECIFIC TECHNICAL REQUIREMENTS 28(a). HV winding line end 36 KV oil filled communicating type porcelain bushings (Anti-fog type) 28(b). LV winding 12KV porcelain type of bushing (Anti-fog type)–for outdoor 11KV breakers (11KV Power cables shall be used for extending supply to 11KV breakers in case of indoor circuit breakers. The termination of 11KV cables on LV bushing shall be Through extended copper bus bars suitable to hold power cables termination. A metallic cable termination box, completely sealed, shall be installed on LV side of the transformer in which cables shall enter from bottom gland plates.)	We understand that, LV Termination & HV termination is with bare bushings. Kindly Confirm. Even if LV termination is with cable box cables, cable glands and lugs are not in SSEL scope of supply.	**LV Termination & HV termination is with bare bushings.**
12	ENG-HV -104 / Clause.No: 7.5 / Page.No: 20	As per Clause No:7.5. a) The grounding lead from the core shall be brought out of the tank through a 11 kV class bushing and grounded externally.	We wish to bring to your kind notice that, the grounding shall be with 1.1 KV class bushing. Kindly confirm?	**1.1kV class bushing for core and 11kV class bushing for neutral.**
13	ENG-HV -104 / Clause.No: 2 / Page.No: 3	As per clause no:2: SPECIFIC TECHNICAL REQUIREMENTS 6. Type of mounting - On Wheels, Mounted on rails	We wish to bring to your kind notice that, supply of rails is not in SSEL scope of supply.	**OK Noted**
14	ENG-HV -104 / Clause.No: 7.13.3 / Page.No:	As per clause no:7.13.3: Radiators 7.g) Top oil filling pump.	Type of cooling is given as ONAN, it means that heat dissipation will be done by Oil Natural and Air Natural. So forced cooling with oil filling pump is not required. Please confirm?	**OK Noted**
15	ENG-HV -104 / Clause.No: 8.2.1(A) / Page.No	As per clause no: 8.2.1(A) Special Test e) Long duration induced AC voltage test (ACLD) transformer winding 72.5<Um≤170kV.	We wish to bring to your kind notice that, HV and LV voltage doesn't fall in this category. So it is not applicable.	**OK Noted**

16	ENG-HV -104 / Clause.No: 8.2.1(A) / Page.No	As per clause no: 8.2.1(A) Special Test The short circuit test shall be a mandatory test for each design shall be supplied by the manufacturer and no exception shall be allowed.	We request you to allow us to furnish the type test reports of Similar or higher rating for tender evaluation purpose. We will submit the type test reports as per tender specification on award of contract without affecting delivery schedule at our cost.	**OK Noted**
17	ENG-HV-104/Pg. No. 49 of Technical specific	Pg. No. 48 of Technical specifications NITROGEN INJECTION DRAIN AND STIR SYSTEM	We presume that supply of NIFPS is not in our scope. Kindly confirm the same.	**OK Noted**
18	ENG-HV -104 / Clause.No: 11 / Page.No: 34 &	Clause no. 11 of TS: OLTC shall be able to do automatic / parallel operations through Transformer Monitoring Unit (TMU). Clause no. 1.1 of TS: 5.00MVA-ON Load in Tank / Flange Mounted Type Tap Changer (with TMU Control Panel) 8.00MVA-ON Load in Tank / Flange Mounted Type Tap Changer (with TMU Control Panel) Clause no. 7.12.2: ON-LOADTAP-CHANGERS: 13. Tap Changer Control and Transformer Monitoring Unit (TMU) is not to be supplied by the bidder of the Transformer.	These clauses are contradictory to each other. We presume that the Tap change control, AVR and transformer monitoring unit (TMU) are not in our scope of supply. Please check and confirm the same.	**Tap Changer Control and Transformer Monitoring Unit (TMU) are not to be supplied by the bidder of the Transformer.**